

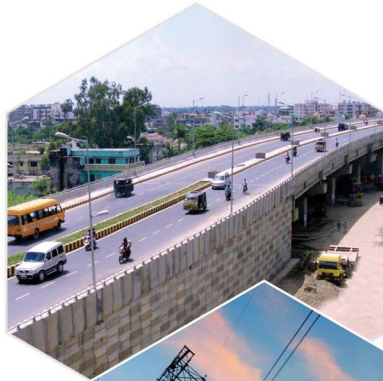


सत्यमेव जयते

BIHAR ECONOMIC SURVEY 2018-19



बिहार सरकार



FINANCE DEPARTMENT
Government of Bihar



Message

As Bihar completes one more year of its steady development, both economic and social, it is only desirable that this growth narrative is properly documented. It is certainly true that Bihar has achieved immense economic progress in the recent past, but it is also equally true that the state has miles to go before it reaches the level of the developed states in the country.

Each year, the Economic Survey widens its scope in terms of issues, as well as information. I sincerely hope that the readers will find the survey useful.

(Nitish Kumar)

SUSHIL KUMAR MODI
Finance Minister, Bihar



PATNA

Message

The journey of growth of Bihar's economy which had started about one and a half decades ago is still continuing. Indeed, the growth rate of Bihar's economy in 2017-18 was 11.3 percent, the highest among all the states in India. Among others, one of the principal factors that caused such a buoyant growth process was the high development expenditure by the state government, without compromising on its financial discipline. The Economic Survey presents the details of this prudent financial management, along with information on other valuable dimensions of the state's economy.

I sincerely hope that the readers of the survey would include policy makers, researchers and others concerned with the development of Bihar. I also hope to receive valuable suggestions from them towards preparing an effective development strategy for Bihar.

(Sushil Kumar Modi)

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GLOSSARY OF ABBREVIATIONS

AA	Alternative Analysis
AB-NHPMC	Ayushman Bharat National Health Protection Mission Council
ACP	Annual Credit Plan
ADB	Asian Development Bank
AIBP	Accelerated Irrigation Benefit Programme
AIIMS	All India Institute of Medical Sciences
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
ANC	Ante-Natal Care
ANM	Auxiliary Nurse-Cum-Mid-wife
APEDA	Agriculture and Processed Food Products Exports Development Authority
APHC	Additional Primary Health Centres
AQMS	Air Quality Monitoring Stations
ARI	Acute Respiratory Infection
ASHA	Accredited Social Health Activist
ASI	Annual Survey of Industries
AT&C	Aggregate Technical and Commercial
ATMA	Agricultural Technology Management Agency
AVS	Anganwadi Vikas Samiti
AWC	Anganwadi Centers
AWH	Anganwadi Helper
AWW	Anganwadi Worker
BAPCC	Bihar State Action Plan for Climate Change
BBOSE	Bihar Board of Open Schooling Examination
BC	Backward Classes
BCC	Behaviour Change Communication
BHIM	Bharat Interface for Money
BIADA	Bihar Industrial Area Development Authority
BMI	Body Mass Index
BREDA	Bihar Renewable Energy Development Agency
BRGF	Backward Region Grant Fund
BRJP	Bihar Rajya Jal Parishad
BRLP	Bihar Rural Livelihood Project
BRPNL	Bihar Rajya Pul Nirman Nigam Limited
BSDM	Bihar Skill Development Mission
BSDMA	Bihar State Disaster Management Authority
BSEB	Bihar State Electricity Board
BSHP	Bihar State Highways Project
BSHPC	Bihar State Hydroelectric Power Corporation
BSNL	Bharat Sanchar Nigam Limited
BSPCB	Bihar State Pollution Control Board

BSPGCL	Bihar State Power Generation Company Limited
BSPHCL	Bihar State Power (Holding) Company Limited
BSPTCL	Bihar State Power Transmission Company Limited
BSRDCL	Bihar State Road Development Corporation Limited
BSRTC	Bihar State Road Transport Corporation
BSSOCA	Bihar State Seed and Organic Certification Agency
BSWAN	Bihar State Wide Area Network
BTPS	Barauni Thermal Power Station
BUIDCO	Bihar Urban Infrastructure Development Corporation
CAGR	Compound Annual Growth Rate
CBR	Crude Birth Rate
CCB	Central Co-operative Banks
CCS	Culturable Command Area
CCTNS	Crime and Criminal Tracking Network and Systems
CD	Credit-Deposit
CDPO	Child Development Project Officer
CEA	Central Electricity Authority
CFC	Common Facility Centres
CGST	Central Goods and Services Tax
CHC	Community Health Centres
CIDC	Construction Industry Development Council
CLF	Cluster Level Federations
CMP	Comprehensive Mobility Plan
CMR	Child Mortality Rate
CoC	Champions of Change
COMFED	Bihar State Milk Co-Operative Federation Limited
CPI	Consumer Price Index
CRF	Central Road Fund
CSC	Community Service Centre
CSC	Citizen Service Centre
CSP	Customer Service Point
CSR	Corporate Social Responsibility
CSSM	Centrally Sponsored and State Managed
CSS	Centrally Sponsored Scheme
DAY-NULM	Deendayal Antyodaya Yojana - National Urban Livelihoods Mission
DBT	Direct Beneficiary Transfer
DDUGJY	Deen Dayal Upadhyaya Gram Jyoti Yojana
DEAS	Double Entry Accounting System
DGT	Directorate General of Training
DIC	District Industries Centre
DPR	Detailed Project Report

DSLAM	Digital Subscriber Line Access Multiplexers
EAP	Externally Aided Project
EBC	Extremely Backward Classes
ECCE	Early Childhood Care and Education
EPC	Engineering, Procurement and Construction
EPI	Expanded Programme of Immunization
ESTP	Employment through Skill Training and Placement
FESO	Fishery Extension Services Officer
FISEP	Financial Inclusion and Self-Employment Programme
FMCG	Fast-Moving Consumer Goods
FPII	Faster Payments Innovation Index
FRBMA	Fiscal Responsibility and Budget Management Act
FTH	Fiber to Home
GCA	Gross Cropped Area
GFD	Gross Fiscal Deficit
GP	Gram Panchayats
GSDP	Gross State Domestic Product
GST	Goods and Services Tax
GSTN	Goods and Services Tax Network
GSVA	Gross State Value Added
GTSNY	Gramin Tola Sampark Nishchay Yojana
GVO	Gross Value of Output
HFA	Housing for All
HRIDAY	Heritage City Development and Augmentation Yojana
HT	High Tension
HUDCO	Housing and Urban Development Corporation
IAP	Integrated Action Plan
IBC	Insolvency and Bankruptcy Code
ICAR	Indian Council of Agricultural Research
ICD	Investment Plus Credit to Deposit
ICDS	Integrated Child Development Services
IGAS	Indian Government Accounting Standard
IGMSY	Indira Gandhi Matritva Sahyog Yojana
IGNOU	Indira Gandhi National Open University
IGST	Inter-State Goods and Service Tax
IHHL	Individual Household Latrine
IL&FS	Infrastructure Leasing and Financial Services
IMFL	Indian-made Foreign Liquor
IMPS	Immediate Payment Service
IMR	Infant Mortality Rate
IPDS	Integrated Power Development Scheme
IPDS	In-patient Department

IPPB	India Post Payments Bank
ISBT	Interstate Bus Terminus
ISDP	Integrated Disease Surveillance Programme
IT	Information Technology
JE	Japanese Encephalitis
JICA	Japan International Cooperation Agency
JSY	Janani Suraksha Yojana
KBUNL	Kanti Bijlee Utpadan Nigam Limited
KCC	Kisan Credit Card
KGBV	Kasturba Gandhi Balika Vidyalaya
KHPS	Kosi Hydel Power Station
KVIC	Khadi and Village Industries Commission
KVK	Krishi Vigyan Kendra
KYP	Kushal Yuva Program
LEB	Life Expectancy at Birth
LPS	Low Performing States
LS	Lady Supervisor
LSBA	Lohiya Swachh Bihar Abhiyan
LT	Low Tension
LWE	Left-Wing Extremists
MBS	Maternity Benefit Scheme
MCS	Micro Credit Scheme
MDMS	Mid-Day Meal Scheme
MDR	Major District Road
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MI	Mission Indradhanush
MMGSY	Mukhya Mantri Gram Sampark Yojana
MMR	Maternal Mortality Rate
MMSNY	Mukhyamantri Setu Nirman Yojana
MMVSNY	Mukhyamantri Vidyut Sambandh Nishchay Yojana
MNRE	Ministry of New and Renewable Energy
MPI	Multidimensional Poverty Index
MSDE	Ministry of Skill Development and Entrepreneurship
MSDG	Mobile e-Governance Service Delivery Gateway
MSDP	Multi-Sectoral Development Programme
MSME	Micro, Small and Medium Enterprises
MV	Mamidipudi Venkatarangaiya
MWCD	Ministry of Women and Child Development
NABARD	National Bank for Agriculture and Rural Development
NBFC	Non-Banking Financial Companies
NBPDCL	North Bihar Power Distribution Company Limited
NCAP	National Clean Air Programme
NDDDB	National Dairy Development Board
NFHS	National Family Health Survey
NGN	Next Generation Network
NH	National Highway
NHDP	National Highways Development Project

NHM	National Health Mission
NIOS	National Institute of Open Schooling
NMCG	National Mission for Clean Ganga
NMR	Neo-Natal Mortality Rate
NNM	National Nutrition Mission
NOFN	National Optical Fiber Network
NOS	National Open School
NPA	Non-Performing Assets
NPCI	National Payments Corporation of India
NPK	Nitrogen, Phosphate and Potash
NP-NSPE	National Programme of Nutritional Support to Primary Education
NRDWP	National Rural Drinking Water Supply Programme
NRHM	National Rural Health Mission
NSA	Net Sown Area
NSDA	National Skill Development Agency
NSDC	National Skill Development Corporation
NSDG	National e-Governance Service Delivery Gateway
NSDM	National Skill Development Mission
NSDP	Net State Domestic Product
NSQC	National Skills Qualifications Committee
NSQF	National Skills Qualifications Framework
NSSF	National Small Savings Fund
NSSO	National Sample Survey Organisation
NUHM	National Urban Health Mission
OAE	Own Account Enterprises
OD	Open Defecation
ODF	Open Defecation-Free
OFC	Optical Fiber Cable
OOS	Out-of-School
OPD	Outpatient Department
OPHI	Oxford Poverty and Human Development Initiative
OPRMC	Output and Performance Based Road Maintenance Contract
OPWD	Other Public Works Departments
PACS	Primary Agricultural Credit Societies
PCA	Prompt Corrective Action
PCDE	Per Capita Development Expenditure
PDS	Public Distribution System
PFC	Power Finance Corporation
PFMS	Public Finance Management System
PHC	Primary Health Centers
PHED	Public Health Engineering Department
PIA	Project Implementation Agencies
PMAY-G	Pradhan Mantri Awas Yojana-Gramin
PMEGP	Prime Minister's Employment Generation Programme
PMGSY	Pradhan Mantri Gram Sadak Yojana
PMJDY	Pradhan Mantri Jan-Dhan-Yojana
PMJJBY	Pradhan Mantri Jeevan Jyoti Bima Yojana

PMKVY	Pradhan Mantri Kaushal Vikas Yojana
PMMVY	Pradhan Mantri Matri Vandana Yojana
PMMY	Pradhan Mantri Mudra Yojana
PMR	Peri-Natal Mortality Rate
PMSBM	Pradhan Mantri Suraksha Bima Yojana
POB	Post Office Bank
PoP	Point of Presence
PPA	Power Purchase Agreements
PPP	Public-Private-Partnership
PRI	Panchayati Raj Institutions
PSE	Pre-School Education
PSS	Power Sub Stations
PTR	Pupil Teacher Ratio
RBI	Reserve Bank of India
RCH	Reproductive and Child Health
RIDF	Rural Infrastructure Development Fund
RMSA	Rashtriya Madhyamik Shiksha Abhiyan
RNTCP	Revised National Tuberculosis Control Programme
ROB	Rail Over Bridges
RPL	Recognition of Prior Learning
RRB	Regional Rural Banks
RRP	Road Requirement Plan
RSETI	Rural Self-Employment Training Institutes
RTD	Recruit-Train-Deploy
RTE	Right to Education
RUSA	Rashtriya Uchcharat Shiksha Abhiyan
SAG	Scheme for Adolescent Girls
SAPFIN	Financial Framework for State Action Plan on Climate Change
SAUBHAGYA	Sahaj Bijli Har Ghar Yojana
SBD	Standard Bidding Document
SBM	Swachh Bharat Mission
SBPDCL	South Bihar Power Distribution Company Limited
SC	Sub-Centers
SC	Scheduled Caste
SCB	Scheduled Commercial Banks
SCERT	State Council of Education Research and Training
SDC	Skill Development Centers
SDC	State Data Centres
SDG	Sustainable Development Goals
SDMS	Skill Development Management System
SECC	Socio-economic and Caste Census
Sec-LAN	Secretariat Local Area Networks
SFRTI	Scheme of Fund for Regeneration of Traditional Industries
SGST	State GST
SH	State Highway
SHA	State Health Agency
SHG	Self Help Groups
SHG-BLP	SHG-Bank Linkage Programme

SIPB	State Investment Promotion Board
SJVNL	Satluj Jal Vidyut Nigam Limited
SKCC	Sapno Ko Chali Chhooney
SLBC	State Level Bankers' Committee
SMID	Social Mobilisation and Institutional Development
SNP	Supplementary Nutrition Programme
SOULS	Solar Urja through Localization for Sustainability
SPV	Special Purpose Vehicle
SRR	Seed Replacement Rate
SS	Samagra Shiksha
SSA	Sarva Shiksha Abhiyan
SSDG	State e-Governance Service Delivery Gateway
SSGS	Special State Government Securities
ST	Scheduled Tribe
SUH	Shelter for Urban Homeless
SUSV	Support to Urban Street Vendors
SWAN	State Wide Area Network
TDS	Tax Deducted at Source
TE	Teacher Education
TFR	Total Fertility Rate
TRFA	Targeting Rice Fallow Areas
U5MR	Under-Five Mortality Rate
UDAN	Ude Desh Ka Aam Naagrik
UDAY	Ujjwal DISCOM Assurance Yojana
UIP	Ultimate Irrigation Potential
UNAE	Unincorporated Non-Agricultural Enterprises
UNCRC	United Nations Convention on the Rights of the Child
UNDP	United Nations Development Programme
UPI	Unified Payments Interface
USO	Universal Service Obligation
VAT	Value Added Tax
VC	Video Conferencing
VLE	Village Level Entrepreneur
VO	Village Organisations
WBM	Water Bound Macadam
WDC	Women Development Corporation
WHO	World Health Organisation
WPI	Wholesale Price Index
ZP	Zila Parishad

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EXECUTIVE SUMMARY

CHAPTER-I : BIHAR ECONOMY : AN OVERVIEW

1. The economy of Bihar is presently on a continuous growth path, a result of sound development strategies of the state government, particularly the high levels of its development expenditure. According to the new series of data on Gross State Domestic Product (GSDP), the growth rate of Bihar's economy in 2017-18 was 11.3 percent, increasing from 9.9 percent a year before. During both these years, the growth rate of the national economy has been about 7 percent.
2. The GSDP of Bihar in 2017-18 was Rs. 4,87,628 crore at current prices. At constant (2011-12) prices, the figure stood at Rs. 3,61,504 crore. The resulting Per Capita GSDP in 2017-18 are — Rs. 42,242 (current prices) and Rs. 31,316 (constant prices).
3. In 2016-17, the highest growth rate was recorded by tertiary sector (12.8 percent), followed by primary sector (9.8 percent) and secondary sector (4.2 percent). From a medium-term perspective, the sectors that are seen to grow at a faster rate and contribute most to the overall economy of Bihar are — mining and quarrying (60.0 percent), manufacturing (17.5 percent), TSCS (transport, storage, communications and services related to broadcasting) (11.4 percent). All these sectors have recorded a double-digit growth rate. Among the sub-sectors, air transport is seen to have grown at a very high rate of 35.2 percent.
4. The latest estimates of Per Capita Income for the districts in Bihar relate to 2011-12. As per these estimates, three most prosperous districts in Bihar are — Patna, Munger and Begusarai. At the other end, three most economically disadvantaged districts are — Madhepura, Supaul and Sheohar.

CHAPTER-II : STATE FINANCES

1. Bihar has consistently been a revenue surplus state. The revenue surplus has increased from Rs 6441 crore in 2013-14 to Rs 14,823 crore in 2017-18, its highest level so far. In the budget estimates of 2018-19, the revenue surplus is projected to increase further to Rs 21,312 crore. The revenue surplus in 2017-18 had increased by Rs 4000 crore over the previous year (2016-17).
2. The primary deficit of the state government came down from Rs 8289 crore in 2016-17 to Rs 5251 crore in 2017-18. As a result of reduced primary deficit, the Gross Fiscal Deficit

also went down from Rs 16,480 crore in 2016-17 to Rs 14,305 crore in 2017-18, which was 2.9 percent of GSDP in 2017-18, keeping it within the FRBMA limit of 3 percent of GSDP.

3. During 2013-14 to 2017-18, the state's own tax revenue went up from Rs. 19,961 crore to Rs. 23,742 crore; non-tax revenues grew from Rs. 1545 crore to Rs. 3507 crore; share in central taxes increased from Rs. 34,829 crore to Rs. 65,083 crore and grants-in-aid reached to Rs. 25,720 crore from Rs. 12,584 crore. The total revenue of the state government increased from Rs. 68,919 crore in 2013-14 to Rs. 1,17,447 crore in 2017-18, implying an increase of 70.4 percent over a period of 4 years.
4. During 2017-18, the revenue expenditure went up by Rs 7859 crore and the capital expenditure increased by Rs 2266 crore, while the capital borrowings registered a substantial decline of Rs 8409 crore. Of the increase of Rs 7859 crore in revenue expenditure, the development expenditure (Rs 5091 crore) accounted for 64 percent of the increase. Between 2013-14 and 2017-18, developmental revenue expenditure increased by 80 percent, rising from Rs 54,456 crore to Rs 98,152 crore, while non-developmental revenue expenditure grew by a lower rate of 48 percent, increasing from Rs. 25,945 crore to Rs. 38,271 crore. Social and economic services, essential for the development of the state, now account for the bulk of the expenditure, reflecting the state government's commitment to improve the social sectors. About 72 percent of the total expenditure was of developmental nature and 28 percent non-developmental in 2017-18.
5. The total borrowings in 2017-18 was only Rs 13,169 crore, compared to Rs. 21,577 crore in the previous year, while the interest payments were Rs 9054 crore (Rs. 863 crore more than 2016-17). The level of outstanding debt fell marginally to 32.2 percent of the GSDP during 2017-18 from 32.6 percent in the previous year. The debt burden within the manageable limits has enabled the state government to launch ambitious programmes for infrastructure, essential for economic growth of the state.
6. Out of the total capital outlay of Rs 28,907 crore in 2017-18, as much as Rs 21,884 crore (76 percent) was spent on economic services — Rs. 5402 crore on creating the transport infrastructure of roads and bridges (19 percent), Rs 6931 crore on power projects (24 percent), Rs. 2665 crore on irrigation and flood control (9 percent) and the rest on other sectors. The capital outlay on social services amounted to Rs 4258 crore. Out of this outlay, Rs 565 crore was spent on improving health infrastructure (13 percent), Rs. 1763 crore on improving the water supply and sanitation (41 percent), and Rs 1519 crore on improving educational infrastructure (36 percent) in the state.

7. The expenditure on social and economic services has been growing annually at high rates exceeding 15 percent, while the expenditure on general services has been growing at a rate of about 11 percent. On the whole, the total expenditure of the state government has also been growing annually at 15.5 percent. The pension and salary payments together constituted 30 percent of the state government's revenue expenditure in 2017-18 (32 percent in the previous year), compared to 37.6 percent five years ago. During 2013-18, the per capita expenditure on social services increased from Rs. 2596 to Rs. 4199, and the increase in economic services was from Rs 2286 to Rs 3807. The per capita capital outlay also increased from Rs 1287 to Rs 2426 during this period.

CHAPTER-III : AGRICULTURE AND ALLIED SECTORS

1. Located in the eastern part of India, Bihar has an area of 93.6 lakh hectares, accounting for nearly 3 percent of the country's total geographical area. Primarily, the climate is sub-tropical with peak summer temperatures averaging around 40 degree Celsius during March-May and 8 degree Celsius in winter months during December-January.
2. During 2018, the annual rainfall received due to the south-west monsoons in Bihar stood at 689.6 mms, which is about 20 percent less than the long run average rainfall of 848.2 mms.
3. The land use pattern has remained nearly unchanged over the last few years. The cropping intensity in the state has increased marginally from 1.44 in 2012-13 to 1.45 in 2016-17. Overall, about 56.55 percent of the land was under cultivation in Bihar during 2016-17.
4. The cropping pattern, nearly unchanged over the years, reveals that Bihar is primarily a cereal economy, with more than 85 percent of its gross cropped area under cereals. Considering the fact that Bihar has achieved self-sufficiency in foodgrain production, specific schemes for cultivation of pulses and oilseeds in rice fallows areas have been undertaken in the state under the scheme of 'Targeting Rice Fallow Areas (TRFA)' in Eastern India.
5. Among the major cereals, an increasing trend in production can be seen for both maize and rice, registering growth rates of 6.0 and 4.0 percent respectively, during the last five years. The total production of coarse cereals was 3.15 lakh tonnes in 2017-18, registering a growth rate of 6.0 percent between 2013-14 and 2017-18.
6. The productivity of cereals increased from 2595 kg per hectare in 2013-14 to 2839 kg per hectare in 2017-18. This has been made possible with sustained efforts by the state government through provision of quality seeds, tools and equipment through subsidy programmes and encouragement to adopt technologies to mitigate climatic risks.

7. The technological developments in the state have enabled diversification towards horticultural crops in Bihar. The overall production of vegetables increased from 142.42 lakh tonnes in 2015-16 to 148.12 lakh tonnes in 2017-18. The total acreage under fruits was 3.09 lakh hectares, producing a total output of 42.29 lakh tonnes during 2017-18. The consistent efforts of the state government through establishment of high-density orchards has encouraged production of mango, litchi and guava.
8. In 2017-18, the total consumption of fertilizers in Bihar was 49.95 lakh tonnes, which was slightly lower than the 51.95 lakh tonnes in 2015-16. Urea consumption was the highest at 40.8 percent of the total consumption, relative to other nutrients during 2017-18 in Bihar. Further, it is also noticed that nearly 60 percent of the fertilizer consumption in Bihar is during the rabi season.
9. The establishment of organic corridor is part of the Agricultural Road Map III and it is envisaged to cover around 25,000 acres during the period 2017-22, involving a fiscal outlay of Rs 255.00 crore. For promotion of organic farming, farmers have been identified in villages along river Ganges in the districts of Patna, Nalanda, Bhagalpur, Vaishali, Samastipur, Begusarai, Lakhisarai, Khagaria and Munger.
10. In Bihar, 44.67 lakh animals were treated during 2017-18, which is higher than those treated in the previous year (41.03 lakh). About 526.72 lakh animals were immunized in Bihar and the coverage of artificial insemination stood at 28.23 lakh animals in 2017-18.
11. In absolute terms, Bihar's milk production increased to 92.41 lakh tonnes in 2017-18, increasing from 71.97 lakh tonnes in 2013-14. The major source of milk production in the state are cows which accounted for nearly 58.6 percent of the total milk production, followed by buffaloes (39.2 percent) and goat (2.2 percent).
12. A substantial increase in production of eggs is evident from its growth rate of 6.84 percent in the recent years. In 2017-18, egg production stood at 121.85 crores in Bihar. Similarly, meat production in the state increased from 2.92 lakh tonnes in 2013-14 to 3.43 lakh tonnes in 2017-18.
13. The abundant fresh water resources in the state provide impetus for development of fisheries. The fish production in the state steadily increased from 4.32 lakh tonnes in 2013-14 to 5.87 lakh tonnes during 2017-18, registering a growth rate of 7.0 percent.

CHAPTER-IV : ENTERPRISES SECTOR

1. In Bihar, the annual growth rate of secondary sector was unstable over the years and had only moderate impact on overall economic growth. The contribution of industrial sector in GSV A was around 20 percent in the last 3 years.
2. This growth in agro-based industries in Bihar (19.2 percent) was almost five times the growth rate achieved across all states of India (3.6 percent). In case of non-agro-based industries in Bihar, the growth rate was again higher in Bihar (6.9 percent) than the growth rate achieved at all-India level (4.4 percent).
3. In Bihar, the total number of Unincorporated Non-Agricultural Enterprises (UNAE) was about 34.48 lakh, about 5.4 percent of all such enterprises in the country. Bihar's share of 5.4 percent of all enterprises in India was lower than Bihar's population share of 8.6 percent of India. It was estimated to employ 53.07 lakh workers.
4. Total GVA of UNAEs in Bihar was Rs. 51.6 thousand crore. The rural enterprises of Bihar contributed 7.7 percent of India's GVA which was higher than the state's share in number of rural enterprises. As regards GVA per worker in rural areas, it was Rs. 80.5 thousand in Bihar, significantly higher than Rs. 69.2 thousand at all-India level.
5. In Bihar, 11 sugar mills are presently in operation, of which 9 are part of private sector and two of public sector. In 2017-18 crushing season, sugar mills crushed 747.89 lakh quintals of sugarcane, 176.75 lakh quintals more than the previous year. The sugar recovery rate was 9.57 percent in 2017-18, marginally higher than in the previous year (9.17 percent). It is also important to mention that, on an average, sugar mills were in operation for 125 days a year, entailing better utilisation of installed capacity.
6. Under COMFED, 9 dairy cooperative societies are presently functioning, and 21.0 thousand milk cooperative societies were organised till 2017-18. The number of functional cooperative societies increased from 14.8 thousand in 2016-17 to 15.2 thousand in 2017-18, registering a growth of 2.8 percent. Marketing of dairy products by COMFED has improved immensely in last few years. The number of retail outlets increased from 15.9 thousand in 2016-17 to 17.7 thousand in 2017-18, implying a growth of 11.8 percent. The sale of milk, ghee, lassi, paneer, dahi, ice-cream has registered a significant increase between 2016-17 and 2017-18.
7. Under the Mukhyamantri Kosi Mulberry Scheme, 7 districts in the Kosi region were selected for promotion of mulberry production. To increase the production of mulberry in Saharsa, Supaul, Madhepura, Araria, Kishanganj, Katihar and Purnea, the state government provided pumpset to 1975 farmers, worm rearing tools to 2447 farmers, and 642 farmers

received assistance for construction of rearing house. The state government allotted Rs. 1415.10 lakh to Jeevika to provide above-mentioned facilities to the farmers. In 2017-18, the state government provided Rs. 3262.31 lakh to Jeevika exclusively for the Mulberry Project.

8. As regards the budgetary provision for industries, it has increased to Rs. 91.02 crore in 2017-18 from Rs. 30.4 crore in 2011-12 (an increase of nearly 300 percent) and second, the budget utilisation has always been remarkably high.
9. Between 2016 and 2017, there has been a growth of 13.4 percent in the arrival of tourists. More encouragingly, the growth rate of foreign tourists' arrival was 7.1 percent.

CHAPTER-V : SKILL DEVELOPMENT

1. The National Policy for Skill Development and Entrepreneurship 2015 supersedes the earlier policy of 2009. The primary objective of this new policy is to meet the challenge of skilling at a scale which includes — speed, standard and sustainability. It aims to provide an umbrella framework to all skilling activities being carried out within the country, to align them to common standards, and finally, link skilling with demand patterns. In addition to laying down the objectives and expected outcomes, the policy also identifies the overall institutional framework to reach those objectives and outcomes.
2. The key institutional mechanisms for achieving the objectives of the Mission have been divided into two tiers — Governing Council for policy guidance at apex level, and a Steering Committee and a Mission Directorate as the executive arm of the Mission. The Mission Directorate will be supported by three other institutions — National Skill Development Agency (NSDA), National Skill Development Corporation (NSDC), and Directorate General of Training (DGT). All these institutions will have horizontal linkages with the Mission Directorate to facilitate smooth functioning of the Mission.
3. The Kushal Yuva Program (KYP) is part of one of the 'Saat Nishchay' (Seven Resolves) of the state government — 'Aarthik Hal, Yuvaon ko Bal'. This programme is targeted at all aspirants in the age group of 15-28 years, with age limit relaxed for SC/ST (33 years), OBC (31 years), Persons with disability (33 years).

CHAPTER-VI : INFRASTRUCTURE

1. The road transport has grown annually by 12.9 percent and airways by 35.2 percent. Further, railways and water transport also registered a double-digit growth during the

recent past. This has resulted in the share of the overall transport sector in GSVA increasing from 4.6 percent to 6.5 percent between 2011-12 and 2017-18.

2. The public investment in the road sector has grown at the rate of 16.3 percent during the last 7 years, showing an increase from Rs. 5988 crore (2012-13) to Rs. 17,585 crore (2018-19). This implies a three-fold increase in the budget of the road sector. The public investment in rural roads has been growing by nearly 30 percent annually; from Rs. 1874 crore in 2012-13, it has reached Rs. 9799 crore in 2018-19. This increase is more than five-times during a period of 6 years.
3. Between 2004-05 and 2016-17, Bihar was at the sixth position in terms of additional construction of NH and SH, and at fifth position in the context of other roads. Bihar was at the third position, after Kerala and West Bengal, in terms of road length per hundred sq. km. of geographical area. As on September, 2018, the total length of NH was 4917 kms., SH was 4006 kms., MDR was 12,356.85 kms. and rural road was 1,29,473 kms. In Bihar.
4. The Bihar State Road Development Corporation Limited (BSRDCL) is an ISO 9001:2008 certified organisation, generating profit and contributing to the Mukhya Mantri Relief Fund since its inception. The turnover of the BSRDCL increased nearly 4 times in the last 7 years.
5. Bihar is a densely populated state and several rivers criss-cross the state. In this backdrop, the state government has been building bridges over rivers to reduce the distance between habitations and easing the transportation of goods and passengers. BRPNL has constructed a total of 661 bridges at a cost of Rs. 6545 crore in the last 5 years (2013-14 to 2017-18). It has prudently managed its finances, resulting in continuous generation of profit.
6. The major growth drivers of registered vehicles in Bihar were truck (20.8 percent), two-wheeler (19.8 percent), car (19.0 percent) and trailer (17.5 percent). The total number of new motor vehicles registered grew annually at 17.6 percent. The revenue of the Department of Transport has increased substantially from Rs. 558 crore in 2011-12 to Rs. 1625 crore in 2017-18. The revenue collection of the Bihar State Road Transport Corporation (BSRTC) has also been growing remarkably and the corporation has collected Rs. 124.8 crore during 2017-18, more than double the amount collected in the previous year (Rs. 61.4 crore).
7. Since 2014, the Railways have constructed 151 kms of new lines, doubled 108 kms of track, converted 163 kms into wider gauge, electrified 478 kms of rail route, and constructed 15 ROBs in Bihar. In order to facilitate the passengers of the state, 36 pairs

of new trains were introduced and additional stoppages for 81 pairs of trains were provided at different places. Air passenger traffic in Bihar witnessed more than 50 percent growth in the year 2017-18, compared to the previous year. Under UDAN-II, Darbhanga has been included and the required construction work is expected to be completed by the middle of 2019.

8. The expenditure of the Building Construction Department was Rs. 218 crore in 2008-09, which increased to Rs. 1771 crore in 2016-17. The budget estimate for 2018-19 is still higher at Rs. 3960 crore, of which about 80 percent is capital expenditure.
9. The public investment in major, medium and minor irrigation has been increasing over the years. It is noteworthy that the capital expenditure on irrigation has been more than the revenue expenditure since 2012-13. It is estimated that a total of 117.54 lakh hectares in the ultimate irrigation potential in the state, of which the created potential was 71.03 lakh hectares and 60.79 lakh hectares were utilised.
10. In case of rural tele-density, Bihar is at the second lowest position among major states of India, with 44 connections per 100 people. However, Bihar appears at second position from top in terms of urban tele-density, after Kerala. The Postal Department has declared GPO-Patna, HO-Bhagalpur and PTC-Darbhanga as departmental heritage building. The Department is running 34 postal dispensaries in 13 circles in various parts of the country, in which Chhapra, Darbhanga, Gaya and Muzaffarpur have been selected from Bihar.
11. During 2011-12 to 2016-17, communication sector has been growing annually by 10.7 percent; in 2017-18, it grew at an even faster rate of 16.6 percent. In order to promote the e-governance programme, development of IT infrastructure through State Data Centres (SDC), State Wide Area Network (SWAN), Common Service Centres (CSC) and middleware gateways are being provided. These gateways include State e-Governance Service Delivery Gateway (SSDG), National e-Governance Service Delivery Gateway (NSDG) and Mobile e-Governance Service Delivery Gateway (MSDG).

CHAPTER-VII : ENERGY SECTOR

1. There has been significant improvement in peak demand met in Bihar from 1712 MW in 2011-12 to 4535 MW in 2017-18, implying a growth of around 165 percent in 6 years. The peak demand has reached a new high of 5139 MW in the month of September 2018. The peak deficit in power remained around 30 percent for several years till 2012-13; by 2017-18, this deficit was reduced to around 9 percent. The availability of power has increased from an average of 6-8 hours to 18-20 hours in rural areas and from 10-12 hours to 22-24

hours in urban areas. The per capita consumption in the state has risen from 134 kwh in 2011-12 to 280 kwh in 2017-18, implying a growth of more than 100 percent in 6 years.

2. The state government has targeted to achieve the ‘Har Ghar Bijli’ resolve by December, 2018. As of now, power connection has been provided to all willing households in the state. In the next phase, connection is being provided to agriculture pumpsets, both new as well as existing pumpsets presently running on diesel. This has been taken up in a mission mode and the target for its completion has been set at December, 2019. The expected power demand of Bihar by 2020-21 shall be of the order of 6381 MW, with an annual energy requirement of 36,894 MU.
3. In order to meet the increased demand, the state government has already planned for additional capacity of 2522 MW from different sources in a phased manner by 2020-21. These sources are — own generating stations, central generating stations, renewable energy sources, and long/ medium-term Power Purchase Agreements (PPA) through competitive bidding.
4. The allocation of fund for BSPHCL and its subsidiary companies, Bihar Renewable Energy Development Agency (BREDA) and Bihar State Hydroelectric Power Corporation (BSHPC), was Rs. 3110.92 crore in 2013-14, which increased to Rs. 8271.59 crore in 2017-18. The outlay for 2018-19 is Rs. 6185.63 crore.
5. The generation and purchase of power (net of central transmission loss) in Bihar increased from 14,002 MU in 2013-14 to 25,559 MU in 2017-18. With increase in sales, the revenue collection has increased. The cost coverage was above 90 percent in 2016-17.
6. Power is supplied to various categories of consumers through a transmission network, which also involves the transformation of high-voltage power to lower-voltage power. Presently, about 15,707 circuit km EHV (Extra High Voltage) transmission line, 142 grid sub-stations with total transformation capacity of 7710 MVA at 220/132 KV level and 12,680 MVA at 132/33 KV level comprise the transmission system in Bihar. The projection for 2018-19 is 16,000 circuit km transmission line, 150 grid sub-stations with 9790 MVA transformation capacity at 220/132 KV level and 14,220 MVA at 132/33 KV transmission capacity. The peak demand met was 2831 MW in 2014-15, which increased to 5139 MW in September 2018, implying an increase of 81 percent in 4 years.
7. The total generation capacity of power as of March 2018 for the state was 3889 MW. Out of this, 81.9 percent is from coal-based thermal power, 12.3 percent from hydro power, and the balance 5.8 percent from renewable energy sources. In terms of ownership, central sector has the largest share of 79.1 percent.

8. The Bihar State Hydroelectric Power Corporation Limited (BSHPC) was established to oversee the expansion of hydroelectric power projects in the state. During the Tenth Plan, BSHPC started exploring possibilities for major hydel projects, besides its earlier mandate for minor hydel projects. A total of 13 minor hydel projects are currently operational in the state, with a total installed capacity of 54.3 MW. Presently, the construction work is in progress for 11 more schemes.

CHAPTER-VIII : RURAL DEVELOPMENT

1. The Multi-dimensional Poverty Index (MPI) stands at 0.246 and proportion of poor population in Bihar is 52.2. Of them, 22.1 percent come under severely poor population. Three districts with the highest MPI are — Araria (0.346), Madhepura (0.337) and Kishanganj (0.325). All these districts are in north Bihar. At the other end, three districts with least MPI are — Patna (0.125), Bhojpur (0.171) and Siwan (0.172). Apart from Siwan, the other two districts are in south Bihar.
2. Towards promoting social development, Jeevika has achieved a tremendous feat. During the last decade, no less than 8.17 lakh SHGs have been formed in Bihar till September, 2018. To reduce vulnerability, 22.4 thousand VOs are now managing Food Security Fund and 30.3 thousand VOs are also managing Health Security Fund. Jeevika has also contributed substantially towards reduction of Open Defecation (OD) in the state.
3. Under MGNREGA, a total of 147.5 lakh job cards were issued in Bihar till 2017-18. The total employment generated per year has been around 800 lakh person-days for all the years. A positive aspect of this employment programme is that the share of women labourers in total employment has been rising over the years. The extent of fund utilisation has been increasing steadily over the years to reach 92.1 percent in 2017-18.
4. The new Pradhan Mantri Awas Yojana-Gramin (PMAY-G) was introduced in November, 2016 to provide affordable housing to the identified houseless poor in the rural areas. Under this Scheme, 6.89 lakh houses were completed in 2016-17, which had been sanctioned under the IAY in the previous years. This figure was in excess of the annual PMAY-G target of 6.37 lakh houses for 2016-17.
5. The target of providing access to toilet to 1.15 crore households has already been achieved. Presently, 3954 Gram Panchayats, 21,237 Villages, 151 Blocks and 5 Districts (Sitamarhi, Sheikhpura, Rohtas, Munger and Begusarai) has been declared as ODF.
6. The PDS in Bihar is being implemented successfully, as the amount of foodgrains actually lifted by the PDS dealers is more than 95 percent of what is allotted to the state for all the

years (2014-15 to 2017-18). In 2017-18, the lifting of foodgrains was as high as 97.6 percent of what was allotted.

7. As regards the Panchayati Raj Institutions (PRI), the annual grant was Rs. 2535.32 crore in 2013-14 and it has steadily increased to reach a level of Rs. 6449.07 crore in 2016-17. This implies an increase of 154 percent in just 3 years.
8. In the context of climate change, 2018-19 was the year of mainstreaming climate change in Bihar. The Department of Forest and Climate Change spent 74 percent of its total budget on climate change and 24 percent on climate risks vulnerability. Responding to the increased level of pollution in the country, the Union Ministry of Environment, Forest and Climate Change has launched the National Clean Air Programme (NCAP) which has directed the affected cities to prepare their own city-specific clean air action plan. In response to NCAP, clean air action plans are being prepared for Patna, Gaya and Muzaffarpur districts by the Bihar State Pollution Control Board (BSPCB).

CHAPTER-IX : URBAN DEVELOPMENT

1. The state accounts for 8.6 percent of India's total population, but it has only 3.1 percent of country's total urban population. Apart from recording a low 'level' of urbanisation, Bihar has also recorded a low 'pace' of urbanisation. Between 1961 and 2011, a span of half a century, the level of urbanisation in Bihar has increased by only 3.9 percentage point, from 7.4 percent (1961) to 11.3 percent (2011).
2. Out of a total of 199 towns in Bihar, only 26 have a population of at least one lakh, where one could expect the growth of secondary and tertiary activities. Patna, as the capital city, has maintained its primacy in the state's urban system, as it accounts for 14 percent of state's urban population, followed by Gaya, which has a share of 4 percent.
3. In the recent past, the state government is paying more attention to urban development through increased allocation toward infrastructure-oriented projects. In 2016-17, the total expenditure of the state government on urban development and housing was Rs. 6420 crore, compared to Rs. 1290 crore in 2010-11.
4. Under the SMART City Mission scheme, four cities of Bihar (Patna, Bhagalpur, Biharsharif and Muzaffarpur) have been selected. Since Bhagalpur was selected during the first phase, an allocation of Rs. 286 crore has already been earmarked for Bhagalpur.
5. Under the Swachh Bharat Mission (SBM), one of the flagship projects launched by the central government in 2014, Bihar has set a target for the construction of 5.48 lakh toilets in the urban areas. The estimated expenditure is Rs. 759.60 crore, to be spread over four

years. Till date, 99 out of 142 urban centres and a total of 3270 wards out of 3396 have been declared as ODF (Open Defecation-Free).

6. The state government had sanctioned construction of 48 new shelters (50-bed) in 48 cities as per the Shelter for Urban Homeless (SUH) scheme. Apart from the new construction, refurbishment as well as operation and maintenance of 66 existing shelters have also been undertaken under SUH scheme.
7. The implementation of the Patna Metro Rail Project will entail a cost of Rs.13,412 crore in Special Purpose Vehicle (SPV) Model. In the first phase, a total length of 16.94 kms has been proposed for the East-West Metro Corridor (Danapur to Mithapur via Bailey Road and railway station).

CHAPTER-X : BANKING AND ALLIED SECTORS

1. In March 2018, there were 6906 branches of commercial banks in Bihar. In 2017-18, there were 62 new branches in Bihar. The distribution of branches shows that 50.8 percent of them are in rural, 28.7 percent in semi-urban and 20.5 percent in urban areas.
2. There has been a modest growth of 7.2 percent in 2017-18 in the total deposits in Bihar (increase of Rs 21,242 crore) over the previous year. Simultaneously, the credit in 2017-18 has expanded by Rs 10,636 crore, implying a higher growth of 11.7 percent. The corresponding national averages during the year were 6.8 percent for deposits and 9.5 percent for credit.
3. The CD ratios in Bihar in 2017-18 was the highest for Cooperative Banks (86.9 percent), followed by the Regional Rural Banks (52.3 percent) and Scheduled Commercial Banks (38.8 percent). The shares of these banks in the total deposits were: Regional Rural Banks (9.9 percent), Cooperative Banks (0.9 percent), and Scheduled Commercial Banks (89.2 percent) for credit, the respective shares were 12.8 percent, 2.0 percent and 85.2 percent.
4. The CD ratios across the districts showed a wide variation from a low 28.5 percent in Bhojpur to a high 71.6 percent for Purnea. The CD ratio was less than 30 percent in 3 of the 38 districts (Bhojpur, Saran and Siwan). The better performers (with CD ratios more than 50 percent) were Sheohar, Begusarai, West Champaran, Khagaria, Supaul, Purnea, Kishanganj and Araria.
5. Among the Lead Banks, Canara Bank had the highest CD ratio of 48.7 percent as of September 2018, followed by UCO Bank (46.0 percent) and Bank of Baroda (40.3 percent). Among other banks, Vijaya Bank had the highest CD Ratio of 71.2 percent, followed by Bank of Maharashtra (62.5 percent) and Corporation Bank (60.2 percent).

6. The overall achievement under the Annual Credit Plan was 90.8 percent in 2017-18, which was higher than that achieved in 2016-17 (87.9 percent). Achievement in respect of credit to small and medium enterprises was 111.6 percent, and this improved from 99.1 percent recorded last year. This obviously indicates a growing demand for credit to small and medium enterprises and the need to enhance the allocation for this sector.
7. The share of Non-Performing Assets (NPA) in the total outstanding loans in Bihar was only 4.5 percent in 2016-17, a significant improvement over 10.3 percent in 2015-16.
8. Bihar had 5.95 lakh bank-linked SHGs at the end of 2017-18, about 6.8 percent of the country's total bank-linked SHGs. In 2017-18, the share of Bihar was lower at 5.1 percent and this share has been improving gradually over the years. As of March 2018, bank-linked SHG coverage in rural Bihar was 77.35 lakh households, up from 57.33 lakh a year before (35 percent increase). The total savings of these SHGs was Rs 983.8 crore and total bank credit of Rs 2343.6 crore was made available to these SHGs during 2017-18. The total loans disbursed during 2017-18 to the SHGs by banks amounted to Rs 2343.61 crore, which was much higher than Rs 1323.06 crore disbursed in the previous year. The NPA as percentage of total outstanding loan indeed decreased from 13.1 percent in 2016-17 to 7.6 percent in 2017-18, indicating improvements in the repayment behaviour.

CHAPTER-XI : HUMAN DEVELOPMENT

1. The Per Capita Development Expenditure (PCDE) of Bihar has grown at an annual rate of 15.8 percent, compared to 13.7 percent for all-India, between 2011-12 and 2017-18. The expenditure on education in Bihar increased from Rs. 10,214 crore to Rs. 26,394 crore during the same period, registering an annual increase of 14.4 percent, higher than the all-India average of 12.5 percent. Likewise, the rate of growth in health expenditure in Bihar during these seven years was also high at 22 percent.
2. The state has achieved substantial progress in health outcome in recent years. The Life Expectancy at Birth for the state has increased substantially from 65.8 years in 2006-10 to 68.7 years in 2012-16, registering an increase of 2.9 years over a period of 6 years. In recent years, the number of institutional deliveries in Bihar has also increased remarkably, from 14.07 lakh in 2011-12 to 16.37 lakh in 2017-18, registering a growth of 16.3 percent.
3. The immunization coverage for children in the age bracket of 12-23 months has improved considerably by 29 percentage points between NFHS-3 (32.8 percent) and NFHS-4 (61.7 percent). It is observed that, in 2017-18, the coverage of BCG and Penta-1 is as high as 86 percent. For OPV 1, 2 and 3, Pentavalent and Measles, the achievement rate is again more than 80 percent.

4. As many as 8.9 thousand handpumps were installed and 0.3 thousand slipped-back habitations were covered under the National Rural Drinking Water Programme in 2017-18. In 2017-18, out of the total 3.43 lakh Individual Household Latrines constructed, 1.2 lakh (36.3 percent) are for APL families and 2.2 lakh (63.7 percent) for BPL families. Between 2011-12 and 2017-18, the utilisation of fund has increased gradually from 82.6 percent to 95.6 percent.
5. The literacy rate of Bihar has improved significantly in the last decade, from 47.0 percent in 2001 to 61.8 percent in 2011. This implies an increase of 14.8 percentage points. It is worthy to note that this decadal increase is not only the highest among all decadal growth rates in Bihar since 1961, it is also the highest among all states for the decade 2001-11. During 2012-13 to 2016-17, total enrolment in elementary classes has increased at an annual rate of 2.3 percent, from 214.87 lakh in 2012-13 to 235.64 lakh in 2016-17. At the primary level, the dropout rate recorded a decrease of 9.5 percentage points between 2012-13 (31.7 percent) and 2016-17 (22.2 percent). Overall, the gender gap in elementary education is decreasing gradually, as the growth rate of enrolment of girls was 2.3 percent during 2012-13 to 2016-17, compared to 2.2 percent for boys.
6. The Mid-Day Meal Scheme (MDMS) is an important intervention in the elementary education sector for promoting higher enrolment of children (6-14 years age group) and their retention in school. The coverage of MDMS for primary schools was 57.7 percent in 2012-13 which has increased to 62.9 percent in 2017-18, registering an increase of 5.0 percentage points. The coverage of MDMS at upper primary level has remained nearly the same at about 57 percent in both 2012-13 and 2017-18.
7. Presently, 24 universities are in existence in Bihar, of which 22 are traditional universities, one is an open university and another one a state private university. There are also 15 research institutes in the state. In 2017, there were 277 government colleges and 496 local-body colleges. There were 60 teacher training institutes in Bihar in 2017, compared to 43 such institutions in 2014. In 2017, there were 28 engineering colleges in the state, compared to 24 in 2014. Presently, 87 colleges and 7 universities have NAAC accreditation in the state.
8. Under the Chief Minister Merit Scholarship Schemes, in 2017-18, an amount of Rs. 62.73 crore for SC students and Rs. 7.66 crore for ST students was allotted for those passing matric examinations. For higher secondary, the allotment was Rs. 17.09 crore for SC/ST students. Currently, 65 Residential Schools for Scheduled Castes and 20 for Scheduled Tribes are being run by the state government.

9. Under Pre-Matric Scholarship Scheme for BC and EBC, 125.89 lakh students have been benefitted in 2016-17. Similarly, under Post-Matric Scholarship Scheme, against 1.89 lakh applications, scholarships were given to 1.78 lakh beneficiaries.
10. Under Mukhyamantri Alpsankhyak VidyarthiProtsahan Yojana, a sum of Rs. 43.34 crore was sanctioned which has benefitted 38,518 students in 2017-18. The Madarsa students passing Fauqania and Maulvi (only female) examination with first division from Bihar State Madarsa Education Board are being covered under this scheme. In 2018-19, an amount of Rs. 33.00 crore has been sanctioned for 29,715 students under the scheme.
11. Under the Solar Urja through Localization for Sustainability (SOULS) initiative, a flagship programme of IIT Bombay, solar study lamps were distributed by the Ministry of New and Renewable Energy (MNRE) and Jeevika. This initiative is based on the 'Power to All' programme. In 2017-18, a total of 5.50 lakh solar lamps were distributed in the districts of Gaya, Nawada and Bhojpur. Till date, more than 6.70 lakh lamps have been distributed under this scheme.
12. In 2017-18, the total expenditure on schemes for Old Age, Widow and Persons with Disabilities has been 85 percent of the total budget outlay and 64 lakh people were benefitted by these schemes, compared to 56 lakh in 2016-17. The total expenditure on different pension schemes has increased from Rs. 2797.22 crore in 2016-17 to Rs. 3692.41 crore in 2017-18, registering an increase of 28 percent.

CHAPTER-XII : CHILD DEVELOPMENT

1. India is the second most populous country in the world, where 39 percent of its population lie in the age bracket of 0-18 years as per Census 2011. As for Bihar, 48 percent of the population lie in the age group of 0-18 years. The state accounts for 11 percent of India's total child population. The state is home to 4.98 crore children, of which 4.47 crore (89.9 percent) reside in rural areas and 0.50 crore (10.1 percent) live in urban areas.
2. In Bihar, the process of child budgeting started in 2013-14. Between 2013-14 and 2017-18, the overall allocation for children has increased at an annual rate of 21.5 percent. Similarly, the expenditure has also grown at the rate of 29.0 percent, which is even higher than allocation, and it is indeed praiseworthy. The expenditure percentages in these 5 years have been above 70 percent and were remarkably high at 109.8 percent in 2016-17. In the same period, the per capita expenditure increased 2.6 times, from Rs. 1225 to Rs. 3151. The share of expenditure on child development in the total state budget lies at around 12 percent.

3. The ICDS is one of the flagship schemes of the central government. Currently, ICDS is running through 544 project offices in 38 districts of Bihar. There are altogether 1,14,718 AWCs sanctioned. Till 2016-17, 91,677 of these AWCs were operational. The Directorate of ICDS has started operationalizing 23,041 more newly sanctioned AWCs from 2017-18. These 23,041 AWCs were sanctioned for Bihar by the Union Ministry of Women and Child Development (MWCD) in 2015-16.
 4. Literacy rate in Bihar has been growing consistently over the years and stands at 61.8 percent as per 2011 census. However, female literacy rate (51.5 percent) is still much lower, compared to male literacy rate (71.2 percent) in Bihar. It is indeed praiseworthy that the increase in literacy rate is comparatively higher in case of females in all age groups and thus, the gender gap in literacy rate is gradually decreasing over years and has come down from 26.6 percent in 2001 to 19.7 percent in 2011. The overall literacy rate among children (age-group 7-18 years) stands at 79.1 percent and the gender gap between male (81.7 percent) and female (76.2 percent) for this age group is 5.5 percentage points in 2011.
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CHAPTER – I

BIHAR ECONOMY : AN OVERVIEW

The economy of Bihar is presently on a continuous growth path, a result of sound development strategies of the state government, particularly the high levels of its development expenditure. According to the new series of data on Gross State Domestic Product (GSDP), the growth rate of Bihar's economy in 2017-18 was 11.3 percent, increasing from 9.9 percent a year before. During both these years, the growth rate of the national economy has been around 7 percent. In the absence of any recent estimate of poverty ratio (the latest estimate refers to 2011-12), it is not possible to judge the impact of this continuous growth process on the living conditions of the people, but one can be reasonably sure that the next estimates of poverty ratio would reflect its positive impact. It should also be noted here that, to ensure an inclusive growth process, the state government has implemented a number of development programmes, the following three being most important — (a) Bihar Agricultural Road Map III (2017-22), (b) Bihar Skill Development Mission, and (c) Saat Nishchay (Seven Resolves), covering some key aspects of quality of life of the population. Apart from maintaining high levels of development expenditure, the state government has also ensured effective governance during the recent past, covering both general and development administration.

In the realm of public finance, with prudent financial management, the state government was able to meet various financial challenges and continued to generate substantial revenue surplus which, in turn, helped it to continuously increase development expenditure. Apart from generating revenue surplus, the state government was also successful in both deficit and debt management, indicating the overall efficiency of the public finance management.

For a comprehensive view of the current status of Bihar's economy, covering all the sectors, the present Economic Survey has been divided into 12 Chapters. In addition to this Introductory chapter, the remaining 11 chapters are — State Finances, Agriculture and Allied Sectors, Enterprises Sector, Skill Development, Infrastructure, Energy Sector, Rural Development, Urban Development, Banking and Allied Sectors, Human Development and Child Development.

1.1 Demographic Profile

The demographic profile of any territory is an important dimension of its macroeconomic scenario. Bihar had a population of 104.1 million in 2011, which was about 8.6 percent of country's total population of 1210.6 million (Table 1.1). In 2018, Bihar's population is estimated to be about 122.0 million. From Table 1.1, one can also notice a numbers of differences between Bihar and India with respect to demographic characteristics. For one, the density of population in Bihar (1106 persons per sq. km) is nearly three times higher than in India (382). Such high population pressure on land is obviously felt more in rural areas where land is the principal source of livelihood for majority of the population. Yet another demographic disadvantage of Bihar relates to the level of urbanisation in the state which is barely 11.3 percent, compared to a much higher level of urbanisation in India (31.2 percent). It can also be noted from Table 1.1 that the pace of urbanisation in Bihar is very slow. Whereas, for the country as a whole, the urbanisation has increased by 3.4 percentage points between 2001 and 2011 (from 27.8 percent to 31.2 percent), the corresponding increase was only 0.8 percentage point in Bihar (from 10.5 percent to 11.3 percent). This is rather paradoxical, since the growth rate of the urban economy in Bihar during the decade has been very high. Finally, one may also note that Bihar is yet to experience the demographic transition that most other states of the country has already gone through. Between 2001 and 2011, the decadal growth rate of population in Bihar was 25.1 percent, compared to the national average of 17.6 percent. In the recent years, the state government has undertaken several steps towards decreasing fertility rate in Bihar and one would hopefully see their impact in the next census of 2021.

From the administrative structure of the state (bottom half of Table 1.1), it is seen that the number of towns in Bihar has increased from 130 in 2001 to 199 in 2011, an increase of 53.1 percent. For India as a whole, the increase in the number of towns has been nearly the same at 53.7 percent (from 5161 to 7935). However, as mentioned before, the increase in urbanisation in Bihar is far lower (0.8 percentage point) than the national average (3.4 percentage points). This clearly indicates that the average size of the urban population in Bihar is much smaller, compared to other states. One may also note here that, even after a decrease over the decade, there are 39.1 thousand villages in Bihar which poses an administrative challenge for the state government.

Table 1.1 : Demographic Profile and Administrative Structure of Bihar and India (2001 and 2011)

	Bihar		India	
	2001	2011	2001	2011
Demographic Indicator				
Population (million)				
Total	82.9	104.1	1028.7	1210.6
Rural	74.3	92.3	742.5	833.7
Urban	8.7	11.8	286.1	377.1
Sex Ratio (females per '000 males)	919	918	933	943
Child Sex Ratio	942	935	927	919
Density (persons per sq. km.)	880	1106	325	382
Urbanisation (Percentage)	10.5	11.3	27.8	31.2
Decadal Growth (Percentage)	28.6	25.1	21.5	17.6
Administrative Structure				
No. of Districts	37	38	593	640
No. of CD blocks	533	534	5463	5924
No. of Towns (statutory/census)	130	199	5161	7935
No. of Villages	45098	39073	638596	597369

Sources : Census 2001 and 2011

Just as there are considerable inter-state variations in terms of demographic characteristics, there also exists inter-district variation within a state in terms of their demographic profile, as evident from Table A1.1 (Statistical Appendix). The table present district-wise data on population, overall sex-ratio, child sex-ratio, density of population, decadal growth rate and urbanisation. In terms of decadal growth rate of population between 2001 and 2011, it varied from 18.9 percent (Arwal) to 31.1 percent (Madhepura). The level of urbanisation was the lowest in Samastipur and Banka (3.5 percent) and the highest in Patna (43.1 percent). There also exists considerable variation with respect to the density of population and it was the highest in Sheohar (1882 persons pr sq. km) and the lowest in Jamui (567 persons per sq.km). The districts in north Bihar are generally more densely populated; out of 10 districts with a population density of more than 1400 persons, 9 districts fall in north Bihar. Finally, it might be noted that, in terms of population, Patna was the largest (58.4 lakhs), accounting for 5.6 percent of the state's total population; at the other end, it was Sheohar (6.6 lakhs), accounting for only 0.6 percent of the state's total population.

1.2 State Domestic Product

As per quick estimates, the GSDP of Bihar in 2017-18 was Rs. 4,87,628 crore at current prices (Table A1.2) (Statistical Appendix). At constant (2011-12) prices, the figure stood at

Rs. 3,61,504 crore. When one considers NSDP, the corresponding estimates are Rs. 4,48,584 crore (current prices) and Rs. 3,28,824 (constant prices). The resulting Per Capita GSDP in 2017-18 are — Rs. 42,242 (current prices) and Rs. 31,316 (constant prices). Table A1.2 (Statistical Appendix) also presents the time series data on GSDP and NSDP for the period 2004-05 to 2017-18. Further, Tables A1.3-A1.6 (Statistical Appendix) present the sector-wise breakdown of GSDP and NSDP for the years 2011-12 to 2017-18, both at current and constant (2011-12) prices.

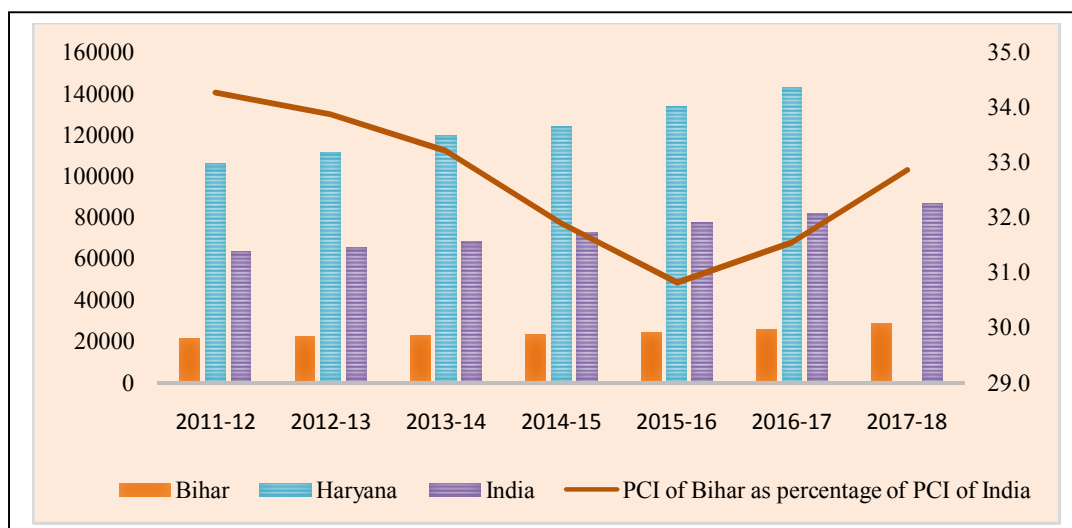
Table 1.2 : Per Capita Net State Domestic Product (NSDP) at (2011-12) Prices of Major Indian States

State	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Andhra Pradesh	69000	68865	72254	79174	87217	96374	106545
Bihar	21750	22201	22776	23223	23987	25950	28485
Chhattisgarh	55177	56777	61409	61146	63791	68321	71581
Gujarat	87481	96683	102589	111370	120683	131853	NA
Haryana	106085	111648	119522	124302	133591	143211	NA
Jharkhand	41254	44176	43779	48781	44524	49174	50562
Karnataka	90263	94417	101919	105697	116832	124093	134118
Kerala	97912	103551	107846	112444	119665	128550	NA
Madhya Pradesh	38551	41287	42778	44336	47646	53047	NA
Maharashtra	99564	103904	109398	114750	122588	133141	140997
Odisha	48370	50714	54109	54211	58165	63674	67522
Punjab	85577	88915	93238	95807	100141	105386	109946
Rajasthan	57192	58441	61053	64522	68048	72072	76146
Tamil Nadu	92984	96890	101559	106189	114581	117806	126179
Uttar Pradesh	32002	32908	34044	34583	36923	38934	40815
India	63462	65538	68572	72805	77826	82229	86668
PCI of Bihar as percentage of PCI of India	34.3	33.9	33.2	31.9	30.8	31.6	32.9

Source : Central Statistical Organisation, Government of India

For a comparison of the relative status of different states in terms of Per Capita Income, Table 1.2 presents the Per Capita NSDP figures for 15 major Indian states for the years 2011-12 to 2017-18, at constant (2011-12) prices. In 2017-18, the Per Capita NSDP in Bihar stood at Rs. 28,485 and it was 32.9 percent of the national average. It was an improvement over the years 2015-16 and 2016-17 (30.8 percent and 31.6 percent respectively). If the present growth momentum of the economy is continued, the gap between Bihar and national economy will decrease further in the coming years.

Chart 1.1 : Per Capita Net State Domestic Product (NSDP) at (2011-12) Prices



Growth Rate of State Income

The outcome of the vigorous efforts of the state government for promoting economic growth is apparent from Table 1.3 which presents the growth rate of Bihar's economy in the last 2 years (2016-17 and 2017-18), as well as during the medium term (2011-12 to 2016-17). Although the medium term growth rate has been modest at 5.3 percent, the growth rate in the last two years have indeed been robust — 9.9 percent (2016-17) and even higher at 11.3 percent (2017-18). It should be mentioned here that the modest growth rate in medium term was mainly due to sluggish growth of the primary sector, a consequence of unfavourable weather.

Sectoral Growth Rate

From Table 1.3, one can also observe the sectoral growth rates in Bihar's economy during the last two years as well as in the medium term. In 2016-17, the highest growth rate was recorded by tertiary sector (12.8 percent), followed by primary sector (9.8 percent) and secondary sector (4.2 percent). In the next year, the pattern has witnessed considerable change; while the tertiary sector recorded an even higher growth rate of 14.6 percent, the growth rates for both primary and secondary sectors decreased to 1.4 and 2.5 percent respectively. From a medium term perspective, the sectors that are seen to grow at a faster rate and contribute most to the overall economy of Bihar are — mining and quarrying (60.0 percent), manufacturing (17.5 percent) and TSCS (transport, storage, communications and services related to broadcasting) (11.4 percent). All these sectors have recorded a double-digit growth rate, compared to a modest growth rate of the overall economy. Among the sub-sectors, air transport is seen to have grown at a very high rate of 35.2 percent.

Table 1.3 : Sectoral Growth Rate of GSDP

Sl. No.	Sector	2016-17 (P)		2017-18 (Q)		2011-12 to 2016-17 (P)	
		Current Prices	Constant Prices	Current Prices	Constant Prices	Current Prices	Constant Prices
1	Agriculture, forestry and fishing	16.7	10.1	5.6	1.4	7.9	0.1
1.1	Crops	21.5	13.2	-0.2	-4.3	4.2	-3.5
1.2	Livestock	11.6	7.8	13.4	10.0	15.7	8.2
1.3	Forestry and logging	9.2	3.2	8.9	3.2	8.5	1.1
1.4	Fishing and aquaculture	5.8	0.5	23.0	15.5	18.2	8.2
2	Mining and quarrying	18.0	-0.1	23.0	3.5	79.9	60.0
	Primary	16.8	9.8	6.1	1.4	8.5	0.6
3	Manufacturing	8.5	7.6	2.4	2.7	19.4	17.5
4	EGWUS*	-4.0	7.3	3.5	3.6	4.8	3.9
5	Construction	3.3	1.0	5.5	2.2	4.6	1.8
	Secondary	4.8	4.2	4.1	2.5	9.6	7.3
6	Trade, repair, hotels and restaurants	26.1	22.2	25.9	22.0	12.0	5.4
6.1	Trade & repair services	27.2	23.3	26.8	22.9	12.2	5.7
6.2	Hotels & restaurants	8.9	5.7	8.3	4.8	8.1	1.7
7	TSC&S*	9.1	5.7	14.7	14.1	16.4	11.4
7.1	Railways	3.4	-3.6	3.4	11.0	12.7	7.1
7.2	Road transport	15.0	11.9	16.6	13.5	18.8	12.9
7.3	Water transport	14.0	11.0	14.3	11.2	-9.3	-13.8
7.4	Air transport	12.8	9.8	42.2	38.3	42.2	35.2
7.5	Services incidental to transport	13.7	12.6	13.5	12.3	18.9	13.3
7.6	Storage	5.9	3.2	5.4	2.6	7.1	1.9
7.7	Communication & services related to broadcasting	0.3	-1.3	16.2	16.6	13.5	10.7
8	Financial services	-3.6	-4.4	12.7	11.9	8.7	7.0
9	REID&PS*	6.0	4.4	9.0	6.7	6.2	2.1
10	Public administration	35.7	33.4	11.0	6.9	10.4	3.6
11	Other services	14.7	10.1	18.3	13.8	17.5	9.2
	Tertiary	16.5	12.8	17.9	14.6	12.2	6.3
12	Total GSVA at basic prices	14.5	10.4	12.8	9.5	10.8	5.1
13	Taxes on Products	10.7	7.5	22.1	18.1	17.2	14.8
14	Subsidies on products	-0.8	14.1	-0.8	-4.0	19.0	14.5
15	Gross State Domestic Product	15.3	9.9	14.5	11.3	10.9	5.3

Note : EGWUS = Electricity, gas, water supply & other utility services
TSC&S = Transport, storage, communication & services related to broadcasting
REID&PS = Real estate, ownership of dwelling & professional services
Source : Directorate of Economic and Statistics, GOB

Structural Change in Economy

The structural composition of an economy in terms of share of output of three major sectors (primary, secondary and tertiary) undergoes change, as revealed by historical experience of economies across the world. This is quite expected since, with the rise in income levels, the demand pattern changes as the additional income is spent more on goods from the secondary sector and services from the tertiary sector. If one examines the sectoral composition of output in Bihar, this pattern is clearly observed. Taking the figures from the recent past (Table 1.4), it is observed that the share of primary sector in Bihar's economy was 25.8 percent in 2011-12, but in 2017-18, it had fallen to 20.2 percent. This decline of 5.6 percentage points within a period of only six years is indeed substantial. The share of secondary sector in total output has again decreased from 18.8 percent in 2011-12 to 17.5 percent in 2017-18, although there has been some fluctuations in this share during the intervening years. This trend is against the experience of historical trends elsewhere. This actually reflects the limitations of the secondary sector in Bihar, particularly its size. It is obvious from this trend that additional demand for secondary sector products in Bihar is met from imports from other regions of the country. The loss of share of output by primary and secondary sectors has obviously meant a steady rise in the share of output of the tertiary sector. This share was already high in 2011-12 (55.5 percent), but in 2017-18, it has reached an even higher level (62.3 percent). Thus, in spite of some deviations, it is clearly observed from Table 1.4 that, in the recent past, the Bihar economy has experienced a noticeable structural change.

The structural change, as discussed above, is not a phenomenon specific to Bihar's economy alone. This trend is also observed for the Indian economy as a whole. However, this structural change is not accompanied by shifting of workforce or population from slowly growing primary sector to the fast-growing secondary or tertiary sectors, again both in Bihar and India as a whole. After the 2021 census, it will be possible for one to know whether this trend has been reversed in the current decade or not.

Table 1.4 : Sectoral Composition of GSDP at Constant (2011-12) Prices

Sl. No.	Sector	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 (P)	2017-18 (Q)
1	Agriculture, forestry and fishing	25.7	27.0	22.8	22.0	21.3	21.2	19.7
1.1	Crops	17.6	18.9	14.2	13.1	12.4	12.7	11.1
1.2	Livestock	5.0	5.0	5.4	5.7	5.7	5.6	5.6
1.3	Forestry and logging	1.7	1.7	1.7	1.6	1.5	1.4	1.3
1.4	Fishing and aquaculture	1.3	1.5	1.6	1.7	1.7	1.5	1.6
2	Mining and quarrying	0.1	0.1	0.5	0.2	0.6	0.6	0.5
	Primary	25.8	27.1	23.4	22.2	21.9	21.8	20.2
3.	Manufacturing	6.1	3.9	7.2	9.6	8.2	8.0	7.5
4.	EGWUS*	1.5	1.6	1.6	1.6	1.5	1.5	1.4
5.	Construction	11.2	10.2	10.5	9.7	10.1	9.2	8.6
	Secondary	18.8	15.6	19.3	20.9	19.7	18.6	17.5
6.	Trade, repair, hotels and restaurants	18.2	18.6	17.5	15.8	17.7	19.6	21.8
6.1	Trade & repair services	17.0	17.5	16.4	14.8	16.7	18.6	20.9
6.2	Hotels & restaurants	1.2	1.1	1.1	1.0	1.0	1.0	0.9
7.	TSC&S*	7.3	8.1	9.0	9.7	9.9	9.5	9.9
7.1	Railways	1.1	1.3	1.5	1.5	1.4	1.2	1.3
7.2	Road transport	3.5	4.0	4.4	4.7	4.9	5.0	5.2
7.3	Water transport	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.4	Air transport	0.0	0.0	0.0	0.0	0.0	0.0	0.1
7.5	Services incidental to transport	0.4	0.4	0.5	0.5	0.5	0.5	0.5
7.6	Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.7	C&SRB*	2.2	2.3	2.6	2.9	3.0	2.7	2.9
8.	Financial services	3.7	3.8	3.9	4.3	4.3	3.8	3.8
9.	REID&PS*	11.6	11.4	11.4	11.4	10.5	10.0	9.7
10.	Public administration	5.6	5.3	4.9	4.9	4.6	5.6	5.4
11.	Other services	9.2	10.1	10.5	10.8	11.2	11.2	11.6
	Tertiary	55.5	57.2	57.3	56.9	58.3	59.6	62.3
12	Total GSVA at basic prices	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note : EGWUS = Electricity, gas, water supply & other utility services
TSC&S = Transport, storage, communication & services related to broadcasting
REID&PS = Real estate, ownership of dwelling & professional services
Source : Directorate of Economic and Statistics, GOB

1.3 Regional Disparity

Just as there exists considerable disparity in terms of Per Capita Income across the states in India, the same phenomenon can also be observed if one compares the district-wise Per Capita

Income in Bihar. The latest estimates of Per Capita Income for the districts in Bihar relate to 2011-12, as presented in Table A1.7 (Statistical Appendix). As per these estimates, three most prosperous districts in Bihar are — Patna, Munger and Begusarai. At the other end, three most economically disadvantaged districts are — Madhepura, Supaul and Sheohar.

The estimates of Per Capita Income of different districts in Bihar are rather dated. As such, to obtain an idea about recent disparities in economic condition, one may consider the indicator of ‘Consumption of Petroleum Products’ (Petrol, Diesel and LPG) in different districts. These figures are presented in Table A1.8 (Statistical Appendix) where, besides the figures for the latest year 2017-18, the average consumption figures are presented for the last two years. In addition, the table also presents the share of each district in the total consumption in Bihar, for all the three petroleum products. If the share of a district in the total consumption is more than its share in the population, then one can denote that district to be a relatively prosperous one. Using this criterion, Table 1.5 presents the names of three most prosperous and three most disadvantaged districts for all the three petroleum products. It emerges from the table that Patna, Muzaffarpur, East Champaran and Begusarai are relatively more prosperous districts in the state, in terms of consumption of petroleum products. The three most disadvantaged districts lying at the other end are — Sheohar, Sheikhpura and Arwal.

Table 1.5 : Relatively Prosperous and Backward Districts of Bihar

	Criteria			
	Petrol	Diesel	LPG	Small Savings
Top 3 districts	Patna, Muzaffarpur, East Champaran	Patna, Muzaffarpur, Begusarai	Patna, Muzaffarpur, East Champaran	Patna, Saran, Nalanda
Bottom 3 districts	Sheohar, Sheikhpura, Arwal	Sheohar, Arwal, Sheikhpura	Sheikhpura, Arwal, Sheohar	Kishanganj, Sheohar and Araria

Source : Indian Oil Corporation

For further information on the regional economic disparity in Bihar, one can also analyse the extent of small savings in Post Offices and Public Provident Fund. These figures have been presented in Table A1.9 (Statistical Appendix) for three years (2015-16 to 2017-18). The last column of the table presents the triennium average, along with the share of the district in the total savings in the state. A comparison between the share of the population and the share of the savings indicates the relative prosperity of the district. From this comparison, it emerges that Patna, Saran and Nalanda are the three most prosperous districts in Bihar. Similarly, Kishanganj, Sheohar and Araria are seen to be the three most economically disadvantaged areas of the state.

1.4 Consumer Price Index

Recently, the Central Statistical Organisation has introduced a new series of price index, with 2011-12 as the base year. This series covers both Wholesale Price Index (WPI) and Consumer Price Index (CPI). The WPI is available only for India as a whole; but fortunately, CPI is available for all the states, along with the national average. Further, CPI is also estimated separately for the rural and urban areas. In Table 1.6 are presented the CPI for all the major states of India in October, 2017 and October, 2018 and the resulting annual inflation rate. As mentioned, these inflation rates are available separately for rural and urban areas. Interestingly, the combined inflation rate has been the highest in Bihar (5.0 percent), while it was 3.3 percent for India as a whole. In the rural areas, the inflation rate in Bihar (5.0 percent) has been the second highest, the national average being 2.8 percent. Finally, for the urban areas, the inflation rate in Bihar (4.6 percent) has again been higher, compared to the national average (4.0 percent). This may be partially due to the high growth rate of Bihar's economy in the recent past.

Table 1.6 : State-wise Annual Inflation Rates for CPI (base: 2012 = 100)

Name of the State/UT	Rural			Urban			Combined		
	Oct.17 Index (Final)	Oct.18 Index (Prov.)	Inflation Rate (%)	Oct.17 Index (Final)	Oct.18 Index (Prov.)	Inflation Rate (%)	Oct.17 Index (Final)	Oct.18 Index (Prov.)	Inflation Rate (%)
Andhra Pradesh	143	138.5	-3.1	135.6	139.4	2.8	140.3	138.8	-1.1
Bihar	138.7	145.7	5.0	131.4	137.5	4.6	137.6	144.5	5.0
Chhattisgarh	143.1	144.2	0.8	132.6	139.6	5.3	139	142.4	2.4
Gujarat	139.9	142.4	1.8	128.6	132.8	3.3	133.5	137	2.6
Haryana	135.5	137.9	1.8	131.1	136.3	4.0	133.4	137.2	2.8
Jharkhand	143.1	146.4	2.3	132.8	138.5	4.3	139.2	143.4	3.0
Karnataka	140	143.5	2.5	139.3	144.9	4.0	139.6	144.3	3.4
Kerala	140.4	145.8	3.8	138.4	144.4	4.3	139.7	145.3	4.0
Madhya Pradesh	133.1	135.8	2.0	133.1	140.3	5.4	133.1	137.7	3.5
Maharashtra	142.5	143.5	0.7	129.6	134.9	4.1	133.9	137.8	2.9
Odisha	141.3	145.5	3.0	131.7	137.1	4.1	138.6	143.2	3.3
Punjab	135.1	139.9	3.6	129.6	135.3	4.4	132.6	137.8	3.9
Rajasthan	139.6	140.5	0.6	135.8	140.8	3.7	138.2	140.6	1.7
Tamil Nadu	139	143.9	3.5	137.9	142.1	3.0	138.4	142.8	3.2
Uttar Pradesh	133.4	138.1	3.5	133.5	141	5.6	133.4	139.1	4.3
West Bengal	136.9	145.4	6.2	134.8	139.4	3.4	135.9	142.6	4.9
All India	138.3	142.2	2.8	133.5	138.8	4.0	136.1	140.6	3.3

Source : RBI and Labour Bureau, Government of India

APPENDIX

Table A 1.1 : District-wise Demographic Profile of Bihar

Districts	Population (lakh)		Sex Ratio (Overall)		Sex Ratio (Child)		Density		Urbanisation		Decadal Growth
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011	2011
Patna	47.2 (5.7)	58.4 (5.6)	873	897	923	909	1471	1803	41.6	43.1	23.7
Nalanda	23.7 (2.9)	28.8 (2.8)	914	922	941	931	1006	1220	14.9	15.9	21.4
Bhojpur	22.4 (2.7)	27.3 (2.6)	901	907	940	918	903	1136	13.9	14.3	21.6
Buxar	14.0 (1.7)	17.1 (1.6)	900	922	929	934	864	1003	9.2	9.6	21.7
Rohtas	24.5 (3.0)	29.6 (2.8)	910	918	952	931	636	763	13.3	14.5	20.8
Kaimur	12.9 (1.6)	16.3 (1.6)	901	920	942	942	382	488	3.3	4	26.2
Gaya	34.7 (4.2)	43.9 (4.2)	938	937	968	960	699	880	13.7	13.2	26.4
Jehanabad	9.2 (1.1)	11.3 (1.1)	927	922	915	922	963	1206	12.1	12	21.7
Arwal	5.9 (0.7)	7.0 (0.7)	931	928	917	940	--	1099	0	7.4	18.9
Nawada	18.1 (2.2)	22.2 (2.1)	946	939	978	945	726	889	7.7	9.7	22.6
Aurangabad	20.1 (2.4)	25.4 (2.4)	934	926	941	944	607	760	8.4	9.3	26.2
Saran	32.5 (3.9)	39.5 (3.8)	966	954	949	926	1231	1493	9.2	8.9	21.6
Siwan	27.1 (3.3)	33.3 (3.2)	1031	988	933	940	1221	1495	5.5	5.5	22.7
Gopalganj	21.5 (2.6)	25.6 (2.5)	1001	1021	964	954	1057	1258	6.1	6.4	19
W. Champaran	30.4 (3.7)	39.4 (3.8)	901	909	952	953	582	750	10.2	10	29.3
E. Champaran	39.4 (4.7)	51.0 (4.9)	896	902	935	933	991	1281	6.4	7.9	29.4
Muzaffarpur	37.5 (4.5)	48.0 (4.6)	921	900	927	915	1180	1506	9.3	9.9	28.1
Sitamarhi	26.8 (3.2)	34.2 (3.3)	892	899	924	930	1214	1491	5.7	5.6	27.6
Sheohar	5.2 (0.6)	6.6 (0.6)	883	893	911	929	1161	1882	4.1	4.3	27.2
Vaishali	27.2 (3.3)	35.0 (3.4)	919	895	939	904	1332	1717	6.8	6.7	28.6
Darbhanga	33.0 (4.0)	39.4 (3.8)	914	911	913	931	1442	1721	8.1	9.7	19.5
Madhubani	35.8 (4.3)	44.9 (4.3)	942	926	941	936	1020	1279	3.5	3.6	25.5
Samastipur	33.9 (4.1)	42.6 (4.1)	928	911	937	923	1175	1465	3.7	3.5	25.5
Begusarai	23.5 (2.8)	29.7 (2.9)	911	895	947	919	1222	1540	4.6	19.2	26.4
Munger	11.4 (1.4)	13.7 (1.3)	872	876	916	922	800	958	27.9	27.8	20.2
Sheikhpura	5.3 (0.6)	6.4 (0.6)	920	930	964	940	762	922	15.6	17.1	21.1
Lakhisarai	8.0 (1.0)	10.0 (1.0)	919	902	954	920	652	815	14.7	14.3	24.8
Jamui	14 (1.7)	17.6 (1.7)	919	922	965	956	451	567	7.4	8.3	25.9
Khagaria	12.8 (1.5)	16.7 (1.6)	885	886	931	926	859	1115	5.9	5.2	30.2
Bhagalpur	24.2 (2.9)	30.4 (2.9)	875	880	967	938	946	1180	18.7	19.8	25.4
Banka	16.1 (1.9)	20.3 (2.0)	909	907	964	943	533	672	3.5	3.5	26.5
Saharsa	15.1 (1.8)	19 (1.8)	911	906	910	933	885	1125	8.3	8.2	26
Supaul	17.3 (2.1)	22.3 (2.1)	921	929	927	944	724	919	5.1	4.7	28.7
Madhepura	15.3 (1.8)	20 (1.9)	916	911	930	930	853	1116	4.5	4.4	31.1
Purnea	25.4 (3.1)	32.6 (3.1)	916	921	968	954	787	1014	8.7	10.5	28.3
Kishanganj	13 (1.6)	16.9 (1.6)	934	950	946	971	687	898	10	9.5	30.4
Araria	21.6 (2.6)	28.1 (2.7)	914	921	963	957	751	992	6.2	6	30.2
Katihar	23.9 (2.9)	30.7 (2.9)	919	919	966	961	782	1004	9.2	8.9	28.4
Bihar	830 (100.0)	1041 (100.0)	919	918	942	935	880	1106	11	11	25.4

Source : Census of India

Table A 1.2 : Gross State Domestic Product (GSDP) and Net State Domestic Product (NSDP) of Bihar

Year	GSDP (Rs. crore)		NSDP (Rs. crore)		Per Capita GSDP (Rs.)	
	At current Price	At constant Price	At current Price	At constant Price	At current Price	At constant Price
Base Year 2004-05						
2004-05	77781	77781	70167	70167	8773	8773
2005-06	82490	76466	74144	68419	9149	8481
2006-07	100737	88840	91331	80260	10994	9695
2007-08	113680	93774	102853	84415	12215	10076
2008-09	142279	107412	129690	97284	15060	11369
2009-10	162923	113158	148151	101938	16998	11806
2010-11	203555	130171	185745	117503	20944	13393
2011-12	243269	143560	222442	129521	24696	14574
2012-13	293616	158909	268902	143250	29425	15925
2013-14	343663	173409	315225	156671	34014	17163
2014-15	402283	189789	369576	171802	39341	18560
CAGR (2004-15)	18.9	10.0	19.1	10.1	17.2	8.5
Base Year 2011-12						
2011-12	247144	247144	228497	228497	23525	23525
2012-13	282368	256851	261327	236933	26459	24068
2013-14	317101	269650	292143	246915	29251	24874
2014-15	342951	279482	315732	255739	31142	25379
2015-16	369469	295622	337987	268333	33028	26426
2016-17 (P)	425888	324778	391014	294890	37478	28580
2017-18 (Q)	487628	361504	448584	328824	42242	31316
CAGR (2011-18)	11.4	6.3	11.2	5.9	9.6	4.6

Note : Data of 2016-17 is Provisional Estimates and 2017-18 Quick Estimates

Source : Directorate of Economics and Statistics, GOB

Table A 1.3 : Gross State Domestic Product (GSDP) of Bihar at Current Price

(Rs. crore)

Sl. No.	Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 (P)	2017-18 (Q)	CAGR (2011-17)
1.	Agriculture, forestry and fishing	62067	76700	73719	78632	84304	98395	103913	7.9
1.1	Crops	42608	53365	45223	46222	49008	59536	59432	4.2
1.2	Livestock	12028	14811	18316	20621	22677	25309	28710	15.7
1.3	Forestry and logging	4187	4571	5010	5258	5824	6359	6925	8.5
1.4	Fishing and aquaculture	3244	3953	5170	6532	6795	7191	8845	18.2
2.	Mining and quarrying	199	234	1508	851	2670	3151	3874	79.9
	Primary	62265	76934	75227	79483	86974	101546	107787	8.5
3.	Manufacturing	14666	10351	21209	29978	25476	27639	28310	19.4
4.	EGWUS*	3659	4422	3859	3313	5039	4835	5005	4.8
5.	Construction	27017	27810	31848	32678	32515	33586	35448	4.6
	Secondary	45341	42583	56916	65968	63031	66060	68763	9.6
6.	Trade, repair, hotels and restaurants	43904	51755	52051	53410	66057	83295	104876	12.0
6.1	Trade & repair services	41109	48672	48735	49959	62213	79109	100344	12.2
6.2	Hotels & restaurants	2796	3083	3316	3451	3844	4186	4532	8.1
7.	TSC&S*	17545	21616	26850	31889	34137	37242	42698	16.4
7.1	Railways	2751	3348	3957	4725	4784	4946	5114	12.7
7.2	Road transport	8405	10697	13479	15723	17568	20196	23547	18.8
7.3	Water transport	49	26	17	21	22	26	29	-9.3
7.4	Air transport	31	58	46	79	158	179	254	42.2
7.5	Services incidental to transport	893	1120	1425	1666	1880	2137	2425	18.9
7.6	Storage	74	84	85	93	100	106	112	7.1
7.7	C&SRB*	5342	6282	7842	9582	9624	9653	11218	13.5
8.	Financial services	8839	9774	11223	12188	13372	12893	14532	8.7
9.	REID&PS*	28023	31217	34604	36675	36401	38594	42051	6.2
10.	Public administration	13587	14777	15768	17203	17676	23986	26636	10.4
11.	Other services	22193	28043	34046	38383	44374	50886	60193	17.5
	Tertiary	134092	157182	174542	189748	212018	246896	290985	12.2
12.	Total GSVA at basic prices	241698	276699	306685	335199	362023	414502	467535	10.8
13.	Taxes on Products	17169	21185	26236	27007	34787	38516	47017	17.2
14.	Subsidies on products	11724	15517	15820	19255	27340	27131	26923	19.0
15.	Gross State Domestic Product	247144	282368	317101	342951	369469	425888	487628	10.9
16.	Population (crore)	10.5	10.7	10.8	11.0	11.2	11.4	11.5	1.6
17.	Per Capita GSDP (Rs.)	23525	26459	29251	31142	33028	37478	42242	9.1

Note : Data of 2016-17 is Provisional Estimates and 2017-18 Quick Estimates

Source : Directorate of Economics and Statistics, GOB

Note : EGWUS = Electricity, gas, water supply & other utility services

TSC&S = Transport, storage, communication & services related to broadcasting

REID&PS = Real estate, ownership of dwelling & professional services

Table A 1.4 : Gross State Domestic Product (GSDP) of Bihar at Constant (2011-12) Price

(Rs. crore)

Sl. No.	Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 (P)	2017-18 (Q)	CAGR (2011-17)
1.	Agriculture, forestry and fishing	62067	68040	59516	59349	60754	66864	67779	0.1
1.1	Crops	42608	47493	37107	35254	35348	40021	38294	-3.5
1.2	Livestock	12028	12525	14008	15359	16281	17556	19312	8.2
1.3	Forestry and logging	4187	4253	4330	4218	4353	4492	4637	1.1
1.4	Fishing and aquaculture	3244	3768	4071	4518	4772	4793	5535	8.2
2.	Mining and quarrying	199	216	1386	577	1789	1787	1849	60.0
	Primary	62265	68256	60902	59926	62543	68651	69628	0.6
3.	Manufacturing	14666	9714	18893	25958	23371	25151	25835	17.5
4.	EGWUS*	3659	4017	4128	4270	4275	4587	4753	3.9
5.	Construction	27017	25608	27261	26019	28668	28957	29584	1.8
	Secondary	45341	39339	50282	56247	56315	58696	60172	7.3
6.	Trade, repair, hotels and restaurants	43904	46729	45683	42626	50421	61638	75185	5.4
6.1	Trade & repair services	41109	43945	42775	39877	47496	58547	71947	5.7
6.2	Hotels & restaurants	2796	2784	2908	2749	2925	3091	3238	1.7
7.	TSC&S*	17545	20372	23473	26054	28375	29996	34212	11.4
7.1	Railways	2751	3346	3965	4092	4070	3926	4359	7.1
7.2	Road transport	8405	9962	11373	12678	14010	15678	17788	12.9
7.3	Water transport	49	24	15	17	18	20	22	-13.8
7.4	Air transport	31	54	38	64	126	139	192	35.2
7.5	Services incidental to transport	893	1043	1202	1344	1499	1688	1896	13.3
7.6	Storage	74	79	71	75	80	83	85	1.9
7.7	C&SRB*	5342	5863	6808	7785	8572	8463	9871	10.7
8.	Financial services	8839	9580	10273	11653	12393	11845	13259	7.0
9.	REID&PS*	28023	28686	29819	30739	30032	31365	33454	2.1
10.	Public administration	13587	13350	12752	13171	13132	17522	18729	3.6
11.	Other services	22193	25297	27478	29002	32012	35248	40108	9.2
	Tertiary	134092	144015	149478	153245	166366	187613	214947	6.3
12.	Total GSVA at basic prices	241698	251609	260662	269418	285223	314959	344747	5.1
13.	Taxes on Products	17169	19588	22638	26793	30900	33215	39211	14.8
14.	Subsidies on products	11724	14347	13650	16729	20501	23397	22454	14.5
15.	GSDP	247144	256851	269650	279482	295622	324778	361504	5.3
16.	Population (crore)	10.5	10.7	10.8	11.0	11.2	11.4	11.5	1.6
17.	Per Capita GSDP (Rs.)	23525	24068	24874	25379	26426	28580	31316	3.7

Note : Data of 2016-17 is Provisional Estimates and 2017-18 Quick Estimates

Source : Directorate of Economics and Statistics, GOB

Note : EGWUS = Electricity, gas, water supply & other utility services

TSC&S = Transport, storage, communication & services related to broadcasting

REID&PS = Real estate, ownership of dwelling & professional services

Table A 1.5 : Net State Domestic Product (NSDP) of Bihar at Current Price

(Rs. crore)

Sl. No.	Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 (P)	2017-18 (Q)	CAGR (2011-17)
1.	Agriculture, forestry and fishing	57852	71802	67874	72063	77284	90862	95425	7.5
1.1	Crops	39053	49248	40320	40687	43007	53027	52098	3.3
1.2	Livestock	11795	14525	17975	20253	22321	24933	28287	15.9
1.3	Forestry and logging	4141	4520	4953	5206	5769	6298	6856	8.6
1.4	Fishing and aquaculture	2862	3509	4625	5917	6187	6604	8184	19.1
2.	Mining and quarrying	174	203	1291	724	2234	2667	3328	78.4
	Primary	58025	72005	69166	72786	79519	93529	98753	8.1
3.	Manufacturing	12681	8450	19073	27523	23125	25182	25541	21.5
4.	EGWUS*	2431	2892	2554	2145	3393	3190	3152	4.9
5.	Construction	25764	26372	29909	30757	30582	31630	33244	4.4
	Secondary	40876	37713	51536	60426	57100	60002	61937	10.0
6.	Trade, repair, hotels and restaurants	43256	50952	51087	52321	64037	80861	102133	11.6
6.1	Trade & repair services	40564	47998	47926	49031	60445	76950	97911	11.8
6.2	Hotels & restaurants	2692	2955	3161	3290	3592	3911	4222	7.4
7.	TSC&S*	14845	18612	22530	26925	28513	30864	35512	15.7
7.1	Railways	2022	2558	2996	3516	3431	3387	3357	10.9
7.2	Road transport	7582	9771	12282	14474	16228	18658	21814	19.3
7.3	Water transport	44	20	10	13	14	15	17	-16.2
7.4	Air transport	15	40	22	53	130	144	215	56.9
7.5	Services incidental to transport	761	971	1233	1469	1646	1869	2122	19.6
7.6	Storage	63	74	72	78	84	89	92	6.4
7.7	C&SRB*	4359	5178	5916	7323	6980	6703	7894	9.8
8.	Financial services	8700	9601	11035	11963	13099	12590	14191	8.5
9.	REID&PS*	25298	28025	30922	32624	32049	33921	37035	5.6
10.	Public administration	10485	11490	12339	13598	14163	19632	21730	11.7
11.	Other services	21567	27259	33112	37338	42061	48230	57201	16.8
	Tertiary	124151	145940	161025	174769	193921	226099	267801	11.9
12.	Total NSVA at basic prices	223052	255658	281727	307980	330540	379629	428491	10.6
13.	Taxes on Products	17169	21185	26236	27007	34787	38516	47017	17.2
14.	Subsidies on products	11724	15517	15820	19255	27340	27131	26923	19.0
15.	NSDP	228497	261327	292143	315732	337987	391014	448584	10.6
16.	Population (crore)	10.5	10.7	10.8	11.0	11.2	11.4	11.5	1.6
17.	Per Capita NSDP (Rs.)	21750	24487	26948	28671	30213	34409	38860	8.9

Note : Data of 2016-17 is Provisional Estimates and 2017-18 Quick Estimates

Source : Directorate of Economics and Statistics, GOB

Note : EGWUS = Electricity, gas, water supply & other utility services

TSC&S = Transport, storage, communication & services related to broadcasting

REID&PS = Real estate, ownership of dwelling & professional services

Table A 1.6 : Net State Domestic Product (NSDP) of Bihar at Constant (2011-12) Price

(Rs. crore)

Sl. No.	Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 (P)	2017-18 (Q)	CAGR (2011-17)
1.	Agriculture, forestry and fishing	57852	63491	54487	53929	55165	61042	61413	-0.5
1.1	Crops	39053	43675	32908	30738	30658	35105	32918	-4.6
1.2	Livestock	11795	12260	13706	15042	15962	17227	18951	8.3
1.3	Forestry and logging	4141	4206	4280	4173	4304	4439	4580	1.1
1.4	Fishing and aquaculture	2862	3350	3593	3975	4240	4271	4964	8.4
2.	Mining and quarrying	174	187	1187	468	1424	1389	1414	56.0
	Primary	58025	63678	55674	54396	56589	62431	62827	0.0
3.	Manufacturing	12681	7896	16913	23761	21257	22947	23424	19.6
4.	EGWUS*	2431	2542	2904	3226	2801	3128	3157	4.8
5.	Construction	25764	24235	25437	24238	26866	27068	27518	1.5
	Secondary	40876	34674	45253	51225	50924	53142	54100	7.7
6.	Trade, repair, hotels and restaurants	43256	45972	44805	41669	48614	59496	72843	4.9
6.1	Trade & repair services	40564	43309	42038	39062	45914	56647	69870	5.2
6.2	Hotels & restaurants	2692	2663	2767	2607	2700	2849	2973	0.8
7.	TSC&S*	14845	17490	19386	21654	23454	24460	28159	10.5
7.1	Railways	2022	2605	3088	3040	2893	2596	2904	4.5
7.2	Road transport	7582	9077	10265	11514	12759	14280	16260	13.1
7.3	Water transport	44	18	7	10	10	10	11	-22.7
7.4	Air transport	15	37	17	39	100	108	158	48.2
7.5	Services incidental to transport	761	899	1021	1169	1293	1454	1640	13.6
7.6	Storage	63	68	60	62	66	67	68	0.6
7.7	C&SRB*	4359	4785	4927	5819	6332	5945	7118	7.6
8.	Financial services	8700	9412	10095	11454	12156	11585	12974	6.9
9.	REID&PS*	25298	25724	26548	27285	26295	27448	29172	1.4
10.	Public administration	10485	10191	9553	9910	9933	13574	14412	3.6
11.	Other services	21567	24550	26613	28082	29971	32936	37580	8.2
	Tertiary	124151	133339	137000	140053	150422	169498	195139	5.7
12.	Total NSVA at basic prices	223052	231691	237927	245674	257935	285071	312066	4.6
13.	Taxes on Products	17169	19588	22638	26793	30900	33215	39211	14.8
14.	Subsidies on products	11724	14347	13650	16729	20501	23397	22454	14.5
15.	NSDP	228497	236933	246915	255739	268333	294890	328824	4.9
16.	Population (crore)	10.5	10.7	10.8	11.0	11.2	11.4	11.5	1.6
17.	Per Capita NSDP (Rs.)	21750	22201	22776	23223	23987	25950	28485	3.3

Note : Data of 2016-17 is Provisional Estimates and 2017-18 Quick Estimates

Note : EGWUS = Electricity, gas, water supply & other utility services

TSC&S = Transport, storage, communication & services related to broadcasting

REID&PS = Real estate, ownership of dwelling & professional services

Source : Directorate of Economics and Statistics, GOB

Table A 1.7 : District-wise Per Capita Gross District Domestic Product (2004-05) Price

(Rupees)

Districts	2007-08	2008-09	2009-10	2010-11	2011-12
Patna	43448 (1)	48719 (1)	53428 (1)	57823 (1)	63063 (1)
Nalanda	8219 (14)	9152 (11)	9787 (10)	10971 (11)	12561 (8)
Bhojpur	8775 (8)	10146 (8)	10134 (8)	11537 (9)	12459 (10)
Buxar	8368 (12)	8992 (15)	8812 (18)	9732 (20)	11289 (15)
Rohtas	9544 (7)	10950 (6)	10908 (7)	12265 (6)	13909 (6)
Kaimur	7564 (21)	8441 (22)	7785 (27)	9539 (22)	10412 (24)
Gaya	8660 (9)	9135 (12)	9519 (15)	10504 (18)	11897 (13)
Jehanabad	7490 (24)	8588 (19)	8478 (22)	9322 (24)	11182 (17)
Arwal	6475 (33)	7028 (35)	7283 (35)	8133 (35)	9125 (34)
Nawada	6739 (31)	7409 (32)	7602 (30)	8437 (31)	9560 (30)
Aurangabad	7575 (20)	7922 (29)	8189 (23)	9293 (25)	11012 (18)
Saran	7522 (23)	7938 (28)	8559 (20)	9576 (21)	10615 (23)
Siwan	7377 (26)	8864 (16)	8042 (26)	9192 (26)	10685 (22)
Gopalganj	7646 (17)	8059 (26)	8543 (21)	10386 (19)	12129 (12)
W. Champaran	8476 (11)	9484 (10)	9706 (11)	10577 (17)	9971 (27)
E. Champaran	6223 (35)	8457 (21)	7571 (31)	8790 (29)	10735 (21)
Muzaffarpur	9814 (5)	11602 (5)	12159 (5)	14082 (5)	15402 (5)
Sitamarhi	6180 (37)	7301 (33)	7456 (32)	8274 (33)	9538 (31)
Sheohar	5541 (38)	6128 (38)	5438 (38)	6208 (38)	7092 (38)
Vaishali	7728 (16)	9604 (9)	9937 (9)	11591 (8)	12490 (9)
Darbhanga	7614 (18)	8516 (20)	9036 (16)	10798 (12)	10932 (19)
Madhubani	6216 (36)	7643 (30)	7455 (33)	10607 (15)	9241 (33)
Samastipur	7559 (22)	8729 (18)	8843 (17)	10705 (14)	10762 (20)
Begusarai	12419 (3)	15001 (3)	14235 (4)	18433 (3)	17587 (3)
Munger	15791 (2)	17034 (2)	18554 (2)	21011 (2)	22051 (2)
Sheikhpura	7209 (28)	8105 (25)	7775 (28)	8377 (32)	9687 (29)
Lakhisarai	9549 (6)	10209 (7)	10950 (6)	11870 (7)	13073 (7)
Jamui	7584 (19)	8028 (27)	8186 (24)	8944 (28)	10166 (25)
Khagaria	8517 (10)	9111 (13)	9642 (12)	10603 (16)	11515 (14)
Bhagalpur	12097 (4)	13351 (4)	14253 (3)	15870 (4)	17324 (4)
Banka	6882 (30)	7596 (31)	7724 (29)	7756 (37)	9269 (32)
Saharsa	8164 (15)	8744 (17)	9591 (14)	11268 (10)	12197 (11)
Supaul	6382 (34)	6790 (36)	7043 (36)	8193 (34)	8492 (37)
Madhepura	6920 (29)	6602 (37)	6979 (37)	8096 (36)	8609 (36)
Purnea	7419 (25)	8228 (23)	8743 (19)	9357 (23)	10099 (26)
Kishanganj	7312 (27)	8120 (24)	8085 (25)	9126 (27)	9928 (28)
Araria	6635 (32)	7251 (34)	7376 (34)	8534 (30)	8776 (35)
Katihar	8267 (13)	9060 (14)	9594 (13)	10721 (13)	11278 (16)
Bihar	10076	11369	11806	13393	14574

Note : Figures in parenthesis denote rank
Source : Directorate of Economic and Statistics, GOB

Table A 1.8 : District-wise Consumption of Petroleum Products

(Figures in MT)

Districts	Share of population	Petrol		Diesel		LPG	
		2017-18	Average (2016-18)	2017-18	Average (2016-18)	2017-18	Average (2016-18)
Patna	5.6	89581	80259 (13.0)	234168	228519 (10.2)	132485	125381 (13.4)
Nalanda	2.8	15191	12820 (2.1)	65879	58685 (2.6)	28923	25097 (2.7)
Bhojpur	2.6	16443	14274 (2.3)	57905	54580 (2.4)	31329	27867 (3)
Buxar	1.6	11319	9632 (1.6)	35515	35094 (1.6)	17063	14865 (1.6)
Rohtas	2.9	20910	17875 (2.9)	79844	78806 (3.5)	29683	26424 (2.8)
Kaimur	1.6	8884	7814 (1.3)	32027	33773 (1.5)	11989	9663 (1)
Gaya	4.2	27239	23220 (3.8)	98296	89718 (4)	37406	32906 (3.5)
Jehanabad	1.1	5569	4592 (0.7)	24093	20577 (0.9)	12313	10734 (1.1)
Arwal	0.7	3511	2886 (0.5)	12030	11267 (0.5)	6021	5141 (0.5)
Nawada	2.1	9570	7847 (1.3)	41525	37659 (1.7)	19634	16945 (1.8)
Aurangabad	2.4	14959	12688 (2.1)	77374	68281 (3.1)	19734	17042 (1.8)
Saran	3.8	26705	23458 (3.8)	97138	95408 (4.3)	40451	35603 (3.8)
Siwan	3.2	26166	23447 (3.8)	55846	56404 (2.5)	37809	33097 (3.5)
Gopalganj	2.5	22197	19976 (3.2)	46967	50099 (2.2)	33756	29321 (3.1)
W. Champaran	3.8	25170	23383 (3.8)	68964	71621 (3.2)	37384	31381 (3.4)
E. Champaran	4.9	33850	31594 (5.1)	95038	106588 (4.8)	54671	45144 (4.8)
Muzaffarpur	4.6	43453	37675 (6.1)	142303	139000 (6.2)	63121	54733 (5.8)
Sitamarhi	3.3	15140	14916 (2.4)	41984	45435 (2)	37033	29620 (3.2)
Sheohar	0.6	2339	1934 (0.3)	5570	5407 (0.2)	6842	5453 (0.6)
Vaishali	3.4	29462	26079 (4.2)	76018	78876 (3.5)	43749	38818 (4.1)
Darbhanga	3.8	24505	20947 (3.4)	63146	61621 (2.8)	49806	40535 (4.3)
Madhubani	4.3	24183	23506 (3.8)	54883	54799 (2.4)	46754	37132 (4)
Samastipur	4.1	26369	22588 (3.7)	87672	83463 (3.7)	39784	32133 (3.4)
Begusarai	2.8	17443	15268 (2.5)	107525	108837 (4.9)	41171	32986 (3.5)
Munger	1.3	7014	6160 (1.0)	35224	32438 (1.4)	17741	15671 (1.7)
Sheikhpura	0.6	2998	2526 (0.4)	21717	17432 (0.8)	5332	4448 (0.5)
Lakhisarai	1.0	3798	3189 (0.5)	20498	18599 (0.8)	8125	6918 (0.7)
Jamui	1.7	7602	6397 (1.0)	25853	23586 (1.1)	12853	9999 (1.1)
Khagaria	1.6	6630	5775 (0.9)	32326	32377 (1.4)	12937	10171 (1.1)
Bhagalpur	2.9	19500	17035 (2.8)	81132	77205 (3.4)	33918	29275 (3.1)
Banka	2.0	8362	7081 (1.1)	27434	26155 (1.2)	12546	9979 (1.1)
Saharsa	1.8	9887	8562 (1.4)	38039	37429 (1.7)	15424	12713 (1.4)
Supaul	2.1	12805	11837 (1.9)	35062	36487 (1.6)	15674	11896 (1.3)
Madhepura	1.9	11587	9950 (1.6)	33942	33590 (1.5)	13823	11357 (1.2)
Purnea	3.2	23620	20331 (3.3)	85874	82992 (3.7)	21542	18080 (1.9)
Kishanganj	1.6	10329	9458 (1.5)	20760	21548 (1)	9878	7709 (0.8)
Araria	2.7	17496	17024 (2.8)	47704	53756 (2.4)	15836	12974 (1.4)
Katihar	3.0	15246	13508 (2.2)	71134	70046 (3.1)	20115	16604 (1.8)
Bihar	100.0	697032	617509 (100)	2278409	2238157 (100)	1094656	935814 (100)

Note : Figures in parenthesis present share of Bihar

Source : Indian Oil Corporation

Table A 1.9 : District-wise Small Savings in Post Offices and Public Provident Fund

(Rs. crore)

Districts	Share of population	2015-16		2016-17		2017-18		Average of Achievement (2015-18)
		Target	Achievement	Target	Achievement	Target	Achievement	
Patna	5.6	300	466.11	500	525.83	545	479.14	490.4 (16.5)
Nalanda	2.8	180	248.51	270	244.12	262	162.40	218.3 (7.4)
Bhojpur	2.6	200	176.27	195	88.73	115	106.08	123.7 (4.2)
Buxar	1.6	50	79.27	85	86.48	93	106.32	90.7 (3.1)
Rohtas	2.9	60	116.35	125	125.03	134	113.73	118.4 (4.0)
Kaimur	1.6	24	44.85	50	51.36	55	50.28	48.8 (1.6)
Gaya	4.2	70	72.69	80	94.94	102	104.00	90.5 (3.0)
Jehanabad	1.1	24	35.27	40	47.79	51	51.22	44.8 (1.5)
Arwal	0.7	16	18.82	20	22.13	24	24.25	21.7 (0.7)
Nawada	2.1	105	106.57	120	125.98	135	55.76	96.1 (3.2)
Aurangabad	2.4	25	64.20	70	59.35	64	70.14	64.6 (2.2)
Saran	3.8	190	241.05	260	265.49	270	307.76	271.4 (9.1)
Siwan	3.2	90	126.68	140	121.40	140	115.68	121.3 (4.1)
Gopalganj	2.5	85	96.81	110	78.61	89	75.98	83.8 (2.8)
W. Champaran	3.8	40	41.71	50	46.36	50	18.58	35.6 (1.2)
E. Champaran	4.9	45	57.56	65	66.84	72	79.64	68 (2.3)
Muzzaffarpur	4.6	80	93.98	110	112.67	121	131.16	112.6 (3.8)
Sitamarhi	3.3	30	39.02	45	34.85	37	35.28	36.4 (1.2)
Sheohar	0.6	5	9.22	10	9.18	10	9.19	9.2 (0.3)
Vaishali	3.4	100	97.91	120	111.56	120	115.83	108.4 (3.7)
Darbhanga	3.8	90	100.30	115	115.64	124	121.45	112.5 (3.8)
Madhubani	4.3	62	69.09	80	59.29	64	53.97	60.8 (2.0)
Samastipur	4.1	75	81.28	90	74.96	80	64.74	73.7 (2.5)
Begusarai	2.8	55	51.24	60	49.16	53	48.90	49.8 (1.7)
Munger	1.3	40	66.77	75	62.40	67	57.23	62.1 (2.1)
Sheikhpura	0.6	12	21.61	25	20.21	22	18.99	20.3 (0.7)
Lakhisarai	1.0	15	21.61	25	20.21	22	18.99	20.3 (0.7)
Jamui	1.7	24	22.68	25	26.17	28	21.29	23.4 (0.8)
Khagaria	1.6	15	12.75	15	12.04	13	13.66	12.8 (0.4)
Bhagalpur	2.9	100	93.84	105	79.83	86	82.25	85.3 (2.9)
Banka	2.0	12	20.58	25	21.52	23	25.31	22.5 (0.8)
Saharsa	1.8	37	35.35	40	33.67	36	28.49	32.5 (1.1)
Supaul	2.1	27	28.87	35	37.66	40	22.60	29.7 (1.0)
Madhepura	1.9	27	25.34	30	22.73	25	19.12	22.4 (0.8)
Purnea	3.2	35	30.68	35	49.78	53	32.66	37.7 (1.3)
Kishanganj	1.6	10	7.62	10	11.78	13	5.66	8.4 (0.3)
Araria	2.7	10	9.56	10	15.73	17	10.73	12 (0.4)
Katihar	3.0	35	24.56	35	41.57	45	21.12	29.1 (1.0)
Bihar	100.0	2400	2956.58	3300	3073.05	3300	2879.58	2969.70 (100.0)

Note : Figures in parenthesis present share of Bihar

Source : Department of Finance, GOB

CHAPTER - II

STATE FINANCES

The landmark event that characterized the fiscal year 2017-18 was the introduction of the countrywide GST in July 2017 through the enactment of the 101st Constitution Amendment Act. This made India a common market with a unified and harmonized tax system on goods and services. In 2017-18, the overall public finance scenario in the country, particularly in Bihar, remained vulnerable due to many factors. For example, the impact of pay revision by the state governments, after implementation of the 7th Central Pay Commission by the central government, exacerbated the state finances. Natural calamities also exerted their pressure on the revenue expenditure in many states, including Bihar. As the RBI Report on the study of budgets showed, the consolidated revised estimated for all state governments showed deterioration compared to the budget estimates.

2.1 Overview of Financial Position

The financial performance of the state government has been analysed in the following sections, first by summarizing its receipts and expenditures for Bihar (Table 2.1), and then by comparing the trends in eight major performance indicators relating to Bihar and other major Indian states (Table 2.2). For Bihar, the actual figures have been used for the period 2013-14 to 2017-18 and for 2018-19, the budget estimates have been used. For other states, however, actual figures have been used only for 2016-17, while Revised Estimates (RE) and Budget Estimates (BE) have been used for 2017-18 and 2018-19 respectively.

Ever since 2004-05, Bihar has consistently been a revenue surplus state. The revenue surplus has increased from Rs 6441 crore in 2013-14 to Rs 14,823 crore in 2017-18, its highest level so far. In the budget estimates of 2018-19, the revenue surplus is projected to increase further to Rs 21,312 crore. The revenue surplus in 2017-18 had increased by Rs 4000 crore over the previous year (2016-17), which had in fact registered a decline compared to 2015-16. This was caused by the slowing down of growth rates in respect of almost all important components of tax and non-tax revenues, due to various factors, particularly the overall slowing down of economic activities.

The total tax revenues grew by Rs 5597 crore in 2017-18, as against a growth of Rs 8251 crore during the previous year. However, the non-tax revenue grew by Rs 1104 crore, as against only Rs 217 crore in the previous year. The Grants-in-aid and contributions from the central government went up by Rs 5161 crore in 2017-18, compared to a growth of Rs. 993 crore in the previous year, though this includes Rs. 3041 crore on account of GST compensation. During the year, revenue expenditure went up by Rs 7859 crore, lesser than the growth of Rs 11,149 crore in the previous year, while capital outlay increased by a meagre Rs 1699 crore, compared to an

increase of Rs 3242 crore during the previous year. The total capital expenditure (including loan repayment) increased by Rs 2266 crore, while the capital borrowings registered a substantial decline of Rs 8409 crore during the year.

The primary deficit of the state government came down from Rs 8289 crore in 2016-17 to Rs 5251 crore in 2017-18. As a result of reduced primary deficit, the Gross Fiscal Deficit (GFD) also went down from Rs 16,480 crore in 2016-17 to Rs 14,305 crore in 2017-18, which was 2.9 percent of GSDP in 2017-18, keeping it within the FRBMA limit of 3 percent of GSDP.

Of the increase of Rs 7859 crore in revenue expenditure of the state government, the increase in development expenditure (Rs 5091 crore) accounted for 64 percent of the increase. The 23 percent growth in the total revenue receipts during 2015-16 was the highest in recent past, and even the own revenues of the state government had registered a high growth of 23 percent in 2015-16. In contrast, 2017-18 was a low growth year. While the total revenue receipts of the state government grew by only 11 percent, its own tax revenues declined by nearly 3 percent, from Rs 23,742 crore in 2016-17 to Rs 23,136 crore in 2017-18. It was indeed a continuation of the trend of declining own revenues of the state government which had started in 2016-17, when it had declined by nearly 7 percent to Rs 23,742 crore from Rs 25,449 crore a year before.

The decline in the own revenue was compensated by an increase in the central grants by Rs 5161 crore, after a stagnation in the previous year, during which the grants had increased by Rs 993 crore. After recommendations of the Fourteenth Finance Commission (2015-16 to 2019-20) increasing the total devolution from the central divisible pool to states from 32 to 42 percent, share of state government in central taxes has increased; however, this increase was offset by a stagnation in the central grants during the first two years of the Fourteenth Finance Commission award. Fortunately, in 2017-18, it had registered a substantial growth of 25 percent to reach Rs 25,720 crore and in the current fiscal, it is projected to rise by a substantial 80 percent to Rs 46,431 crore. During 2017-18, Bihar's own revenues from its tax and non-tax sources increased by Rs 500 crore, while its total revenues increased by Rs 11,862 crore.

The share of central taxes has always contributed more than half of Bihar's total revenues, except in 2014-15 when it was about 47 percent. In 2017-18, it contributed more than 55 percent to Bihar's total revenues. After the Fourteenth Finance Commission's recommendations came into effect from 2015-16, Bihar's share has immediately increased. In 2017-18, there was a growth in this component by nearly 11 percent, compared to 20 percent growth in the previous year and the sum stood at Rs. 65,083 crore. In the current fiscal, it is projected to increase by 17 percent to Rs. 76,172 crore.

The total borrowings in 2017-18 was only Rs 13,169 crore, compared to Rs. 21,577 crore in the previous year, while the interest payments were Rs 9054 crore (Rs. 863 crore more over the previous year). The level of outstanding debt fell marginally to 32.2 percent of the GSDP during 2017-18 from 32.6 percent in the previous year. It is expected to increase to 33.4 percent during the current fiscal. The trend and summary of state finances during the six-year period (2013-19) is shown in Table 2.1.

Table 2.1 : Receipts and Expenditure

(Rs. crore)

Sl. No.	Item	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
1	Total Receipts Revenue Account	68919	78418	96123	105585	117447	158051
a	Tax Revenue	54790	57713	74372	82623	88220	107174
b	Non Tax Revenue	1545	1558	2186	2403	3507	4446
c	Grants-in-Aid and Contributions	12584	19146	19566	20559	25720	46431
2	Total Exp. Revenue Account	62477	72570	83616	94765	102624	136740
a	General Services, of which	22018	26408	27972	30607	33374	40234
	Interest Payments	5459	6129	7098	8191	9054	10763
b	Social Services	26395	31713	35943	40737	45769	66922
c	Economic Services	14060	14445	19696	23417	23476	29578
d	Grants-in-aid	4	4	4	4	4	6
3	Revenue Deficit	-6441	-5848	-12507	-10819	-14823	-21312
4	Capital Receipts	9922	15411	18402	21600	13191	23204
a	Public Debt etc.	9907	13918	18383	21577	13169	22795
b	Recovery of Loan and Advances	15	1493	19	23	22	408
5	Capital Expenditure, of which	17928	22128	28712	31537	33803	40251
a	Capital Outlay	14001	18150	23966	27208	28907	32417
b	Loans and Advances	807	369	621	114	243	507
c	Public Debt.	3120	3609	4125	4215	4654	7326
6	Total Expenditure	80405	94698	112328	126302	136427	176990
a	Plan Expenditure	33678	43939	53732	60840	65027	92318
b	Non Plan Expenditure	46728	50759	58596	65462	71400	84673
7	Gross Fiscal Deficit	8352	11178	12062	16480	14305	11204
8	Primary Deficit	2893	5050	4964	8289	5251	440
9	Total Borrowings	9907	13918	18383	21577	13169	22795
a	Internal Debt Receipt	9357	13199	17565	20065	11771	20520
b	Loans from Central Government	550	718	818	1512	1399	2275
10	Repayment of Public Debt	3120	3609	4125	4215	4654	7326
11	Liabilities Outstanding	86939	99056	116578	138722	156777	172246
12	GSDP	317101	342951	369469	425888	487628	515634
As percentage of GSDP							
1	Total Receipts Revenue Account	21.7	22.9	26.0	24.8	24.1	30.7
a	Tax Revenue	17.3	16.8	20.1	19.4	18.1	20.8
b	Non Tax Revenue	0.5	0.5	0.6	0.6	0.7	0.9
c	Grants-in-aid and contr.	4.0	5.6	5.3	4.8	5.3	9.0
2	Total Exp. Revenue Account	19.7	21.2	22.6	22.3	21.0	26.5
a	General Services, of which	6.9	7.7	7.6	7.2	6.8	7.8
	Interest payments	1.7	1.8	1.9	1.9	1.9	2.1
b	Social Services	8.3	9.2	9.7	9.6	9.4	13.0
c	Economic Services	4.4	4.2	5.3	5.5	4.8	5.7
d	Grants-in-aid	0.0	0.0	0.0	0.0	0.0	0.0
3	Revenue Deficit	-2.0	-1.7	-3.4	-2.5	-3.0	-4.1
4	Capital Receipts	3.1	4.5	5.0	5.1	2.7	4.5
a	Public Debt etc.	3.1	4.1	5.0	5.1	2.7	4.4
b	Recovery of Loan and Advances	0.0	0.4	0.0	0.0	0.0	0.1
5	Capital Expenditure, of which	5.7	6.5	7.8	7.4	6.9	7.8
a	Capital Outlay	4.4	5.3	6.5	6.4	5.9	6.3
b	Loans and Advances	0.3	0.1	0.2	0.0	0.0	0.1
c	Public Debt	1.0	1.1	1.1	1.0	1.0	1.4
6	Total Expenditure	25.4	27.6	30.4	29.7	28.0	34.3
a	Plan Expenditure	10.6	12.8	14.5	14.3	13.3	17.9
b	Non Plan Expenditure	14.7	14.8	15.9	15.4	14.6	16.4
7	Gross Fiscal Deficit	2.6	3.3	3.3	3.9	2.9	2.2
8	Primary Deficit	0.9	1.5	1.3	1.9	1.1	0.1
9	Total Borrowing	3.1	4.1	5.0	5.1	2.7	4.4
a	Internal Debt Receipt	3.0	3.8	4.8	4.7	2.4	4.0
b	Loans from Central Government	0.2	0.2	0.2	0.4	0.3	0.4
10	Repayment of Public Debt	1.0	1.1	1.1	1.0	1.0	1.4
11	Liabilities Outstanding	27.4	28.9	31.6	32.6	32.2	33.4

Note : Outstanding liabilities include public debt as well as liabilities on account of public account, like small savings, provident fund and other accounts, reserve funds and civil deposits and advances

Source : State Government Budgets

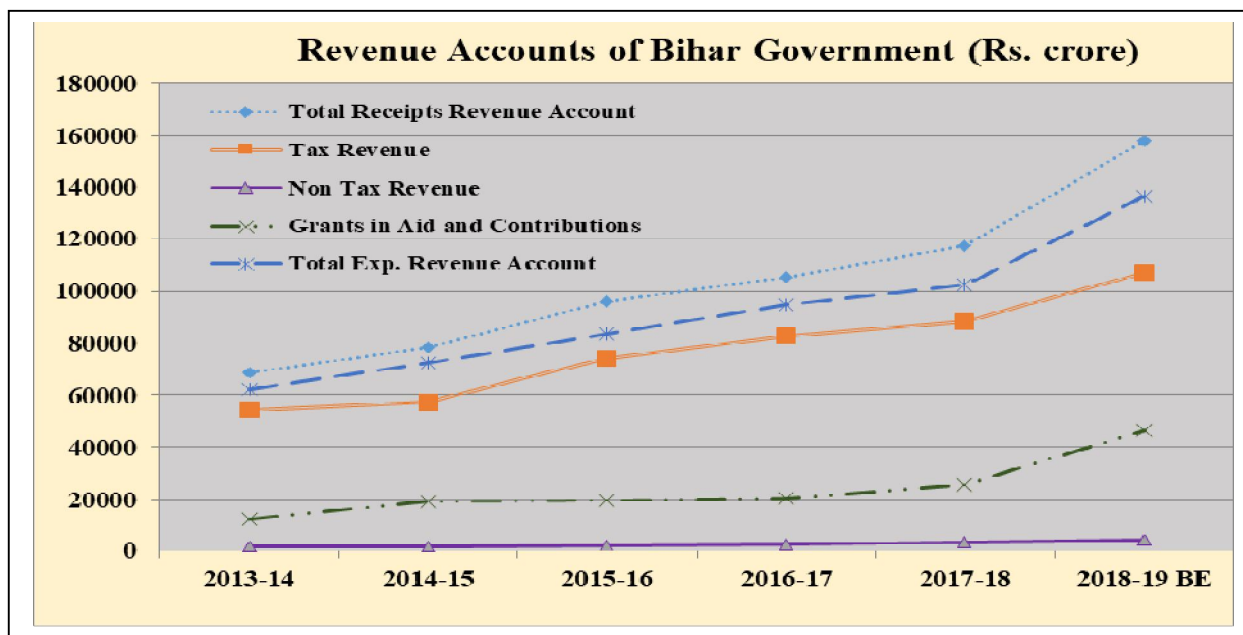
Revenue Account

As pointed out already, in 2017-18, Bihar's revenue surplus has increased. This increase was due to increases in central grants and its share in the central divisible pool. Of the increase in total revenue receipts by Rs 11,862 crore, 47 percent came from increases in tax revenues and 43 percent from central grants, the rest coming from increases in non-tax revenues. As also observed earlier, the increase in tax revenue was mainly because of state's share in central taxes.

The own revenue of the state government constituted 23 percent of its total revenue receipts in 2017-18, compared to 25 percent in the previous year. Both these ratios indicate a decline from 29 percent registered in 2014-15. The share of central taxes accounted for 55 percent of the total revenue receipts in 2017-18 (56 percent in 2016-17) and central grants constituted the remaining 22 percent of the total revenues (20 percent in 2016-17).

The revenue expenditure in 2017-18 increased by Rs 7859 crore over that in 2016-17, of which the increase in social services accounted for Rs 5032 crore (64 percent), that in economic services for only Rs 59 crore (less than 1 percent), and increase in general services for Rs 2767 crore (35 percent). With these increases, these three services claimed 45, 23 and 32 percent respectively of the total revenue expenditure during 2017-18. The corresponding figures in 2016-17 were 43, 25 and 32 percent, indicating no major changes in their respective shares. Of the increase in general services by Rs 2767 crore during 2017-18, interest payment alone accounted for an additional expenditure of Rs 863 crore, compared to an increase of Rs 1093 crore in 2016-17. The pension payments accounted for an increase of another Rs 1785 crore, as against Rs 658 crore in 2016-17. Thus, these two heads together claimed 96 percent of the total increase in general services during 2017-18. The pension liability of the state government has increased rapidly over the years, from only Rs 9482 crore in 2013-14 to Rs 14,293 crore in 2017-18, increasing annually at about 11 percent. The salary payments to the state government employees also accounted for increases in revenue expenditure by Rs 1995 crore in 2017-18, compared to an increase of Rs 860 crore in 2016-17. During 2017-18, salary payments amounted to Rs 17,779 crore. The salary and pension expenditure of the state government will be discussed in detail later in this chapter.

Chart 2.1 : Revenue Accounts of Bihar Government (Rs. crore)



Developmental Revenue Expenditure and Capital Outlay

The developmental revenue expenditure on social and economic services increased by Rs 6790 crore in 2017-18, over that in the previous year. Between 2013-14 and 2017-18, developmental revenue expenditure increased by 80 percent, rising from Rs 54,456 crore to Rs 98,152 crore, while non-developmental revenue expenditure grew by a lower rate of 48 percent, increasing from Rs. 25,945 crore to Rs. 38,271 crore. Of the total capital outlay of Rs 28,907 crore in 2017-18, as much as Rs 21,884 crore (76 percent) was spent on economic services — Rs. 5402 crore on creating the transport infrastructure of roads and bridges (19 percent), Rs 6931 crore on power projects (24 percent), Rs. 2665 crore on irrigation and flood control (9 percent) and the rest on other sectors. The capital outlay on social services amounted to Rs 4258 crore. Out of this outlay, Rs 565 crore was spent on improving health infrastructure (13 percent), Rs. 1763 crore on improving the water supply and sanitation (41 percent), and Rs 1519 crore on improving educational infrastructure (36 percent).

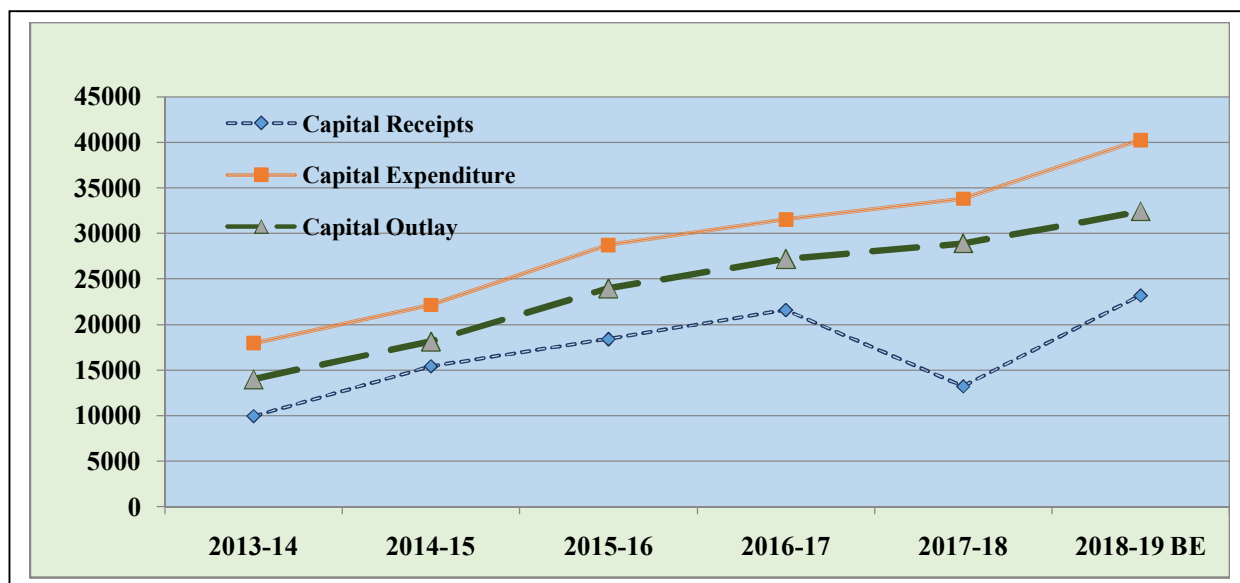
The surplus in the revenue account has all along played a substantial role in the growth story of Bihar. As pointed out earlier, the surplus generation slowed down during 2016-17, but it increased again in 2017-18. The increase in revenue surplus was primarily due to increase in the state's share in the central taxes as well as increase in central grants. Between 2013-14 and 2017-18, the total revenue receipts of the state government increased at an annual rate of 15 percent (17 percent during the previous 5-year period), while its revenue expenditure also grew at the annual rate of 13 percent (15 percent during the previous 5-year period). As a result, the

sustained phenomenon of revenue surplus which had enabled the state government to increase its capital outlay continuously since 2013-14, could not maintain its momentum. The capital outlay became a major causality of the process, and its growth declined from 31 percent in 2016-17 to only 19 percent in 2017-18.

The total development expenditure of the state government (including capital outlay), stood at Rs 97,771 crore in 2017-18, which was about 72 percent of the total expenditure, nearly same as the previous year. The state government is committed to maintain a high growth rate in development expenditure, both in revenue and capital account, and this is reflected in the budget estimates of 2018-19, where it has been projected to rise to Rs 1,28,917 crore, 31 percent higher than in the previous year. The expenditure on non-developmental general services stood at Rs 38,271 crore in 2017-18, compared to Rs 34,935 crore in 2016-17, implying an increase of only 9 percent.

The beginning of the reform process in public finances in Bihar had started in 2006-07, when capital outlay had increased substantially to Rs 5211 crore from a meagre Rs 2084 crore in 2005-06. The state government has kept its focus on investing in capital assets in every budget since 2006-07, which translated into a higher growth rate for the state's economy because of its multiplier effect. During the last five years, 2013-14 to 2017-18, capital outlay grew annually at 20 percent and the total developmental expenditure grew at 16 percent. The capital outlay of Bihar constituted 5.9 percent of its GSDP in 2017-18, compared to only 4.4 percent in 2013-14. It accounted for 21 percent of total expenditure made by the state government in 2017-18. In 2013-14, this share was much lower at 17 percent.

Chart 2.2 : Capital Accounts of Bihar Government (Rs. crore)



Resource Mobilisation

The total tax revenue of the state government has increased from Rs. 54,790 crore in 2013-14 to Rs 88,220 crore in 2017-18, growing annually at 13 percent. The own tax revenue of the state government grew from Rs 19,961 crore to Rs 23,136 crore during this period, implying a lower growth rate of 4 percent. In the preceding five-year period, the annual growth rate was 10 percent. The growth in own tax revenues has been negative in 2017-18, when it declined by about 3 percent. However, the growth is expected to be much higher during the current fiscal, in which it is projected to rise by about 34 percent to Rs 31,002 crore. The total tax revenue of the state government registered an increase of 7 percent in 2017-18 over the previous year. During the five-year period from 2013-14 to 2017-18, the transfers to the state government from the divisible pool of central taxes grew annually at 17 percent, while central grants recorded an annual growth rate of nearly 20 percent.

In contrast to the growth in tax revenue, growth in non-tax revenue has been fluctuating without any pattern, due to the nature of non-tax revenues. It has grown from Rs 1545 crore in 2013-14 to Rs 3507 crore in 2017-18. On the average, during these 5 years, the non-tax revenues of the state government has grown at 23 percent per annum, and is projected to grow by 27 percent during the current fiscal.

Outstanding Public Debt

The public debt of the state government comprises only two elements — internal debt raised by the state government from the market (including financial institutions) and the loans taken from the central government. The second component has been falling as a consequence of the recommendations made by the Twelfth Finance Commission. The state government also acts as a trustee in respect of certain items in the Public Account which constitute other liabilities discussed later.

The state government had an outstanding public liability of Rs. 86,939 crore in 2013-14. In 2017-18, the outstanding liability, which includes liabilities on account of public account like small savings, provident fund and other accounts, reserve funds and civil deposits and advances increased to Rs. 1,56,777 crore. The ratio of interest payment to revenue receipts was at 7.9

percent in 2013-14, which decreased marginally to 7.7 percent in 2017-18, below the upper limit of 10 percent as recommended by the Fourteenth Finance Commission.

The debt servicing payments rose from Rs 8579 crore to Rs 13,708 crore between 2013-14 and 2017-18, at a growth rate of nearly 12 percent, while outstanding public debt has grown at a rate of nearly 16 percent during this period. The interest payments accounted for Rs 5459 crore (64 percent of debt service payments) in 2013-14 and Rs 9054 crore (66 percent of debt service payments) in 2017-18. The repayment of principal increased from Rs 3120 crore to Rs 4654 crore during the same period. In 2018-19, the outstanding public debt is projected to rise to Rs 1,72,46 crore (33.4 percent of GSDP) and debt servicing payments are expected to rise to Rs 18,089 crore as per the budget estimates, an increase of 32 percent over 2017-18.

The structure of debt has undergone a significant change in recent years. This occurred first by swapping of the high-cost central government loans with low-cost market loans and then, as a result of the recommendations of the Twelfth Finance Commission, by consolidation and rescheduling of all central government loans for payment over a 20-year period at 7.5 percent rate of interest. The Commission also recommended that, if the state governments want to raise loans, they should get it from the market and the central government's help should be limited to only grants. As a result, the proportion of central government loans diminished substantially for some years, but has again been increasing in recent years. During 2013-14 to 2017-18, the central loans have increased from Rs 550 crore to Rs 1399 crore, and is projected to increase to Rs 2275 crore during 2018-19. However, the share of central loans in the total outstanding public liabilities has decreased from 9.9 percent to 6.5 percent during 2013-2018.

For the treatment of debt liabilities, a new approach was adopted in 2013-14 when, unlike in the past, the net receipts from Small Savings, Provident Fund and other accounts were included in the total debt liabilities of the state government. However, the new Indian Government Accounting Standard (IGAS) 10 has introduced a distinction between the receipts of debt into the Consolidated Fund and the liabilities that accrue to the state government automatically by virtue of its Public Account. Though the standard has not yet been formally adopted and is not free from contradictions, it has redefined the outstanding liabilities of the state government. Earlier, the total debt of the state government comprised its internal debt, loans from the central government, and loans from small savings and provident fund account. While the first two are

part of the borrowings against the Consolidated Fund, the share of small savings and provident fund is maintained in its Public Account. As per the new accounting standard, public debt now comprises the borrowings related to the Consolidated Fund only, while the three major Public Account balances constitute the 'Other Liabilities' of the state government, since they all stand merged into the cash balance of the state government. The 'Other Liabilities' include Provident Fund and Other Accounts, Reserve Funds, and Deposits and Advances. The accounts of the state government are already reflecting this new classification of public debt and other liabilities.

The Small Saving schemes have always been an important component of household savings in India. Following the Report of the Committee on Small Savings in February 1999, a 'National Small Savings Fund' (NSSF) was established in the Public Account of India with effect from April, 1999. All deposits under small savings schemes are credited to NSSF and all withdrawals by the depositors are made out of accumulations in the Fund. The NSSF invests the net collections of small savings in the Special State Government Securities (SSGS), as per the sharing formula decided by the central government. The outstanding loans of the state government from NSSF at the beginning of 2017-18 amounted to Rs 23,218 crore. The Fourteenth Finance Commission had recommended to exclude the states from the operations of the NSSF scheme and recommended that the involvement of the state governments in the NSSF scheme may be limited only for the purpose of discharging the debt obligations already incurred by them. To that effect, the Union Finance Ministry had asked all state governments to give their opinions on these recommendations. Bihar has preferred to opt out of the NSSF loans. As a result, no fresh NSSF loans were availed during 2017-18, only Rs 1769 crore were repaid, leaving an outstanding balance of Rs 21,450 crore at the end of the year.

With the enactment of the FRBM Act in 2006-07, fiscal discipline was introduced in Bihar. The GFD: GSDP ratio of Bihar was brought down to 2.92 percent in 2006-07 from 4.43 percent in the previous year. It was, thereafter, kept well within the 3 percent limit in all the subsequent years up to 2015-16, barring 2009-10 when it was just marginally higher at 3.2 percent of GSDP. This was basically a consequence of the economic meltdown in 2008-09. In 2016-17, however, the ratio of GFD to GSDP stood at 3.9 percent and again exceeded the FRBM limit of 3.0 percent. Fortunately, in 2017-18, it was 2.9 percent, just below the FRBM limit. It is estimated to reduce further to 2.2 percent as per budget estimates of 2018-19. In absolute terms, the GFD increased from Rs 8352 crore in 2013-14 to Rs 14,305 crore in 2017-18.

Development Orientation of State Finance

The state government is committed to the social and economic development of Bihar. The public investment on infrastructure in Bihar has increased many folds in the last decade. The total developmental expenditure increased to Rs 97,771 crore in 2017-18, over Rs. 54,691 crore in 2013-14. During this period, the developmental expenditure increased at a faster rate, compared to non-developmental expenditure. Consequently, the share of developmental expenditure has increased from 68.0 percent of total budget (2013-14) to 71.7 percent (2017-18). In case of capital outlay on social services, one may see that between 2013-14 and 2017-18, the expenditure increased from Rs. 1858 crore to Rs. 4258 crore, registering an increase of 129 percent. Similarly, the capital outlay on economic services also increased from Rs. 10,811 crore to Rs. 21,884 crore during the same period, implying an increase of 102 percent. Expenditure on capital account exceeded the revenue account for most of the physical infrastructure components like roads and bridges (80 percent), energy and power (62 percent), irrigation and flood control (67 percent), transport (79 percent) etc. The public investment in road and bridges has increased significantly in the last decade. It is noteworthy that in terms of road density (per 100 square kilometer of area), Bihar was on the third position with 219 kms of road length per hundred kms of geographical area, much above the all-India figure of only 143 kms. Similarly, in the energy sector also, the per capita consumption increased from 134 kwh to 280 kwh between 2011-12 and 2017-18. The construction of assets and their maintenance have a intertwined relation. More infrastructure demands means more of maintenance. In initial phase, the expenditure is more on developmental of infrastructure but, in later phase, the expenditure on maintenance might be higher. This is apparent from Table 6.1 which shows that the rate of growth of revenue expenditure on roads and bridges is 11.1 percent and that of capital expenditure is lower at 7.1 percent.

The efficient expenditure management of the state government is visible through the size of the scheme expenditure which surpassed the establishment and committed expenditure. In 2011-12, scheme expenditure was Rs. 23,008 crore contributing 38.2 percent of the total budget and, in 2017-18, it rose to Rs. 1,36,427 crore constituting 52.3 percent of the total. Thus, it is clear that scheme expenditure is growing at a faster rate than establishment and committed expenditure.

2.2 Fiscal Performance

For analyzing the fiscal performance of Bihar vis-à-vis other state governments during the last three years (2016-17 to 2018-19), the present analysis has used the following 8 indicators — (i) Ratio of Revenue Surplus to GFD, (ii) Ratio of Capital Outlay to GFD, (iii) Ratio of Non-Development Revenue Expenditure to Aggregate Disbursement, (iv) Ratio of Non-Development Revenue Expenditure to Revenue Receipt, (v) Ratio of Interest Payment to Revenue Expenditure, (vi) Ratio of State's Own Revenue to Revenue Expenditure, (vii) Ratio of Gross Transfer from Central Government to Aggregate Disbursement, and (viii) Ratio of Debt Servicing Expenditure to Gross Transfers from Central Government.

- (i) **Ratio of Revenue Surplus to GFD** : This ratio indicates the extent to which revenue surplus contributes to GFD. Ideally, the revenue account should leave a surplus for the creation of capital assets. As noted already, there were substantial surpluses in the revenue account of state government. The revenue surplus of Bihar allowed the state government to increase its capital outlay much beyond what it borrowed to finance the same. In 2016-17, it was 66 percent of GFD, and this percentage increased substantially to 104 percent in 2017-18. During the last three years, among 17 major states, other than Bihar, only 6 other states (Chhattisgarh, Jharkhand, Madhya Pradesh, Gujarat, Odisha and Uttar Pradesh) have consistently maintained reasonable surpluses in their revenue accounts. Karnataka has just been able to balance its revenue account in all these years.
- (ii) **Ratio of Capital Outlay to GFD** : As an obvious consequence of the improvements in its revenue accounts, Bihar has had a high capital outlay during the last three years. In 2017-18, the capital outlay was more than double its GFD, as against 1.7 times in 2016-17. In 2018-19, the ratio is expected to increase further to nearly thrice the GFD. Among the major states, the states that could register a similar high level of capital outlay are — Chhattisgarh, Jharkhand, Madhya Pradesh, Gujarat, Odisha and Uttar Pradesh.
- (iii) **Ratio of Non-Development Revenue Expenditure to Aggregate Disbursements** : The non-development expenditure, incurred mainly for administrative or general services, should preferably be a small part of the total expenditure. In Bihar, non-developmental revenue expenditure constituted about 25 percent of the total expenditure in 2017-18, nearly the same level recorded in 2016-17. In 2017-18, four states had this ratio at more than 30 percent — Kerala, Tamil Nadu, Punjab and Uttar Pradesh. On the other hand, the ratio was below 20 percent only for Chhattisgarh.
- (iv) **Ratio of Non-Development Revenue Expenditure to Revenue Receipts** : This ratio indicates the extent to which the state government's revenue receipts could not be utilized for developmental purposes. In Bihar, the non-developmental revenue expenditure consumed 28 percent of total revenue receipts in 2017-18, a slight fall from 29 percent recorded one year ago. In 2018-19, this ratio is projected to fall further to 25.5 percent. Punjab had this ratio at higher than 60 percent, followed closely by Kerala at 59 percent. The ratio was less than that of Bihar in only three other states — Jharkhand, Odisha and Chhattisgarh.

- (v) **Ratio of Interest Payment to Revenue Expenditure** : The interest payments constitute a perennial burden on governments' finances in most of the states, because of their high indebtedness. For Bihar, however, interest payments have been consuming relatively lesser proportion of the revenue expenditure. During 2016-17 and 2017-18, Bihar's ratio remained practically the same (8.6 and 8.8 percent respectively), which is projected to fall to 7.9 percent in the current fiscal. Except four states (Jharkhand, Odisha, Madhya Pradesh and Chhattisgarh), all other states had this ratio above 10 percent or above in 2017-18. This ratio was the highest in Punjab (21 percent), closely followed by West Bengal (19 percent).
- (vi) **Ratios of State's Own Revenue to Revenue Expenditure** : The ratio of the state's own revenue to its total revenue expenditure indicates the self-sufficiency of the state government vis-à-vis its revenue expenditure needs. In 2016-17, own tax and non-tax revenue receipts of Bihar together covered 27.6 percent of its total revenue expenditure. The ratio had reached its peak of nearly 33 percent in 2015-16, but declined to just 26 percent in 2017-18 and is projected to remain almost at this level even in 2018-19. It is still a long way from attaining the desired level of financial self-sufficiency. The position of all other major states is far better on this count. Out of the 17 states, own revenue could meet more than 50 percent of their total revenue expenditure in 7 states in 2017-18 — Gujarat, Maharashtra, Haryana, Karnataka, Kerala, Punjab and Tamil Nadu.
- (vii) **Ratio of Gross Transfers from Central Government to Aggregate Disbursements** : This ratio brings out the state governments' dependence on central transfers. For Bihar, such dependence has always been very high. The central transfers always accounted for more than 60 percent of Bihar's total expenditure. However, from the peak of almost 72 percent in 2007-08, this ratio has decreased to 64 percent in 2016-17, but increased marginally to 68 percent in 2017-18. No other major state had such a heavy dependence on the central government transfers. Among the major states, only Chhattisgarh, Odisha and Uttar Pradesh had this ratio more than 50 percent in 2017-18. There were five other states (Andhra Pradesh, Jharkhand, Himachal Pradesh, Madhya Pradesh and West Bengal) which had more than 40 percent of their total expenditure financed by the central transfers.
- (viii) **Ratio of Debt Servicing to Gross Transfers from Central Government** : Debt servicing payments consumed only about 15 percent of Gross Transfers to the Government of Bihar in 2016-17 and declined marginally to 14.9 percent in 2017-18. As per the budget estimates of 2018-19, it is projected to decline further to 14.5 percent. The performance of Bihar in this respect is significantly better than most of the major Indian states, except Odisha and Chhattisgarh which also had similar ratios in respect of this parameter. In 2017-18, this ratio exceeded 100 percent for Haryana and Punjab. In case of Punjab, the situation was desperate in all the three years, with debt servicing payments being almost three times the gross transfers from the central government. The situation was also alarming for Gujarat, Kerala and Maharashtra.

Table 2.2 : Major Fiscal Indicators

State	A. Revenue Deficit : GFD (%)			B. Capital Outlay : GFD (%)		
	2016-17	2017-18 RE	2018-19 BE	2016-17	2017-18 RE	2018-19 BE
Bihar	-65.7	-103.6	-190.2	165.1	202.1	289.3
Jharkhand	-19.5	-111.7	-85.2	106.6	183.5	164.2
West Bengal	63.4	37.1	0.0	44.7	72.6	108.2
Odisha	-98.7	-61.6	-64.3	197.0	149.8	158.3
Uttar Pradesh	-36.2	-45.1	-61.5	124.6	139.6	168.5
Madhya Pradesh	-13.6	-2.4	-1.0	98.6	116.9	109.6
Rajasthan	39.1	69.2	62.2	36.6	77.4	91.8
Maharashtra	22.1	32.1	30.4	66.2	69.3	71.8
Gujarat	-35.6	-27.1	-23.4	133.7	125.3	118.6
Punjab	13.8	68.7	63.6	8.2	21.1	32.4
Haryana	60.5	47.6	57.7	26.1	79.7	54.8
Karnataka	-4.5	-1.1	-0.3	98.1	88.2	86.3
Andhra Pradesh	55.6	14.6	-21.6	49.1	82.9	118.5
Kerala	58.5	57.3	53.6	38.2	38.0	43.1
Tamil Nadu	23.1	45.1	39.3	36.9	59.6	63.6
Himachal Pradesh	-15.8	35.4	40.5	59.9	55.3	54.2
Chhattisgarh	-136.3	-32.7	-44.5	233.9	130.8	144.6

State	C. Non-Dev. Exp: Agg. Disbursements (%)			D. Non-Dev. Exp: Revenue Receipts (%)		
	2016-17	2018-19 BE	2017-18 RE	2018-19 BE	2017-18 RE	2018-19 BE
Bihar	24.2	24.5	22.7	29.0	28.4	25.5
Jharkhand	22.0	22.3	23.1	27.7	25.7	26.8
West Bengal	31.9	26.6	25.6	43.0	40.0	37.5
Odisha	20.4	23.4	23.4	23.9	27.9	28.0
Uttar Pradesh	29.7	32.3	34.6	38.5	39.0	42.6
Madhya Pradesh	22.2	25.7	24.0	28.1	32.4	30.7
Rajasthan	24.2	23.8	25.1	36.0	33.7	35.2
Maharashtra	30.8	29.9	32.6	38.6	37.6	41.9
Gujarat	26.7	25.9	28.7	33.0	32.9	37.1
Punjab	22.0	32.6	32.6	61.3	64.7	57.3
Haryana	25.9	27.0	26.1	42.0	38.8	43.9
Karnataka	21.8	22.8	23.8	27.7	29.6	31.2
Andhra Pradesh	19.7	24.6	21.9	33.2	31.9	26.9
Kerala	42.4	42.3	42.0	61.7	59.2	58.0
Tamil Nadu	30.7	35.4	36.0	45.6	48.7	49.4
Himachal Pradesh	27.0	29.5	31.4	37.1	41.1	42.8
Chhattisgarh	21.4	19.5	20.8	23.6	22.9	24.4

State	E. Interest Payments: Revenue Exp (%)			F. State Own Revenue: Revenue Exp. (%)		
	2016-17	2017-18 RE	2018-19 BE	2016-17	2017-18 RE	2018-19 BE
Bihar	8.6	8.8	7.9	27.6	26.0	25.9
Jharkhand	9.3	8.1	9.4	29.5	31.6	30.7
West Bengal	19.5	19.4	18.8	36.2	33.8	33.1
Odisha	6.2	6.2	6.1	47.5	43.9	43.1
Uttar Pradesh	15.9	14.8	18.3	48.6	39.3	47.1
Madhya Pradesh	7.6	8.9	8.3	44.6	41.5	42.1
Rajasthan	13.9	12.8	12.7	44.0	44.2	46.4
Maharashtra	14.6	13.4	12.7	70.0	68.5	70.0
Gujarat	17.1	16.2	15.9	74.9	75.6	74.6
Punjab	21.1	21.3	18.8	60.8	57.0	61.2
Haryana	15.4	15.2	16.5	58.8	71.1	70.9
Karnataka	9.1	10.0	10.0	67.3	63.5	62.5
Andhra Pradesh	10.6	12.1	10.5	42.5	44.6	47.2
Kerala	13.3	13.3	12.9	56.9	59.7	63.0
Tamil Nadu	13.7	15.2	15.3	62.6	58.6	57.4
Himachal Pradesh	13.3	12.5	12.7	34.5	31.1	30.5
Chhattisgarh	6.0	5.3	5.9	51.1	42.7	39.5

State	G. Gross Transfers: Aggregate Disbursements (%)			H. Debt Servicing: Gross Transfers (%)		
	2016-17	2017-18 RE	2018-19 BE	2016-17	2017-18 RE	2018-19 BE
Bihar	64.1	67.6	70.6	15.3	14.9	14.5
Jharkhand	48.3	48.4	51.7	21.8	21.1	22.7
West Bengal	44.1	43.2	46.3	54.8	71.3	69.4
Odisha	51.0	52.4	52.4	15.8	14.3	15.4
Uttar Pradesh	42.9	52.6	46.4	40.6	33.3	45.0
Madhya Pradesh	45.5	48.1	47.3	19.6	21.7	26.9
Rajasthan	34.9	36.0	35.7	40.2	45.9	50.5
Maharashtra	21.8	22.3	20.8	76.8	75.2	87.4
Gujarat	23.7	21.9	22.3	83.3	92.4	90.9
Punjab	11.3	14.8	17.4	293.3	299.8	231.7
Haryana	14.6	14.6	7.5	127.6	128.4	305.2
Karnataka	27.4	29.1	29.6	41.9	41.0	42.9
Andhra Pradesh	30.2	42.6	44.8	93.3	35.2	31.1
Kerala	22.3	23.7	22.0	80.6	88.1	95.5
Tamil Nadu	22.2	26.5	28.8	63.0	62.7	64.6
Himachal Pradesh	48.8	47.6	48.8	41.5	39.4	36.8
Chhattisgarh	49.9	51.2	54.4	13.7	13.1	13.2

Source : State Finances : A Study of Budgets of 2017-18 and 2018-19, RBI

Sustainability, Flexibility and Vulnerability of State Finances

The preceding analysis can be extended further to identify the factors that make a state government financially healthy, allowing for more development activities. For this, it would be necessary to know whether the means of financing development activities are sustainable, i.e., they meet the increased expenditure needs of the state government without substantially adding to its debt burden. Secondly, it would also be pertinent to examine the flexibility of the means of financing, either by increasing the revenue or by borrowing. Finally, one should also examine whether increased expenditure exposes the government to more risks and makes it vulnerable to the sources of funding. Some of the indicators which measure the sustainability, flexibility and vulnerability of the state government finances are presented in Table 2.3 and they are discussed below.

- (i) **Interest Ratio** : This is calculated as $(\text{Interest Payment} - \text{Interest Receipt}) / (\text{Total Revenue} - \text{Interest Receipt})$. A higher ratio indicates a reduced ability of the state government to service any fresh debt and meet its revenue expenditure from its revenue receipts. For Bihar, the ratio has been low in recent years. This ratio was 9.3 percent in 2013-14, but has since fallen to 8.3 percent in 2017-18 and, as per the budget estimate of 2018-19, it is expected to fall further to 7.8 percent.
- (ii) **Capital Outlay/Capital Receipts** : This ratio indicates the extent to which capital receipts are being utilised for capital formation. A ratio of less than 100 percent would not be sustainable in the long run, as that would indicate that capital receipts are being utilized for revenue expenditure. This ratio was at a healthy level of 373 percent in 2007-08, but gradually declined to 141 percent in 2013-14, after which it again increased to 219 percent in 2017-18. Thus, the entire capital receipt of the state government is presently being used for capital outlay, a part of the latter being financed by the surplus in the revenue account.
- (iii) **State's Own Tax Receipts/ GSDP** : This is an important indicator of the gap between the tax receipts of the state government and tax potential. A low ratio also indicates low tax compliance. For Bihar, the ratio of its own tax receipts to GSDP has stagnated at around 4 percent till 2008-09, but the ratio had improved to 6.7 percent by 2015-16. However, the

ratio had again declined to 5.4 percent in 2017-18. It is estimated to rise to 6.9 percent in the current fiscal. Since this ratio is much lower compared to other states, there is further scope for tapping the hitherto untapped tax potential of the state.

- (iv) **Outstanding Liability/ GSDP** : This ratio indicates whether the state government has fallen into a debt trap from which it may not be able to come out on its own. A high ratio leaves little room for the state government for financial leverage and indicates a lack of flexibility. It can be noted here that the total liability (which also includes the liability pertaining to Public Account) which constituted 27.4 percent of the GSDP in 2013-14 has increased to 31.2 percent in 2017-18 and will rise further to 33.4 percent in the current fiscal. The debt burden needs to be controlled before it reaches a level that might be unsustainable.
- (v) **Primary Deficit** : This is the GFD minus interest payments. It measures the impact of the current policies of the state government without considering the liabilities created in the past, for which interest has to be paid now. A necessary condition for long-term sustainability of debt is that the primary account should not be in deficit. In 2008-09, Bihar had a primary surplus of Rs 1246 crore, but since then, Bihar could not generate any surplus in its primary account. The exception was in 2010-11 when there was a modest primary surplus of Rs. 349 crore. In 2017-18, Bihar's primary deficit declined to Rs 5251 crore from Rs 8289 crore in the previous year. The primary deficit is estimated to decrease drastically to only Rs 440 crore in 2018-19.
- (vi) **Buoyancy of State's Tax and Non-Tax Revenues** : The buoyancy of own tax receipts of the state government shows considerable variation, but it has generally remained buoyant till 2015-16, except in 2014-15 when it was very low. In case of non-tax revenue, the variations among the years were wide. In 2016-17, this buoyancy for non-tax revenue was very low, which seems to have improved in 2017-18 and is expected to improve further in the current fiscal. Such wide variation in the buoyancy for non-tax revenue is primarily due to some of its heads (like royalty from minerals etc.) being highly sensitive to the economic cycles.

Table 2.3 : Fiscal and Financial Performance Indicators

Indicators	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
A. Sustainability						
Interest Ratio (%)	9.26	9.82	8.57	8.62	8.29	7.84
Buoyancy of Own Tax Receipts w.r.t. GSDP	1.9	0.5	2.9	-0.4	-0.2	5.9
Buoyancy of Non-Tax Receipts w.r.t. GSDP	2.9	0.1	5.2	0.7	3.2	4.7
Growth in outstanding debt (%)	13.6	13.9	17.7	19.0	13.0	9.9
Growth in total revenue receipts (%)	15.7	13.8	22.6	9.8	11.2	34.6
Growth in state's own revenue receipts (%)	23.7	3.7	23.9	-5.4	1.9	33.0
Growth in GSDP (%)	12.3	8.2	7.7	15.3	14.5	5.7
B. Flexibility						
Total Tax Receipts / GSDP (%)	17.3	16.8	20.1	19.4	18.1	20.8
Capital Outlay / Capital Receipts (%)	141.1	117.8	130.2	126.0	219.1	139.7
State's Own Tax Receipts / GSDP (%)	6.3	6.1	6.9	5.6	4.7	6.0
State's Own Non-Tax Receipts / GSDP (%)	0.5	0.5	0.6	0.6	0.7	0.9
Debt Outstanding / GSDP (%)	27.42	28.88	31.55	32.57	32.15	33.40
C. Vulnerability						
Revenue Deficit (Rs. crore)	-6441	-5848	-12507	-10819	-14823	-21312
Fiscal Deficit (Rs. crore)	8352	11178	12062	16480	14305	11204
Primary Deficit (Rs. crore)	2893	5050	4964	8289	5251	440
Primary Deficit / Fiscal Deficit (%)	34.6	45.2	41.2	50.3	36.7	3.9
Revenue Deficit / Fiscal Deficit (%)	-77.1	-52.3	-103.7	-65.7	-103.6	-190.2

Source : Finance Accounts, GoB

With a better use of capital receipts for capital outlays and better debt management, the state government has gained increased flexibility and was in a better position to direct its resources for development expenditure. However, the debt burden has been increasing which is a matter of concern. Further, in terms of vulnerability, the state government still remains overwhelmingly dependent on the central transfers for meeting its own expenditure needs. This dependence can be lessened, as there still remains untapped potential for increasing its own tax revenues. As the GST gradually settles to an equilibrium, this dependence is expected to decrease. With a reasonably high growth rate of GSDP and a manageable interest ratio, the state government still retains some flexibility over its finances. Summing up, it is noted that while the key fiscal indicators point to improvements in the fiscal position of the state government over the recent years, there are some areas of problem. For example, while the level of interest payments still do not pose a risk, the high deficits in the state's primary account remain a matter of concern.

2.3 Deficit Management

The position in the revenue account as well as the combined position of the revenue and capital accounts of the major Indian states for the years 2016-17 to 2018-19 are presented in Table 2.4. Bihar had attained its highest surplus of Rs 12,507 crore in the revenue account in 2015-16,

recovering from the economic downturn which had caused a decline in its revenue surplus after 2010-11. The revenue surplus declined to Rs 10,820 crore in 2016-17. However, in 2017-18, the revenue surplus rose to Rs 14,823 crore and is further projected to increase to Rs 21,312 crore in the current fiscal.

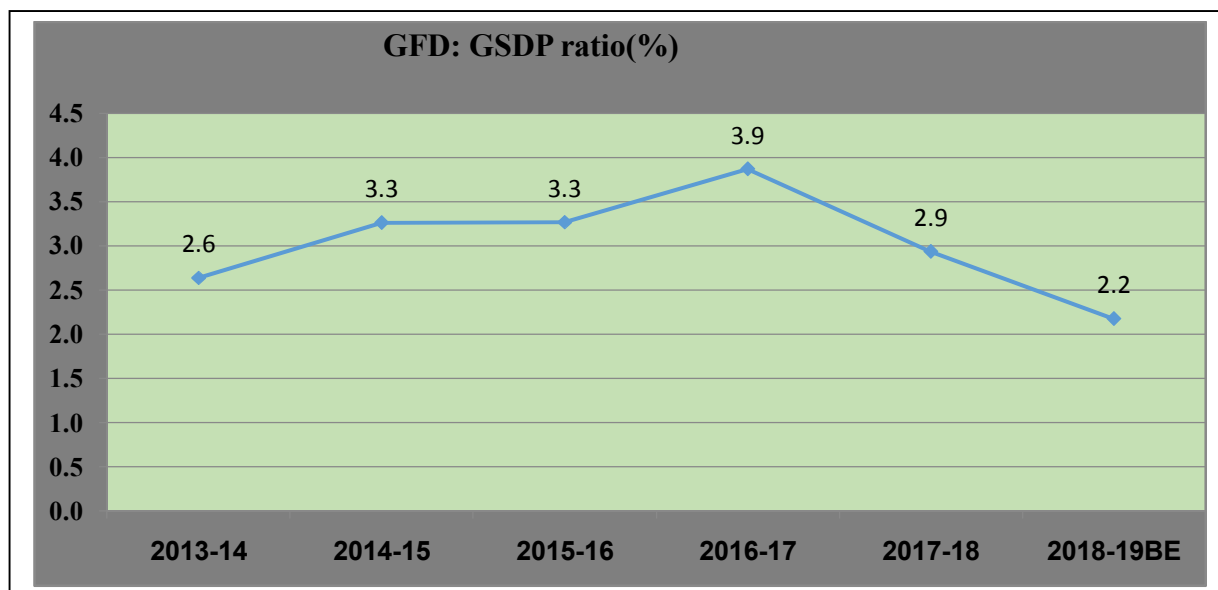
Table 2.4 : Deficit/Surplus position of States

(Rs. crore)

State	Revenue Deficit (+)/ Surplus (-)			Conventional Deficit (+)/ Surplus (-)		
	2016-17	2017-18 RE	2018-19 BE	2016-17	2017-18 RE	2018-19 BE
Bihar	-10820	-14823	-21312	-883	-5789	-4265
Jharkhand	-1968	-7756	-6386	5103	0	0
West Bengal	16085	11006	0	166	7438	-2603
Odisha	-9259	-8873	-9980	1116	846	1061
Uttar Pradesh	-20283	-18515	-27099	8606	8235	7485
Madhya Pradesh	-3769	-576	-263	2742	1441	1438
Rajasthan	18114	20166	17455	7444	9297	3968
Maharashtra	8536	14843	15375	2167	12100	4943
Gujarat	-5947	-5977	-5998	-2115	3948	4217
Punjab	7311	14310	12539	1656	10118	6775
Haryana	15907	8226	16624	3391	52	8402
Karnataka	-1293	-384	-106	4929	6416	4754
Andhra Pradesh	17194	4018	-5235	5763	5628	1595
Kerala	15485	13080	12860	10297	2370	1668
Tamil Nadu	12964	18370	17491	-1771	1890	2142
Himachal Pradesh	-920	2628	3168	1179	4543	4500
Chhatisgarh	-5521	-3188	-4445	-280	671	683

Source : State Governments' Budgets

Chart 2.3 : GFD : GSDP Ratio (Percentage)



The GFD of a state government is a sensitive indicator of its financial performance, as it reflects the total resource gap. Table 2.5 presents the GFD of the major states in India. Three states (Uttar Pradesh, Maharashtra and Tamil Nadu) had GFD exceeding Rs 40,000 crore in 2017-18. Other high deficit states are West Bengal, Rajasthan, Karnataka and Andhra Pradesh with their GFDs in excess of Rs 25,000 crore. Jharkhand, Himachal Pradesh and Chhattisgarh were able to keep their GFD below Rs 10,000 crore. Bihar's GFD of Rs 16,480 crore in 2016-17 had decreased to Rs. 14,305 crore in 2017-18 and is poised to fall further to Rs 11,204 crore in the current fiscal. As a percentage of GSDP also, Bihar's GFD has breached the FRBMA limit of 3 percent only in 2016-17. It was brought within the limit in 2017-18 and 2018-19.

Table 2.5 : Gross Fiscal Deficit

State	Gross Fiscal Deficit (Rs. crore)			State	Gross Fiscal Deficit (Rs. crore)		
	2016-17	2017-18 RE	2018-19 BE		2016-17	2017-18 RE	2018-19 BE
Bihar	16480	14305	11204	Punjab	52840	20821	19720
Jharkhand	10106	6943	7495	Haryana	26311	17279	28809
West Bengal	25385	29698	23805	Karnataka	28692	35408	40828
Odisha	9377	14394	15521	Andhra Pradesh	30909	27603	24205
Uttar Pradesh	55989	41074	44053	Kerala	26479	22809	23995
Madhya Pradesh	27687	24083	26780	Tamil Nadu	56172	40736	44481
Rajasthan	46346	29122	28041	Himachal Pradesh	5839	7420	7821
Maharashtra	38617	46202	50586	Chhattisgarh	4050	9738	9997
Gujarat	16720	22073	25594				

Source : State Governments' Budgets

Table 2.6 shows the decomposition of the GFD of the state government. From this table, one can find that, revenue surplus has been financing almost half its capital outlay till 2015-16 which has allowed the state government to increase the capital outlay substantially. In 2016-17, the revenue surplus could finance only about 40 percent of the capital outlay. In 2017-18, however, the revenue surplus again rose to about half of capital outlay. One should note here that the capital outlay now accounts for almost the entire GFD after exhausting the revenue surplus, indicating that the borrowings are now being utilised only for building the much-needed social and physical infrastructure in Bihar. Net lending has always constituted a small part of the GFD of the state government, and was insignificant in 2017-18.

Table 2.6 : Decomposition of Gross Fiscal Deficit of Bihar

(Rs. crore)

Amount	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Revenue Deficit	-6441	-5848	-12507	-10819	-14823	-21312
Capital Outlay	14001	18150	23966	27208	28907	32417
Net Lending	792	-1124	603	91	221	99
GFD	8352	11178	12062	16480	14305	11204
GSDP	317101	342951	369469	425888	487628	515634
GFD: GSDP ratio (%)	2.6	3.3	3.3	3.9	2.9	2.2

Source : State Government Budgets

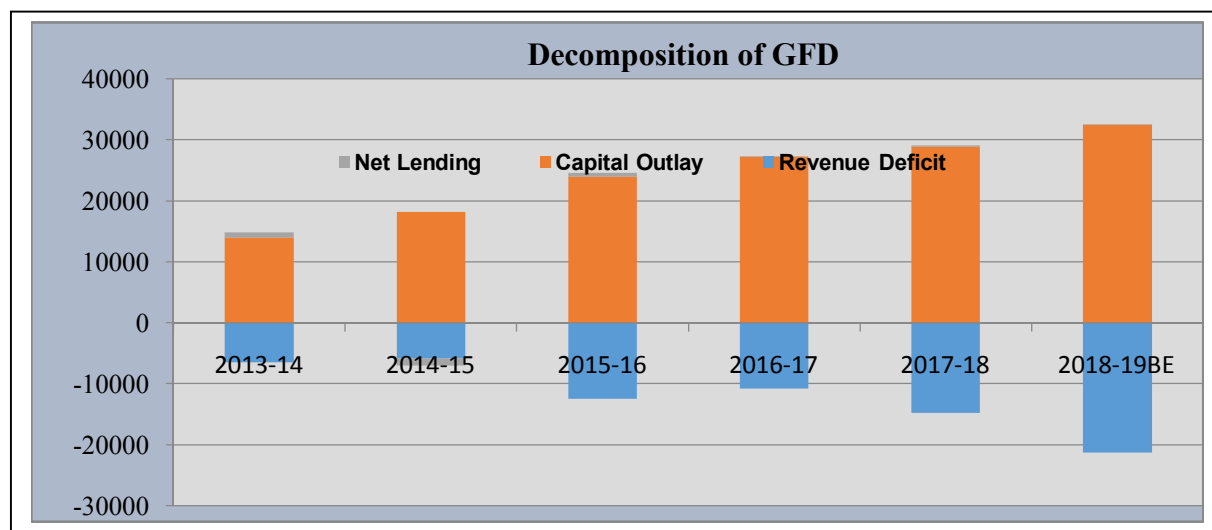
Chart 2.4 : Decomposition of GFD (Rs. crore)

Table 2.7 shows how the GFD was financed during the recent years. The net borrowing (in Consolidated Fund) consisted of mainly internal market borrowings, the central loans being a very small portion of the total borrowing. In 2017-18, the share of net borrowings in GFD was Rs 8516 crore (59.5 percent), and the share of net balance of Public Account financed in GFD was Rs 5721 crore (40 percent), leaving only Rs 68 crore to be drawn from the state government's cash balance with the RBI for financing of the GFD.

Table 2.7 : Financing of Gross Fiscal Deficit

(Rs crore)

Amounts	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Net Borrowing	6788	10309	14258	17362	8516	15469
Net Public Account	1606	551	-1983	-893	5721	-901
Net Decrease in Cash Balance (Opening - Closing Balance)	-42	319	-214	10	68	-3364
GFD	8352	11178	12062	16480	14305	11204
Percentage Composition						
Net Borrowing	81.3	92.2	118.2	105.4	59.5	138.1
Net Public Account	19.2	4.9	-16.4	-5.4	40.0	-8.0
Net Decrease in Cash Balance	-0.5	2.9	-1.8	0.1	0.5	-30.0

Source : State Government Budgets

2.4 Cash Management

As of March 31, 2018, the state government had a total cash balance of Rs 22,081 crore, compared to Rs 17,062 crore on March 31, 2017. Out of this, Rs 17,396 crore (79 percent) were invested in the Cash Balance Investment Account (Rs 13,002 crore in 2016-17), Rs 186 crore were lying as cash with departmental officers, and Rs 342 crore as permanent advances for contingent expenditure with various departments. A sum of Rs 4111 crore was invested in earmarked funds like the Sinking Fund, leaving a net credit cash balance of only Rs 47 crore with the RBI. An amount of Rs 800 crore was realised as interest on the state government's investments during 2017-18, compared to Rs 804 crore during the preceding year.

The state government is required to maintain a minimum daily cash balance of Rs 1.73 crore with the RBI, failing which it has to resort to Ordinary Advances or Special Ways and Means Advances. During 2017-18, the state government was able to maintain its daily minimum balance with the RBI throughout the year.

2.5 Guarantees by State Government

The outstanding guarantees of the state government at the end of 2017-18 stood at Rs 5174 crore (4.5 percent of total revenue receipts), compared to Rs 4721 crore at the end of 2016-17. Out of the total outstanding guarantees, Rs 3717 crore were against the loans to the Power Sector, Rs 127 crore against the Bihar State Financial Corporation, and Rs. 461 crore against Credit Cooperative Societies and Housing Cooperatives. In 2017-18, Rs. 2.38 crore was received as guarantee commission, compared to Rs 63 lakh in the previous year. The interest on the outstanding guarantees amounted to Rs 97.21 crore in 2017-18.

2.6 Debt Management

Table 2.8 shows the outstanding debt liabilities of the state government (excluding guarantees) from 2013-14 to 2018-19. The outstanding liability as a percentage of GSDP had increased from 27 to 33 percent during the period. The outstanding liabilities of the state government had accumulated to Rs. 1,56,777 crore at the end of 2017-18. Out of this amount, the public debt liability on account of borrowings on the Consolidated Fund accounted for 73 percent. This figure is the accumulated effect of past borrowings, growing at an annual rate of 16 percent since 2013-14. Table 2.8 also shows that 91 percent of this outstanding public debt is due to the internal loans raised by the state government, remaining 9 percent being loans from the central government. The composition of outstanding debt has undergone a structural change over the years, with the share of central loans decreasing gradually. This is because of the recommendations of the Twelfth Finance Commission, according to which the central government loans should gradually cease to be a part of the loan portfolio of the state government. However, going by the present trends, this looks unlikely in Bihar, at least in the near future.

Table 2.8 : Outstanding Liabilities

(Rs crore)

Amounts	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Public Debt						
Internal Debt	55624	65848	79990	96595	104525	118743
Central Loans	8638	8722	8838	9596	10182	11433
Total	64262	74570	88829	106191	114707	130176
Other Liabilities						
Small Savings, PF etc.	9048	8865	8792	8891	8811	8811
Reserve Funds	2081	1836	1435	723	26	26
Deposits and Advances	11353	13589	17327	22721	33233	33233
Other Liabilities	22482	24290	27554	32335	42070	42070
Total (Public Debt + Other Liabilities)	86744	98860	116382	138526	156777	172246
Outstanding Liability as % of GSDP	27	29	31	33	32	33

Source : Finance Accounts and State Government Budgets

The liability from Public Account constituted nearly 27 percent of the total liabilities of the state government at the end of 2017-18, though it was not a debt in the strict sense of the term. But the Public Account resources are indeed used by the state government, and there is a liability to pay back the outstanding balances in these accounts. It may be noted that some of these liabilities under the Reserve Funds and Deposits and Advances will be non-interest bearing, since the state government only holds these funds in trust. The National Small Savings Fund (NSSF) used to contribute significantly to the internal borrowings of the state government, but after the state governments were allowed to opt out of the NSSF scheme, Bihar had raised no fresh NSSF loans in 2017-18.

The public debt borrowings on the Consolidated Fund by the state government were reduced substantially in 2017-18, to Rs 13,169 crore, compared to Rs 21,577 crore in 2016-17. These borrowings were from market and other internal sources as well as from the central government. Of the total internal borrowings of Rs 11,771 crore in 2017-18 (Rs 20,065 crore in 2016-17), Rs 10,000 crore were raised from the market and Rs 1771 crore were borrowed from financial institutions. The state government did not raise any loan through Bonds during 2017-18.

The composition of outstanding liabilities in the Consolidated Fund of the state government as on March 31, 2018 is shown in Table 2.9. It is seen from the table that past NSSF loan accounted for 18.7 percent of the total outstanding internal debt of the state government, and market loans 64.4 percent. The outstanding central loans are almost entirely on account of loans for state plan schemes.

Table 2.9 : Composition of Outstanding Liabilities in the Consolidated Fund

Nature of Borrowings	Raised during the year		Outstanding Balance		Percentage Increase over 2018 from 2017	Percentage Composition of outstanding balance as on 31.03.18
	2016-17 (Rs crore)	2017-18 (Rs crore)	31.03.2017 (Rs crore)	31.03.2018 (Rs crore)		
A. Internal Debt	20,065	11,771	96,595	1,04,525	8.2	91.1
Market Loans	17,700	10,000	64989	73897	13.7	64.4
WMA from the RBI	0	0	0	0	0.0	0.0
Bonds	777	0	2351	2351	0.0	2.0
Loans from Financial Institutions	1,588	1,771	6029	6820	13.1	5.9
Special Securities Issued to NSSF	0	0	23218	21450	-7.6	18.7
Others	0	0	7	7	0.0	0.0
B. Loans and Advances from Central Government	1511.59	1398.65	9595.81	10181.92	6.1	8.9
Non plan loans	4.21	0	54	1	-98.9	0.0
Loans for Central Plan Schemes	1507.38	0	1	1	0.0	0.0
Loans for State Plan Schemes	0	0	9493	191	-98.0	0.2
Loans for Centrally Sponsored Plan Schemes	0	7.19	1	1	0.0	0.0
Other Loans	0	1391.46	47	9989	21,211.7	8.7
Total (A+B)	21,577	13,169	1,06,191	1,14,707	8.0	100.0

Source : Finance Accounts, GOB

Table 2.10 shows the repayment liabilities of the state government. In 2017-18, in respect of the Consolidated Fund alone, the total repayment of principal amounted to Rs. 41,357 crore, while the interest payment was Rs 9054 crore. The annual interest burden has increased by Rs 3595 crore over the past five years, due to substantial past borrowings. The total annual debt service burden has increased from Rs. 25,272 crore in 2013-14 to Rs. 58,892 crore in 2016-17, but the debt servicing burden declined substantially (nearly 14 percent) in 2017-18 to Rs 50,411 crore, due to the lower level of borrowings. In the budget estimates for 2018-19, it is expected to be reduced further to Rs. 45,792 crore, 9 percent less than the previous year.

Table 2.10 : Public Debt Repayment Liabilities

Amounts	(Rs. crore)					
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Discharge of internal debt	2559	2975	3423	3460	3841	6302
Repayment of loans to Centre	561	634	702	754	813	1024
Discharge of other liabilities	16694	25463	34384	46487	36704	27702
Total Repayment	19813	29072	38508	50701	41357	35029
Total Interest Payment	5459	6129	7098	8191	9054	10763
Total Debt Service Burden	25272	35200	45606	58892	50411	45792

Note : Liabilities include receipts and payments of Small Saving and Provident Fund, Reserve Funds and Deposits under Public Accounts of the Government of Bihar.

Source : Finance Accounts, GOB

The public debt can be a powerful agent of economic growth, if it is utilised for the creation of productive assets. As can be seen from Table 2.11, the debt resources could not be utilised much by the state government for creating productive assets till 2013-14, when they were mostly used to discharge the existing debt obligations. Since then, however, there has been a steady increase in net accrual to the state exchequer out of the total borrowing till 2016-17. However, the situation showed a reversal in 2017-18. In 2017-18, out of the total borrowed amount of Rs. 13,169 crore, Rs 4654 crore were used for repayment of the principal amounts of the existing public debt, and Rs. 9054 crore for payment of interest. Taking into account the nominal receipts on account of recoveries of loans and advances given by the state government as well as interest receipts on such loans, it resulted in a net inflow of Rs 1061 crore as resources for the state government, which was only 8 percent of the net debt received. In 2016-17, the net debt received exceeded Rs 10,100 crore or 47 percent of the total borrowings. As per the budget estimates of 2018-19, the state government should be in a position to utilize Rs 7301 crore, equivalent to 32 percent of its net borrowings during the year, due to projected higher level of borrowings.

Table 2.11 : Net Public Debt Received

(Rs. crore)

Amounts	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Gross Central Loans Received	550	718	818	1512	1399	2275
Internal Debt Recd	9357	13199	17565	20065	11771	20520
Total Public Debt Received	9907	13918	18383	21577	13169	22795
Recoveries of Loans and Advances	15	1493	19	23	22	408
Interest payments	5459	6129	7098	8191	9054	10763
Interest Received	269	345	584	940	1577	2187
Repayment of Debt	3120	3609	4125	4215	4654	7326
Net Public Debt Received	1613	6018	7763	10135	1061	7301
Net Debt Received as percentage of total borrowing	16.3	43.2	42.2	47.0	8.1	32.0

Source : Finance Accounts, GOB and State Government Budget

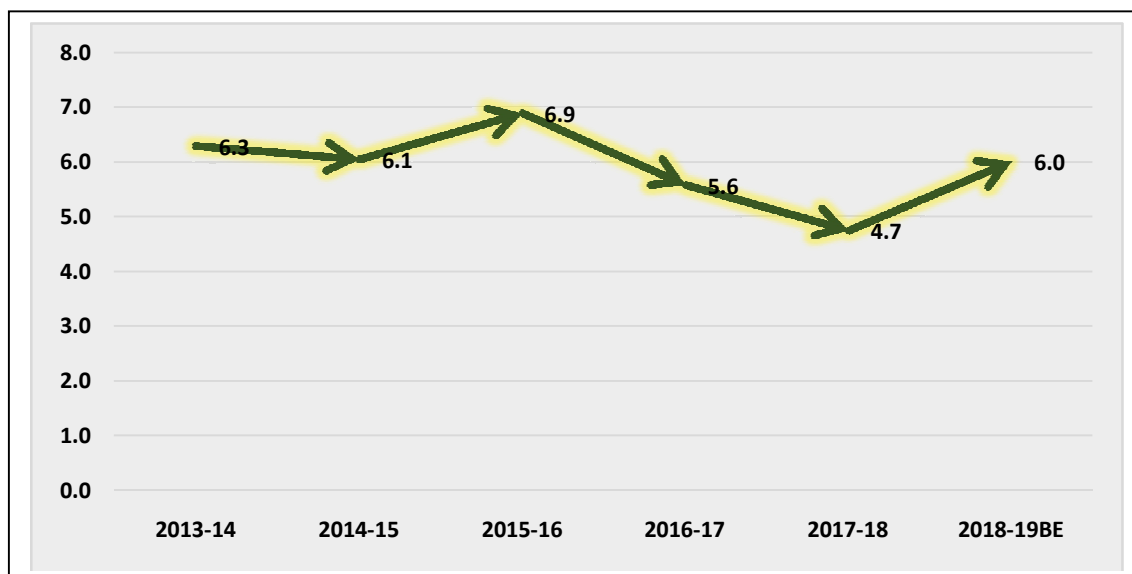
2.7 Tax : GSDP Ratio

Table 2.12 shows a comparison among different states with respect to their Tax : GSDP ratios in 2016-17. It is seen that, for Bihar, this ratio was 5.6 percent which was the lowest among all major states of India. However, the ratio is projected to increase to 6.0 percent in the budget estimates of 2018-19. Several states like Madhya Pradesh, Karnataka, Chhattisgarh, Kerala, Tamil Nadu and Andhra Pradesh had recorded their own tax : GSDP ratio above 8 percent.

Table 2.12 : Tax : GSDP Ratio of States (2016-17)

State	Revenue Receipts (Rs. crore)	State's Own Tax (Rs. crore)	GSDP (Rs. crore)	State's Own Tax: Revenue Receipts	State's Own Tax: GSDP	Total Revenue: GSDP
Bihar	105585	23742	425888	22.5	5.6	24.8
Jharkhand	47054	13299	194475	28.3	6.8	24.2
West Bengal	117832	45466	657883	38.6	6.9	17.9
Odisha	74299	22852	323218	30.8	7.1	23.0
Uttar Pradesh	256875	85966	974120	33.5	8.8	26.4
Madhya Pradesh	123307	44194	469393	35.8	9.4	26.3
Rajasthan	109026	44372	599029	40.7	7.4	18.2
Maharashtra	204693	136592	1826296	66.7	7.5	11.2
Gujarat	109842	64443	984453	58.7	6.5	11.2
Punjab	47985	27747	352421	57.8	7.9	13.6
Haryana	52497	34026	434608	64.8	7.8	12.1
Karnataka	133214	82956	895080	62.3	9.3	14.9
Andhra Pradesh	98984	44181	546104	44.6	8.1	18.1
Kerala	75612	42176	481839	55.8	8.8	15.7
Tamil Nadu	140231	85941	1009145	61.3	8.5	13.9
Himachal Pradesh	26264	7039	102977	26.8	6.8	25.5
Chhatisgarh	53685	18945	213649	35.3	8.9	25.1

Source : State Governments' Budgets

Chart 2.5 : State Own Tax : GSDP Ratio (Percentage)

As regards the total Revenue: GSDP ratio, which includes the central transfers and grants, Bihar recorded a ratio of 25 percent in 2016-17, which was comparable to that of Uttar Pradesh, Madhya Pradesh, Himachal Pradesh, Chhattisgarh, Jharkhand and Odisha. The high ratios of these states are only indicative of the large amounts of transfers from the central government on account of the states' share of divisible pool and central grants.

2.8 Revenue Account: Receipt and Expenditure

The summary of revenue receipts and expenditure of the state government is shown in Table 2.13. During 2013-14 to 2017-18, the revenue receipts grew at an annual rate of 14.2 percent, while revenue expenditure grew at a lower rate of 13.2 percent. Thus, there was an increasing revenue surplus over the five years, except for 2016-17. However, the state's own revenue, tax and non-tax combined, have grown at a much slower rate of only 5.5 percent during this period, increasing from Rs. 21,505 crore in 2013-14 to a peak of Rs. 27,635 crore in 2015-16 and then declined to Rs. 26,145 crore in 2016-17. Next year (2017-18), there was a moderate increase (Rs. 26,643 crore). In the budget estimates of 2018-19, both the revenue receipts and revenue expenditure are projected to increase substantially by 34.6 percent and 29.7 percent respectively. The budget estimates for revenue surplus in 2018-19 is much higher at Rs. 21,312 crore. The state government's own revenues could meet 34.4 percent of its revenue expenditure in 2013-14, but the share dropped to 26 percent in 2017-18.

Table 2.13 : Revenue Account : Receipts

Amounts	(Rs. crore)					
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Revenue Receipt	68919	78418	96123	105585	117447	158051
Revenue Expenditure	62477	72570	83616	94765	102624	136740
Revenue Surplus	-6441	-5848	-12507	-10819	-14823	-21312
State's own tax + non-tax revenue	21505	22308	27635	26145	26643	35448
State's own revenue as % of total revenue	31.2	28.4	28.7	24.8	22.7	22.4
State's share of Central tax as % of total revenue	50.5	47.1	50.9	55.8	55.4	48.2
Central Grants as % of its total revenue	18.3	24.4	20.4	19.5	21.9	29.4
State's own revenue as % of revenue expenditure	34.4	30.7	33.0	27.6	26.0	25.9

Source : Finance Accounts, GOB and State Government Budget

From the figures in Table 2.13, one can compare own tax and non-tax revenues of the state government with its total tax and non-tax revenues. The tax revenues of the state government consist of its own revenues as well as its share from the divisible pool of central taxes. The share of state government's own tax revenue in total tax revenue was 31.2 percent in 2013-14, after which it kept on declining, reaching its lowest level of 22.7 percent in 2017-18. It financed more than a third of its total revenue expenditure in 2013-14, but this share has now come down to about a quarter of the total revenue expenditure. As such, the state government still remains overwhelmingly dependent on the central resources. More than half the total revenues of Bihar came from the divisible pool of central taxes during all these years except (2014-15). The central grants accounted for the remaining part of total revenue. From 2013-14, the practice of direct

transfers by the central government to implementing agencies in respect of Centrally Sponsored Schemes has been significantly reduced and such transfers are now mostly routed through the state budget. In consequence, share of central grants in total revenues of the state government increased from 18.3 percent in 2013-14 to 21.9 percent in 2017-18. As per budget estimates, it will be 29.4 percent in 2018-19.

Table 2.14 shows the break-up of the total expenditure of the state government between developmental and non-developmental purposes. The share of development expenditure, on revenue and capital accounts combined, in the total expenditure of the state government had increased substantially from less than 50 percent in 2005-06 to 68 percent in 2013-14 and further to 72 percent in 2017-18. In absolute terms, the development expenditure was nearly doubled during the five years, 2013-14 to 2017-18, indicating its remarkable growth.

Table 2.14 : Revenue Account : Expenditure Pattern

Amounts	(Rs crore)					
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Non-Developmental Expenditure	25714	30405	34251	35502	38656	48219
Developmental Expenditure	54691	64293	78077	90800	97771	128772
Total Expenditure	80405	94698	112328	126302	136427	176990
Development Expenditure as % of Total Expenditure	68.0	67.9	69.5	71.9	71.7	72.8

Source : Finance Accounts, GOB and State Government Budget

As regards the crucial element of interest payment, it is seen from Table 2.15 that the difference between the gross and net interest payments has been increasing slowly, due to the higher recovery of interest on the loans and advances given by the state government. These loans are given to public sector enterprises, autonomous bodies, as well as employees for various purposes. As already emphasised before, Table 2.16 indicates that the capital outlay has substantially increased from Rs. 14,001 crore in 2013-14 to Rs. 28,907 crore in 2017-18, drawing from the substantial surplus in the revenue account and reinforcing the state government's commitment to development. In the budget estimates of 2018-19, it is projected to rise further to Rs. 32,417 crore.

Table 2.15 : Interest Payment and Receipt

Amounts	(Rs. crore)					
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Gross Interest Payment	5459	6129	7098	8191	9054	10763
Net Interest Payment	5190	5784	6514	7251	7477	8576

Source : Finance Accounts, GOB and State Government Budget

Table 2.16 : Revenue vis-à-vis Capital Outlay

(Rs. crore)

Amounts	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Total Tax Revenue	54790	57713	74372	82623	88220	107174
Own Tax Revenue	19961	20750	25449	23742	23136	31002
Own Non-tax Revenue	1545	1558	2186	2403	3507	4446
Own Tax + Non-tax Revenue	21505	22308	27635	26145	26643	35448
Capital Outlay	14001	18150	23966	27208	28907	32417
Capital Outlay as % of Total Expenditure	17.41	19.17	21.34	21.54	21.19	18.32

Source : Finance Accounts, GOB and State Government Budget

The extent of the state government's dependence on central resources can be seen from Table 2.17, showing the gross and net transfer of resources to Bihar during 2013-14 to 2017-18. The gross transfer of resources includes the state government's share in central taxes, grants-in-aid from the central government, as well as central loans. The net transfer of resources from the central to state government constituted 67 percent of its total expenditure in 2017-18; in 2013-14, such transfers had met 59 percent of the total expenditure. In 2018-19, this share is estimated at 70 percent. As already noted, the contribution of state government's own resources to total expenditure has fallen from 27 percent to 19.5 percent between 2013-14 and 2017-18, the gap being covered by higher central transfers and borrowings. In 2017-18, 48 percent of the total disbursements were met from its share of central taxes and 19 percent from the central grants, with the share of loans from the central government accounting for only 0.4 percent. The rest had to be met from the market by raising loans.

Table 2.17 : Transfer of Resources from Central Government

(Rs crore)

Amounts	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Aggregate Disbursements	80405	94698	112328	126302	136427	176990
Share in Central Tax	34829	36963	48923	58881	65083	76172
Grants-in-Aid from Centre	12584	19146	19566	20559	25720	46431
Gross Loans from Centre	550	718	818	1512	1399	2275
Gross transfer of Resources	47963	56828	69306	80951	92202	124879
Net Loans from Centre	-11	85	116	758	586	1251
Net Transfer of Resources	47402	56194	68604	80197	91390	123855
Own Tax + Non-tax Revenue	21505	22308	27635	26145	26643	35448

Source : Finance Accounts, GOB and State Government Budget

2.9 Resource Management

The revenue receipts of the state government come from both tax and non-tax sources. The tax revenue consists of its own tax revenues and its share in the divisible pool of taxes and duties of the central government. Similarly, the non-tax revenues consist of the state government's own

non-tax revenue, as well as central grants for plan and non-plan purposes. The own tax revenues of the state government include taxes on property and capital transactions, taxes on commodities and services, and taxes on agricultural income, the second component being by far the most important source. In respect of taxes on commodities and services, an important change was introduced in July 2017, when GST came to replace many of the central and state taxes and levies, as already discussed before. Consequently, the revenue account of the state government for 2017-18 will include — (i) the receipts of all the taxes and duties on commodities and services, which were levied under the previous tax regime, for the first quarter of the year; (ii) receipts under the State GST (SGST), which subsumed most of these taxes and duties, for the rest 9 months on the year beginning with July 1, 2017 when the SGST came in force, and (iii) the receipts during the year from those taxes and duties which were not subsumed in the GST.

The non-tax revenues of the state government are collected under general, social and economic services. These include interest receipts from loans and advances to various state government companies, public sector and quasi-commercial undertakings and other bodies, dividends and profit from them, interest earned on the investment of cash balances of the state government, and receipts from various services classified under general, social and economic services. Economic services contribute more significantly to the non-tax revenues than the other services.

The share of central taxes consists mainly of the shares of income tax, union excise duty, customs duty, service tax and wealth tax, which are collected by the central government, but the proceeds of which are shared with the state governments, under recommendations of the Finance Commissions. The distinction between plan and non-plan expenditure have been removed with effect from 2017-18. As such, the grants from the central government, which hitherto were given separately for plan and non-plan purposes, will now be spent at the discretion of the state government as per its own priorities. Further, the direct transfer of funds to the state implementing agencies related to the Centrally Sponsored Schemes are now nearly abolished. Thus, the state government now has more flexibility to use the central grants. Coupled with the additional devolution awarded by the Fourteenth Finance Commission, these institutional changes have substantially augmented the resources available with and under the control of the state government.

Table 2.18 shows the revenue receipts of the state government from 2013-14 to 2018-19. From this table, it can be seen that, during these years, around 70-80 percent of the total revenue receipts of the state government came from the central government by way of state's share of divisible pool of central taxes, and grants-in-aid. In 2013-14, this constituted as much as 69 percent of total revenue of the state government, which increased to more than 77 percent in 2017-18. The own resources of the state government contributed only 23 percent of total revenue, 20 percent from tax revenues and only 3 percent from non-tax revenues.

Own Tax Revenues

The state government's own tax revenues have grown from Rs. 19,961 crore in 2013-14 to Rs. 23,742 crore in 2016-17, after which it dropped to Rs 23,136 crore in 2017-18. Similarly, the non-tax revenues have grown from Rs. 1545 crore to Rs. 3507 crore during the same period. However, it should be remembered that the non-tax revenue includes some special transfers in some years which are not available every year. For example, Rs. 177 crore was received as contribution and recovery towards pension and other retirement benefits in 2015-16 as transfer from the Government of Jharkhand. However, the amount was only Rs. 15 crore in 2016-17, and increased to Rs 203 crore during 2017-18. Hence there may not be any consistent pattern in respect of the growth of non-tax revenues, unlike tax revenues in most years.

The total revenue of the state government increased from Rs. 68,919 crore in 2013-14 to Rs 1,17,447 crore in 2017-18, growing annually at 14.3 percent. Compared to this, the state government's own revenue receipts grew during the period at the annual rate of only 5.5 percent, tax revenue growing at an annual rate of only 3.8 percent and non-tax revenue at 22.8 percent. During this period, the grants from the central government also increased annually at a rate of 19.6 percent, though there has been very little growth since 2014-15. However, as already mentioned, there has been a significant reduction in direct transfers of grants by the central government for Centrally Sponsored Schemes from the last year, as most of these grants are now being routed through the state government budget. This change has significantly increased the control of the state government over central grants from 2014-15 onwards. Due to the lower growth of state government's own revenues compared to the growth of other components of state revenues, the share of the state government's own revenue in total revenues has fallen from 31 percent in 2013-14 to 22.7 percent in 2017-18. This share is expected to decrease further to 22.4 percent in 2018-19.

Table 2.18 : Revenue Receipts

Sources of Revenue	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
I. State's Own Revenue	21505	22308	27635	26145	26643	35448
(a) Tax Revenue	19961	20750	25449	23742	23136	31002
(b) Non-Tax Revenue	1545	1558	2186	2403	3507	4446
II. Receipts from Centre	47413	56109	68488	79440	90804	122604
(a) Share of Divisible Taxes	34829	36963	48923	58881	65083	76172
(b) Grants-in-aid	12584	19146	19566	20559	25720	46431
III. Total Revenue Receipts	68919	78418	96123	105585	117447	158051
State's Own Revenue as % of Total Receipts	31.2	28.4	28.7	24.8	22.7	22.4

Source : Finance Accounts, GOB and State Government Budget

Among the direct taxes of the state government are included Stamp and Registration Fees, Taxes on Vehicles, Taxes and Duties on Electricity, Land Revenue, and Taxes on Agricultural Income, the last one being rather insignificant. As regards the indirect taxes, GST has subsumed the Sales Tax/ VAT on all items (except for petroleum, petroleum products and alcohol), Taxes on Goods and Passengers, State Excise (except for alcohol), Entertainment Tax, Luxury Tax, Taxes on Lottery and Tax on Advertisement. All these taxes were hitherto being collected by the Commercial Taxes Department which will now only collect the SGST in lieu of these taxes. In 2017-18, these taxes were collected only during the first quarter of the fiscal year before the GST was rolled out. The details of receipts from these tax heads from 2013-14 to 2018-19 are shown in Table 2.19. The petroleum sector was the single most contributor to the State VAT, and it will continue to remain an important contributor to the state government's indirect tax revenue in the years to come, till the sector is finally brought under the purview of GST.

Table 2.19 : Tax Revenues under Different Heads

Sources of Revenue	(Rs. crore)					
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
SGST	-	-	-	-	6747	15000
Taxes on Sales, Trade etc.	8453	8607	10603	11874	8298	7890
Taxes on Goods and Passengers	4349	4451	6087	6246	1645	0
State Excise	3168	3217	3142	30	-3	0
Stamp and Registration Fees	2712	2699	3409	2982	3726	4700
Taxes on Vehicles	837	964	1081	1257	1600	2000
Land Revenue	202	277	695	971	779	1000
Taxes & Duties on Electricity	141	375	298	224	239	310
Other Taxes/ Duties on Comm. and Services	50	105	69	81	20	0
Other taxes on Income & Expenditure	48	55	65	79	87	102
Others	98	160	134	160	107	102
Total	19961	20750	25449	23742	23136	31002

Source : Finance Accounts, GOB and State Government Budget

An analysis of the tax receipts of the state government reveals that, during 2017-18, the major sources of state revenues were SGST, Sales Tax (VAT), Taxes on Goods and Passengers, Stamp and Registration Fees and Taxes on Vehicles. These five taxes together accounted for 95 percent of the state government's total tax receipts in 2017-18. The SGST and Sales Tax on Petroleum

and petroleum products and Taxes on Goods and Passengers, which has now been subsumed in the GST, together comprised Rs. 16,690 crore, or 72 percent of the total tax receipts in 2017-18, as against 76 percent in the previous year. The collections against Stamp and Registration Fees comprised 16 percent and Taxes on Vehicles 6.9 percent of the total tax receipts during 2017-18. The composition of the state government's tax revenue is shown in Table 2.20 and their growth rates in Table 2.21. In the budget estimates for 2018-19, total collections against SGST and VAT on petroleum are projected to increase by more than 37 percent to Rs 22,890, constituting nearly 74 percent of the total tax revenues of the state government, as against 72 percent during 2017-18.

Table 2.20 : Composition of Tax Revenues (Percent)

Sources of Revenue	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
SGST	–	–	–	–	29.2	48.4
Taxes on Sales, Trade etc.	42.3	41.5	41.7	50.0	35.9	25.4
Taxes on Goods and Passengers	21.8	21.5	23.9	26.3	7.1	0.0
State Excise	15.9	15.5	12.3	0.1	0.0	0.0
Stamp and Registration Fees	13.6	13.0	13.4	12.6	16.1	15.2
Taxes on Vehicles	4.2	4.6	4.2	5.3	6.9	6.5
Land Revenue	1.0	1.3	2.7	4.1	3.4	3.2
Taxes & Duties on Electricity	0.7	1.8	1.2	0.9	1.0	1.0
Others	0.5	0.8	0.5	0.7	0.5	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source : Finance Accounts, GOB and State Government Budget

During the period 2013-14 to 2018-19, among the major tax heads, the highest growth rate has been registered by Taxes on Vehicles (27.3 percent), followed by Stamp and Registration Fees (24.9 percent). The Taxes and Duties on Electricity registered an annual growth rate of only 6.8 percent during the period. The total collections from SGST, Taxes on Sales, Trade etc. and Taxes on Goods and Passengers in fact showed a decline by 7.9 percent in the first year of the roll out of GST. This is expected to improve, once the new indirect tax regime of GST is stabilized. It should also be noted here that the yearly growth rates of most of the taxes show wide variation, indicating the informal nature of large parts of the state economy.

Table 2.21 : Growth Rates of Tax Revenue

Sources of Revenue	Percentage Growth over Previous Year				
	2014-15	2015-16	2016-17	2017-18	2018-19 BE
SGST/ Taxes on Sales, Trade etc./ Taxes on Goods and Passengers	1.8	23.2	12.0	-7.9	37.1
Stamp and Registration Fees	-0.5	26.3	-12.5	24.9	26.2
Taxes on Vehicles	15.1	12.2	16.2	27.3	25.0
Land Revenue	37.4	150.8	39.7	-19.8	28.4
Taxes & Duties on Electricity	165.2	-20.5	-24.9	6.8	29.6
Other Taxes and Duties	63.5	-16.5	19.4	-33.0	-4.7
Total	4.0	22.6	-6.7	-2.6	34.0

From Table 2.22, one can see that the direct taxes contributed only 28 percent of the total own tax revenue of the state government, while indirect taxes contributed the rest 72 percent in 2017-18. The figures in the table also indicate that the share of direct taxes in the own tax revenue of the state has been increasing steadily. Between 2013-14 and 2017-18, this share has increased from 19.7 percent to 27.8 percent. This is a positive trend.

Table 2.22 : Share of Direct and Indirect Taxes

Source	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Share of Indirect Taxes in State's Own Tax Revenue (%)	80.3	78.9	78.2	76.8	72.2	73.8
Share of Direct Taxes in State's Own Tax Revenue (%)	19.7	21.1	21.8	23.2	27.8	26.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Non-Tax Revenues

Table 2.23 shows the major non-tax revenues of the state government, while its composition and growth rates are presented in Tables 2.24 and 2.25 respectively. The most important source of non-tax revenues has always been the royalty from mines and minerals, classified as receipts from 'Non-Ferrous Mining and Metallurgical Industries', followed by interest receipts. The minerals available in the state are all minor minerals that include brick earth, stones, limestone, sand, etc., used mainly in the real estate sector. The receipts from this components of the non-tax revenues have grown consistently at an annual rate of 17.4 percent during the period 2013-14 to 2017-18. In comparison, interest receipts, the second most important element of its non-tax revenues, grew substantially during this period at a rate of 55.5 percent. During 2013-18, except

in 2014-15, its growth rate has always exceeded 60 percent, though from a low base. The fluctuations in its growth arise from the nature of the interest receipts which is tied to the nature of loans and reliefs thereon. In 2017-18, the total receipts from these two sources of non-tax revenues increased to Rs. 2660 crore, 37 percent higher than in the previous year. The receipts from these two sources constituted nearly 76 percent of the total non-tax revenues of the state during the year. The budget estimates for 2018-19 projects the receipts from these two sources to increase substantially to Rs 3787 crore, implying an increase of 42 percent.

Table 2.23 : Major Non-Tax Revenues

(Rs. crore)

Sources of Revenue	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Non-Ferrous Mining and Metallurgical Industries	569	880	971	998	1083	1600
Interest Receipts	269	345	584	940	1577	2187
Miscellaneous General Services	0	2	1	6	3	1
Other Administrative Services	10	22	73	100	26	20
Police	27	30	66	42	86	46
Major Irrigation	1	1	15	14	22	50
Education, Sports, Arts and Culture	14	11	41	17	21	18
Roads and Bridges	41	55	42	42	67	72
Medical and Public Health	30	30	40	40	55	47
Other Rural Development Programmes	28	29	24	36	49	36
Social Security and Welfare	-1	0	0	0	0	0
Others	555	154	328	168	518	368
Total	1545	1558	2186	2403	3507	4446

Source : Finance Accounts, GOB and State Government Budget

The share of interest receipts in total non-tax revenue had increased to 45 percent in 2017-18 from 39 percent in the previous year. In 2013-14, its share was only 17 percent. The receipts on this account had increased from Rs 269 crore in 2013-14 to Rs 1577 crore in 2017-18. The growth in the other important component of the non-tax revenues, viz. Non-Ferrous Mining and Metallurgical Industries, has been quite subdued since 2015-16. During 2017-18, it grew only by 8.5 percent, thereby decreasing its share in the total non-tax revenues of the state to less than 31 percent from 41.5 percent in the previous year. The non-tax revenues of the state government have been growing annually at 22.7 percent during 2013-14 to 2018-19, with wide variations from year-to-year.

Table 2.24 : Composition of Non-Tax Revenues

(Percentages)

Revenue Sources	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Non-Ferrous Mining and Metallurgical Industries	36.8	56.5	44.4	41.5	30.9	36.0
Interest Receipts	17.4	22.1	26.7	39.1	45.0	49.2
Miscellaneous General Services	0.0	0.1	0.0	0.3	0.1	0.0
Other Administrative Services	0.7	1.4	3.3	4.2	0.7	0.5
Other non-Tax Revenues	45.0	19.9	25.5	14.9	23.3	14.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source : Finance Accounts, GOB and State Government Budget

Table 2.25 : Growth Rates of Non-Tax Revenues (Percent)

Revenue Sources	Yearly Growth Rates						CAGR (2013-19)
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE	
Non-Ferrous Mining and Metallurgical Industries	11.4	54.6	10.4	2.7	8.5	47.8	18.1
Interest Receipts	61.2	27.9	69.3	61.0	67.8	38.7	55.8
Miscellaneous General Services	-98.7	611.0	-48.3	512.0	-45.2	-80.2	25.4
Other Administrative Services	1.7	113.9	233.5	37.6	-74.1	-22.2	12.9
Other non-Tax Revenues	63.7	-55.5	79.9	-35.5	127.7	-22.0	6.0
Total	36.1	0.9	40.3	9.9	45.9	26.8	25.0

Source : Finance Accounts, GOB and State Government Budget

Comparing the budget estimates of revenues with the actual collections for 2017-18 (Table 2.26), it is seen that there was a shortfall by Rs 8231 crore (24 percent) in overall revenue collections by the state government. The shortfall against budget estimates in respect of tax revenues was Rs 9460 crore (29.6 percent), which was partly offset by a modest surplus of Rs. 633 crore (18 percent) in respect of non-tax revenues. The major shortfalls in tax revenues were in respect of SGST/ Taxes on Sales, Trade etc./ Taxes on Goods and Passengers (Rs 8310 crore) and Stamp and Registration Duty (Rs 874 crore). There was, however, a little surplus collection in respect of Land Revenue (Rs 179 crore).

Table 2.26 : Variation between the Estimated and Actual Realisation of Tax and Non-Tax Revenue (2017-18)

(Rs. crore)

Revenue Sources	Budget Estimate	Actuals	Variance (Excess -/ Shortfall +)	% Variation Excess (-), Shortfall (+)
Own Tax Revenue				
SGST/ Taxes on Sales, Trade etc./ Taxes on Goods and Passengers	25000	17036	7964	31.9
Stamp and Registration Fees	4600	3726	874	23.5
Taxes on Vehicles	1800	1600	200	12.5
Land Revenue	600	779	-179	-22.9
Total	32001	23136	8864	27.7
Own Non Tax Revenue				
Non-Ferrous Mining and Metallurgical Industries	1350	1083	267	24.7
Interest Receipts	619	1577	-958	-60.8
Miscellaneous General Services	0	3	-3	-100.0
Other Administrative Services	256	26	230	890.6
Police	42	86	-44	-51.2
Major Irrigation	38	22	16	71.0
Education, Sports, Arts and Culture	44	21	23	104.9
Roads and Bridges	72	67	5	7.9
Medical and Public Health	43	55	-12	-21.1
Other Rural Development Programmes	15	49	-34	-69.1
Social Security and Welfare	0	0	0	-87.9
Others	395	518	-123	-23.7
Total	2874	3507	-633	-18.0
Grant Total	34875	26643	8231	23.6

Source : Finance Accounts, GOB and State Government Budget

Cost of Collection

The cost of collection of major taxes is shown in Table 2.27. It can be seen from the table that this cost is relatively higher for taxes on vehicles. Secondly, except for taxes on vehicles and SGST/VAT, the cost of collection of major taxes as a percentage of total taxes collected has been decreasing in recent years, as a result of the modernization of infrastructure and introduction of technology.

Table 2.27 : Cost of Collection of Taxes

Year	Collection (Rs. crore)	Expenditure on collection (Rs. crore)	Cost as Percentage of Collection	Collection (Rs. crore)	Expenditure on collection (Rs. crore)	Cost as Percentage of Collection
	SGST & Taxes on Sales / Trade, etc.			Stamp duty and registration fee		
2013-14	8453	70	0.8	2712	55	2.0
2014-15	8607	96	1.1	2699	52	1.9
2015-16	10603	90	0.8	3409	55	1.6
2016-17	11874	117	1.0	2982	48	1.6
2017-18	15045	144	1.0	3726	54	1.4
	Taxes on Vehicles			State Excise		
2013-14	837	30	3.6	3168	45	1.4
2014-15	964	38	4.0	3217	50	1.6
2015-16	1081	40	3.7	3142	50	1.6
2016-17	1257	46	3.7	-3	92	—
2017-18	1600	62	3.9	0	82	—

Source : Finance Accounts, GOB

Ratio of Own Revenue to GSDP

Table 2.28 shows the state government's own tax and non-tax revenues as percentage of GSDP, which is a measure of its capacity to raise resources. The ratio of own tax revenues to the GSDP has risen marginally from 6.3 percent in 2013-14 to 6.9 percent in 2015-16, before declining sharply to 4.7 percent in 2017-18. This ratio is quite low compared to other states. The total revenue, including central transfers and grants, which constituted 21.7 percent of the GSDP in 2013-14 rose to 24.1 percent in 2017-18. It is projected to rise to 30.7 percent in the 2018-19 budget estimates. While the ratio of own tax to GSDP in Bihar is one of the lowest in the country, the ratio between the total revenues and GSDP is quite high, due to the high volumes of central transfers to the state government.

Table 2.28 : Tax and Non-tax Revenue as Percentage of GSDP

Indicators	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Own Tax Revenue as % of GSDP	6.3	6.1	6.9	5.6	4.7	6.0
Own Non-Tax Revenue as % of GSDP	0.5	0.5	0.6	0.6	0.7	0.9
Total Revenue as % of GSDP	21.7	22.9	26.0	24.8	24.1	30.7
Buoyancy of Total Revenue w.r.t. GSDP (Ratio)	1.3	1.7	2.9	0.6	0.8	6.0
Buoyancy of State's Own Taxes w.r.t. GSDP (Ratio)	1.9	0.5	2.9	-0.4	-0.2	5.9

Source : Finance Accounts, GOB and State Government Budget

Table 2.29 gives the buoyancy ratios in respect of the state government's major tax and non-tax revenues with respect to GSDP. Given the significant growth rate of GSDP in recent years, these taxes have a huge potential for resource mobilisation. Among the major taxes, Stamp Duty and Registration Fees, and Taxes on Vehicles remained buoyant in 2017-18. Among the major sources of non-tax revenues, interest receipt showed high buoyancy in 2017-18.

Table 2.29 : Buoyancy of Important Tax and Non-Tax Revenue Sources

Revenue Sources	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Taxes on Sales, Trade (SGST)	-0.2	0.2	3.0	0.8	-2.1	-0.9
Stamp Duty and Registration Fees	2.0	-0.1	3.4	-0.8	1.7	4.6
Taxes on Vehicles	2.0	1.8	1.6	1.1	1.9	4.4
Land Revenue	-0.1	4.6	19.5	2.6	-1.4	4.9
Taxes & Duties on Electricity	3.1	20.3	-2.6	-1.6	0.5	5.2
Total Tax Revenue	1.1	0.7	3.7	0.7	0.5	3.7
Non Ferrous Minerals	0.9	6.7	1.3	0.2	0.6	8.3
Interest Receipts	5.0	3.4	9.0	4.0	4.7	6.7
Total Non Tax Revenue	2.9	0.1	5.2	0.7	3.2	4.7

Source : Finance Accounts, GOB and State Government Budget

2.10 Performance of Tax Departments

Commercial Taxes Department

In the pre-GST days, the Commercial Taxes Department has been collecting taxes under eight acts — (i) Bihar Value Added Tax Act, 2005 (VAT); (ii) Bihar Tax on Entry of Goods into Local Area for Consumption, Use or Sale therein Act, 1993 (ET); (iii) Central Sales Tax Act, 1956 (CST); (iv) Bihar Electricity Duty Act, 1948 (ED); (v) Bihar Entertainment Tax Act, 1948 (ENT); (vi) Bihar Taxation on Luxuries in Hotel Tax Act, 1988 (HLT); (vii) Bihar Advertisement Tax Act, 1981 (ADV) and (viii) Bihar Tax on Professions, Trades, Calling and Employment Act, 2011 (PT). The administrative structure of the Department has not undergone any change, subsequent to the introduction of GST which has subsumed six of these taxes/duties, except ED and PT, and sales tax on petroleum and petroleum products. The share of total revenue collected by the Department also has not diminished as a result of introduction of GST; in fact, it has increased significantly as discussed later. The Department is also responsible for collection of SGST, yield from which is shown in Table 2.31.

Table 2.30 shows the taxes collected during 2013-14 to 2017-18. Amounts shown as collections after June, 2017 against the taxes which are subsumed under GST represent only the arrears of these taxes. The VAT on petroleum and petroleum products continues to generate substantial

revenue, as it used to do during the pre-GST regime. Collection against State GST and Integrated GST are shown in Table 2.31. During 2017-18 (the last 3 quarters), the total amount collected in respect of GST, (SGST, IGST and GST Compensation Grant) was Rs 9788 crore, while during the two quarters of 2018-19, the collections amounted to Rs 8132 crore. The collections have progressively improved despite rates being reduced continuously. This indicates better tax compliance and more efficient working of the GSTN portal. Table 2.32 shows the share of commercial taxes in total revenue. It is seen that this share has increased to 87.6 percent in 2017-18, compared to 79.0 percent in the previous year.

Table 2.30 : Act-wise Commercial Tax Collection

(Rs. crore)

Year	BST/ VAT	CST	ENT.	ED	ADV	HLT	ET	PT	Total
2013-14	8546	83	39	141	1	10	4283	53	13156
2014-15	8796	71	46	373	1	11	4406	55	13758
2015-16	10726	60	55	297	1	11	6162	66	17378
2016-17	11908	70	70	226	1	11	6389	77	18751
2017-18 Up to June, 2017	1893	13	13	29	0	1	877	4	2832
2017-18 (July 2017 to March 2018)	6438	43	4	208	0	2	879	84	7658
2018-19 (up to Sep., 2018)	2358	7	0	104	0	0	354	11	2834

Source : Department of Commercial Tax

Table 2.31 : Collection against State GST and Integrated GST

(Rs crore)

Year	SGST	IGST Settlement	Advance/ Ad-hoc IGST Settlement	Grants-in- Aid	Grand Total
2017-18 (July 17 to March 18)	2362.90	3831.95	552.00	3041.00	9787.85
2018-19 (up to Sep., 18)	2242.67	4043.34	789.00	1057.00	8132.01

Source : Department of Commercial Taxes, GOB

Table 2.32 : Share of Commercial Taxes in Total Revenue

Amounts	2013-14	2014-15	2015-16	2016-17	2017-18
Total Revenue of State (Rs. crore)	68919	78418	96123	105585	117447
State's Own Tax Revenues (Rs. crore)	19961	20750	25449	23742	23136
Revenue from Commercial Taxes (Rs. crore)	13156	13758	17378	18751	20277
Share of Commercial Taxes in Total Revenue (%)	19.1	17.5	18.1	17.8	17.3
Share of Commercial Taxes in State's Own Taxes (%)	65.9	66.3	68.3	79.0	87.6

Source : Department of Commercial Taxes, GOB

Department of Prohibition, Excise and Registration

Presently, this department is responsible only for taxes collected from Stamp Duties and Registration. Table 2.33 shows the details of revenue from Stamp Duties and Registration Fees during the period 2013-14 to 2017-18. The trend of the data reveals that there has been a steady increase in the total revenue collection of Stamp Duty from Rs. 2968 crore in 2013-14 to Rs. 3295 crore in 2015-16. In 2016-17, there was a nominal decline in revenue collection to Rs 3257 crore. However, in 2017-18, the collections surged to Rs 3824 crore, indicating a growth rate of 17 percent. The overall annual growth rate during the last 5 years (2013-18) has been 6.5 percent. The most important component of Stamp Duty is of course the non-judicial stamp duty which accounts for nearly 64 percent of the total collections.

Table 2.33 : Revenue from Stamp Duty and Registration Fees

(Rs. crore)

Source of Revenue	2013-14	2014-15	2015-16	2016-17	2017-18
From Printed Non-judicial stamps	320	330	391	339	410
From Non-judicial stamp duty deposited through Bank challan	1856	1750	2024	2064	2436
Non-Judicial adhesive stamps	28	30	32	26	34
Non Judicial special adhesive stamp – through Franking machines	16	18	20	17	20
Revenue Stamps	2	2	2	2	2
Judicial Stamps	36	37	40	37	43
Sub-Total	2257	2167	2508	2485	2945
Fees on registration of instruments	668	646	741	730	832
Landlord's Registration fee	32	31	34	31	36
Landlord's Process fee	4	4	5	4	4
Fee from searches of records & Non-Encumbrances	4	5	5	5	5
Fee from certified copies	2	2	2	2	2
Sub-Total	711	688	787	772	879
Total	2968	2855	3295	3257	3824

Source : Department of Prohibition, Excise and Registration, GOB

Table 2.34 shows the district-wise collection of revenue from Stamp Duties and Registration Fees till September, 2018 for the year 2018-19. Patna district expectedly contributes the maximum revenue (about 19.6 percent) from this source, more than three times the collection from the next highest contributor, Muzaffarpur.

Table 2.34 : District-wise Revenue from Stamp Duty and Registration Fees, 2018-19 (Up to Sept., 2018)

(Rs. crore)

District	No. of Document	Total Receipt (Registration and Stamp Fee)	Target	% receipt against target	Receipt per Document (Rs.)
Patna	44511	419.9	436.24	96.25	94336
Nalanda	16361	53.25	57.56	92.51	32547
Bhojpur	17163	61.98	63.66	97.36	36113
Buxar	8645	29.69	30.90	96.08	34344
Rohtas	15774	61.51	62.71	98.09	38995
Kaimur	9681	25.73	22.91	112.31	26578
Gaya	21995	96.14	93.61	102.70	43710
Jehanabad	5372	18.29	22	83.14	34047
Arwal	3648	8.31	9.35	88.88	22780
Nawada	11635	29.95	30.89	96.96	25741
Aurangabad	13454	51.09	51.5	99.20	37974
Saran	19838	54.33	59.93	90.66	27387
Siwan	18911	53.85	59.94	89.84	28475
Gopalganj	15746	48.73	54.76	88.99	30948
W. Champaran	25387	58.28	55.24	105.50	22957
E. Champaran	34018	100.75	105.38	95.61	29617
Muzaffarpur	29454	118.89	123.59	96.20	40365
Sitamarhi	21189	56.93	57.56	98.91	26868
Sheohar	4338	9.21	8.89	103.60	21231
Vaishali	21297	71.85	73.98	97.12	33737
Darbhanga	20371	67.68	65.57	103.22	33224
Madhubani	27624	58.94	59.42	99.19	21337
Samastipur	27752	64.6	65.55	98.55	23278
Begusarai	14829	58.49	59.83	97.76	39443
Munger	4487	21.55	22.94	93.94	48028
Sheikhpura	4590	9.88	9.82	100.61	21525
Lakhisarai	4858	16.02	17.8	90.00	32977
Jamui	8912	19.82	19.66	100.81	22240
Khagaria	7174	19.69	19.21	102.50	27446
Bhagalpur	14941	97.78	85.64	114.18	65444
Banka	10901	23.75	23.89	99.41	21787
Saharsha	10529	32.3	33.24	97.17	30677
Supaul	9849	23.84	28.56	83.47	24206
Madhepura	11189	28.16	30.88	91.19	25168
Purnea	21027	61.05	63.65	95.92	29034
Kishanganj	15128	25.98	27.13	95.76	17173
Araria	18611	34.04	37.91	89.79	18290
Katihar	21281	49.33	48.7	101.29	23180
Total	612470	2141.56	2200	97.34	34966

Source : Department of Prohibition, Excise and Registration, GOB

2.11 Goods and Services Tax (GST)

As stated earlier, before the introduction of GST, tax revenues in Bihar were collected under 7 major heads — (i) Taxes on Sales/Trade, etc., (ii) Stamp and Registration Fees, (iii) Taxes on Goods/Passengers, (iv) State Excise, (v) Taxes on Vehicles, (vi) Land Revenue, and (vii) Taxes and Duties on Electricity. Now GST has subsumed both VAT and Taxes on Goods and Passengers. The revenue to the state government from these two taxes was Rs. 18,000 crore in 2016-17. As against this, the collections from GST during 8 months of the year 2017-18 (August-March) totalled to Rs. 9788 crore. The month-wise GST collections are shown in Table 2.35.

Table 2.35 : Collections from GST in Bihar

	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Total
SGST	375.61	262.51	308.49	284.58	263.26	281.54	270.80	316.80	2362.87
IGST	275.49	346.13	491.63	528.44	565.22	537.11	549.89	538.03	3831.95
Total	651.1	608.64	800.12	777.02	828.48	818.65	820.69	854.83	6194.82
SGST Grant	0	0	692	1054	0	373	552*	922	3593.00

Note : * denotes advance IGST
Source : Department of Commercial Taxes, GOB

The 101st Amendment also provided for compensation to be paid to the state governments for loss of revenue arising on account of implementation of the GST for a period which may extend up to five years. This necessitated the legislation of the GST (Compensation to States) Act, 2017 which provides that, for the purpose of calculating the compensation amount in any financial year, 2015-16 will be reckoned as the base year, from which revenue will be projected at a growth rate of 14 percent per annum for the five-year period. The base year tax revenue will consist of the states' tax revenues from State Value Added Tax (VAT), Central Sales Tax, Entry Tax, Octroi, Local Body Tax, Taxes on Luxuries, Taxes on Advertisements, etc. However, any revenue from VAT and CST on liquor, petrol, diesel ATF, natural gas and crude oil will not be accounted as part of the base year revenue. Thus, for Bihar, to determine the base amount on which 14 percent growth will be calculated, one should exclude the collections on account of VAT and CST on liquor, petrol, diesel, ATF, natural gas and crude oil and also electricity duty and professional tax from the total sales tax revenue.

As stated already, petro-products have been the single largest contributor to Commercial Tax. They contributed Rs. 5118 crore in 2016-17. Its contribution during 2016-17 was nearly four times that of the second major contributor — electrical goods (Rs 1374 crore). Other important contributors, in order of their contributions are — Cement, Unregistered Dealers and Works Contracts, IMFL, FMCG, Crude Oil, Four-Wheelers and Chassis of Automobiles, Two/Three-Wheelers, Drugs and Medicines, etc. The sales tax revenues from petroleum products in Bihar during the last three years are shown in Table 2.36. During the last 6 years, this has grown at a rate of 15.9 percent. The revenue from the commercial taxes have grown at a rate of 17 percent

during this period. As already explained, all but two of the commercial taxes have been subsumed in GST; the yield from these excluded taxes is also insignificant compared to the total collections.

Table 2.36 : Sales Tax Collections from Petroleum Products

Name of commodity	Collection (in crore)		
	2014-15	2015-16	2016-17
Petro Products	3284	4385	5118
Crude Oil	635	1350	702
Diesel Oil	2	4	4
LPG	7	9	12
Kerosene	2	3	3
Petrol	2	3	0
Total	3932	5754	5839
Total Collections from Sales Tax (VAT)	8796	10726	11908
Petroleum revenue as percent of total VAT	44.7	53.6	49.0

Source : Department of Commercial Taxes, GOB

2.12 Expenditure Management

The expenditure of the state government is classified under three major functional categories — General Services, Social Services and Economic Services. Apart from revenue expenditure and capital outlay on these services, the other areas of spending are repayment of loans on the capital account, and grants to local bodies and autonomous institutions. The state government also gives loans for various purposes to its Public Sector Undertakings, Urban Local Bodies, Panchayati Raj Institutions, and to its own employees. It is to be noted that while the repayments of principal amounts of loans are made from the capital account, interest payment is made from the revenue account, under the General Services.

Table 2.37 presents the expenditure of the state government under various heads for the period 2013-14 to 2018-19. Tables 2.38 and 2.39 present the structure of the expenditure during this period. Finally, Table 2.40 presents the annual growth rates of various expenditure items. These four tables together give an insight into the expenditure pattern of the state government.

Table 2.37 : Expenditure from Consolidated Fund

Expenditure Heads	(Rs. crore)					
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
General Services	22018	26408	27972	30607	33374	40234
Social Services	26395	31713	35943	40737	45769	66922
Economic Services	14060	14445	19696	23417	23476	29578
Grants- in-Aid	4	4	4	4	4	6
Capital Outlay	14001	18150	23966	27208	28907	32417
Discharge of Public Debt	3120	3609	4125	4215	4654	7326
Loans and Advances by State	807	369	621	114	243	507
Total	80405	94698	112328	126302	136427	176990

Source : Finance Accounts, GOB

Between 2013-14 and 2017-18, the share of capital outlay in the total expenditure of the state government had increased from around 17 percent to around 21 percent. For the future growth of the state economy, the sustained increase in capital outlay is essential and the state government is committed to continue with a high level of capital outlay. In the current fiscal also, even though its share in total expenditure might go down as per the budget estimates, in absolute terms, the capital outlay will go up by Rs. 3500 crore, or by 12 percent.

The revenue expenditure on general services is of non-developmental nature and its share in total expenditure was 24.5 percent in 2017-18, about the same a year ago. In 2017-18, the shares of other components were — social services (33.5 percent), economic services (17.2 percent), capital outlay (21.2 percent), discharge of public debt (3.4 percent) and loans and advances (0.2 percent). The shares of capital outlay and of economic services in total expenditure since 2014-15 have increased mostly at the cost of expenditure on general services. The share of expenditure on social services has remained nearly the same. Only to this extent, the overall pattern shows some minor structural changes in the expenditure pattern over the years. The capital outlay has grown at an impressive annual rate of 20 percent during the last five years, though its growth has been slowed down in the recent years, consequent on the muted growth of state's own revenues. Still, it increased by more than Rs 15,000 crore between 2013-14 and 2017-18. The increase in capital outlay has catapulted the economy of the state to one of the fastest growing among all major states in India. The reduction in the share of general services shows that funds that were used earlier for running the administration are now being used increasingly for expenditure on development and asset creation in the economy.

Table 2.38 : Composition of Government Expenditure

Expenditure Heads	(Percentage)					
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
General Services	27.4	27.9	24.9	24.2	24.5	22.7
Social Services	32.8	33.5	32.0	32.3	33.5	37.8
Economic Services	17.5	15.3	17.5	18.5	17.2	16.7
Capital Outlay	17.4	19.2	21.3	21.5	21.2	18.3
Discharge of Public Debt	3.9	3.8	3.7	3.3	3.4	4.1
Loans and Advances	1.0	0.4	0.6	0.1	0.2	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source : Finance Accounts, GOB

Table 2.39 presents the composition of total expenditure of the state government in more details. From this table, it is seen that social and economic services, essential for the development of the state, now account for the bulk of the expenditure, reflecting the state government's commitment to improve the social sectors. The revenue and capital accounts claimed 75 and 25 percent respectively of the total expenditure in 2017-18, about the same as in last year. About 72 percent of the total expenditure was of developmental nature and 28 percent non-developmental in 2017-18, almost same as the last year again. In 2013-14, these shares were 68 and 32 percent respectively. As observed earlier, the state government has been able to manage its debt problem quite well in recent years by consistently generating substantial surpluses in its revenue account. Consequently, the servicing of debt now accounts for 10 percent of total expenditure (repayment of principal accounting for 3.4 percent and interest payment 6.6 percent). Containing the debt burden within manageable limits has enabled the state government to launch ambitious programmes for infrastructure, essential for economic growth of the state.

Table 2.39 : Percentage Composition of Total Expenditure

Expenditure Heads	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Revenue Account	77.7	76.6	74.4	75.0	75.2	77.3
Non-Developmental Revenue Expenditure	26.9	27.5	24.5	23.9	24.1	22.3
Developmental Revenue Expenditure	50.8	49.2	49.9	51.1	51.1	54.9
General Services (Public Works)	0.5	0.4	0.4	0.3	0.4	0.4
Social Services	32.8	33.5	32.0	32.3	33.5	37.8
Economic Services	17.5	15.3	17.5	18.5	17.2	16.7
Capital Account	22.3	23.4	25.6	25.0	24.8	22.7
Non-Developmental Capital Expenditure	5.0	4.6	6.0	4.2	4.2	4.9
General Service (Except Public Works)	1.1	0.8	2.3	0.9	0.8	0.8
Discharge of Public Debt (General Services)	3.9	3.8	3.7	3.3	3.4	4.1
Loans and Advances by State (General Services)	0.0	0.0	0.0	0.0	0.0	0.0
Developmental Capital Expenditure	17.3	18.7	19.6	20.8	20.6	17.8
Capital Outlay (General-Public Works, Social and Economic Services)	16.3	18.4	19.0	20.7	20.4	17.6
Loans and Advances by State (Social and Economic Services)	1.0	0.4	0.5	0.1	0.2	0.3
Total Non- Developmental Expenditure	31.9	32.1	30.5	28.1	28.3	27.2
Total Developmental Expenditure	68.1	67.9	69.5	71.9	71.7	72.8
Total Expenditure	100.0	100.0	100.0	100.0	100.0	100.0

Source : Finance Accounts, GOB

Table 2.40 shows the growth rates of different components of expenditure. From this, it is seen that the expenditure on social and economic services has also been growing annually at high rates exceeding 15 percent, while the expenditure on general services has been growing at a slower rate of 11.5 percent. On the whole, the total expenditure of the state government has also been growing annually at 15.5 percent.

Table 2.40 : Growth Rates of Expenditure

Expenditure Heads	Annual Growth Rates						CAGR (2013-18)
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE	
General Services	18.1	19.9	5.9	9.4	9.0	20.6	11.5
Social Services	14.2	20.1	13.3	13.3	12.4	46.2	18.3
Economic Services	10.6	2.7	36.4	18.9	0.3	26.0	16.5
Capital Outlay	3.7	5.0	4.1	2.3	-6.3	49.8	6.7
Discharge of Public Debt	21.6	23.4	29.8	9.8	7.2	19.1	16.7
Loans and Advances	46.1	29.6	32.0	13.5	6.2	12.1	17.8
Total	1.6	15.7	14.3	2.2	10.4	57.4	15.5

Source : Finance Accounts, GOB

Within general services, expenditure on certain items cannot be controlled beyond a point. These are mostly items of charged expenditure, like pension and interest payment, expenditure in respect of judiciary, jails, police and the like, which can be curtailed only at a great peril to the state government. For all these items, the expenditure has been rising steadily. Even though the share of general services in the total expenditure of the state government has been going down, in absolute terms, it has grown steadily at an annual rate of around 11.5 percent during the period 2013-14 to 2017-18. Besides steep increases in interest payments and pension charges, this increase has also been due to increased expenditure on police administration, district administration, judiciary, legislature, tax departments, and public works.

Revenue Expenditure

Table 2.41 depicts the details of revenue expenditure of the state government, which is incurred to maintain the current level of activities and the assets created so far by the state government. The share of revenue expenditure in total expenditure has remained almost unchanged around 75 percent during the last two years. During the period 2013-14 to 2017-18, it has declined marginally from 78 to 75 percent. The average annual rate of growth during the five years 2013-18 in respect of revenue, capital and total expenditure have been 13 percent, 17 percent and 14 percent respectively.

Table 2.41 : Details of Revenue Expenditure

(Rs. crore)

Expenditure Heads	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Revenue Expenditure (RE)	62477	72570	83616	94765	102624	136740
Capital Expenditure (CE)	17928	22128	28712	31537	33803	40251
Total Expenditure (TE)	80405	94698	112328	126302	136427	176990
GSDP	317101	342951	369469	425888	487628	515634
Rate of growth of TE (%)	16.2	17.8	18.6	12.4	8.0	29.7
Rate of growth of RE (%)	14.7	16.2	15.2	13.3	8.3	33.2
Rate of growth of CE (%)	21.6	23.4	29.8	9.8	7.2	19.1
RE/TE (%)	77.7	76.6	74.4	75.0	75.2	77.3
TE/GSDP (%)	25.4	27.6	30.4	29.7	28.0	34.3
RE/GSDP (%)	19.7	21.2	22.6	22.3	21.0	26.5
Revenue Receipt (RR)/TE (%)	85.7	82.8	85.6	83.6	86.1	89.3
Buoyancy of RE w.r.t. GSDP	1.20	1.98	1.97	0.87	0.57	5.79
Buoyancy of RE w.r.t. RR	0.94	1.17	0.67	1.35	0.74	0.96

Source : Finance Accounts, GOB

The total government expenditure and revenue expenditure were 28 percent and 21 percent, respectively of the GSDP of Bihar in 2017-18. From the buoyancy ratios, it is seen that, during 2013-14 to 2017-18, the revenue expenditure increased at a faster rate than the GSDP during the first three years and later slowed down since 2016-17. In the budget estimates of 2018-19, revenue expenditure has again been projected to grow at a much higher rate than the GSDP, because of much higher projected expenditure in general and social services.

Expenditure on Salary and Pension

The salary and pension constitute the two most important items of expenditure for all governments. The trends in expenditure on salaries as well as pension are presented in Table 2.42. The pension and salary payments together constituted 30 percent of the state government's revenue expenditure in 2017-18 (32 percent in the previous year), compared to 37.6 percent five years ago.

The salary of the state government employees alone accounted for 17 percent of the total revenue expenditure in 2017-18, which gradually came down from 22.5 percent in 2013-14. Similarly, pension constituted around 14 percent of the revenue expenditure in 2017-18, compared to 15 percent five years ago. During 2013-14 to 2017-18, there had been major increases in expenditure on these two accounts by almost Rs 8554 crore (Rs 3742 crore for salary and Rs.

4811 crore for pension). The salary and pension payments had increased annually at the rate of 6 percent and 11 percent respectively during the period 2013-14 to 2017-18. The total expenditure on these two accounts constituted 6.6 percent of GSDP, compared to 7.4 percent five years ago. Chart 2.6 depicts the expenditure on salary and pension during the years from 2013-14 to 2017-18.

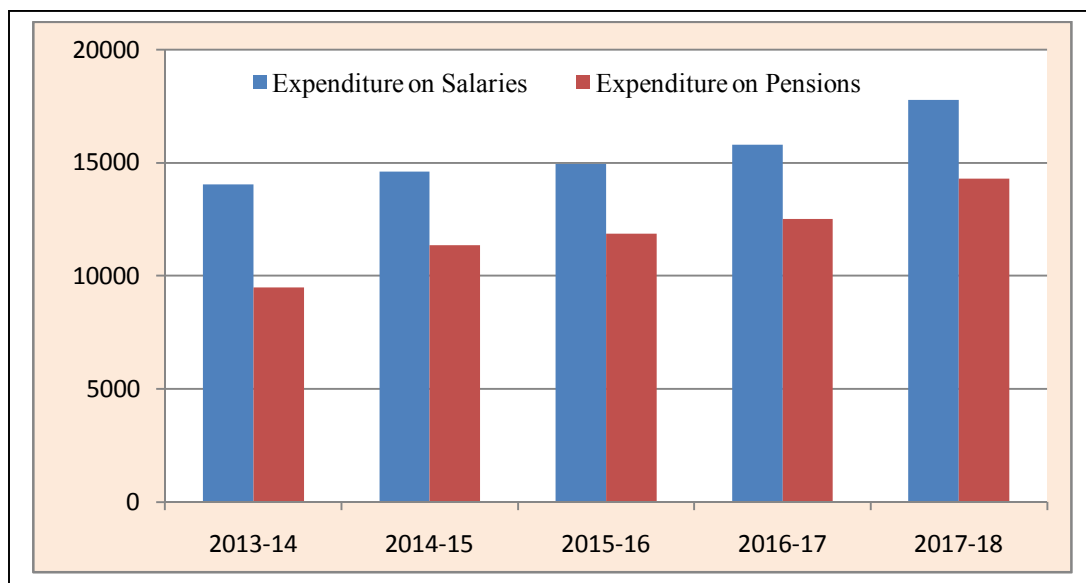
Table 2.42 : Expenditure on Salaries and Pensions

(Rs. crore)

Heads	2013-14	2014-15	2015-16	2016-17	2017-18
Expenditure on Salaries	14037	14607	14924	15784	17779
Salary as percentage of GSDP	4.4	4.3	4.0	3.7	3.6
Salary as percentage of RR	20.4	18.6	15.5	14.9	15.1
Salary as percentage of RE	22.5	20.1	17.8	16.7	17.3
Expenditure on Pensions	9482	11345	11850	12508	14293
Rate of Growth	13.4	19.6	4.5	5.5	14.3
Pension as percentage of GSDP	3.0	3.3	3.2	2.9	2.9
Pension as percentage of RR	13.8	14.5	12.3	11.8	12.2
Pension as percentage of RE	15.2	15.6	14.2	13.2	13.9
Total expenditure on Salary & Pension	23518	25952	26774	28292	32072
Total as percentage of GSDP	7.4	7.6	7.2	6.6	6.6
Total as percentage of RR	34.1	33.1	27.9	26.8	27.3
Total as percentage of RE	37.6	35.8	32.0	29.9	31.3

Source : Finance Accounts, GOB

Chart 2.6 : Expenditure on salary and Pension (Rs Crore)



2.13 Quality of Expenditure

The quality of expenditure can be judged by the proportion of expenditure devoted to the creation of social and physical infrastructure, and proportion of developmental expenditure on social and economic services, as opposed to the non-developmental expenditure on general services. Thus, the important parameters of quality in expenditure are : (i) ratio of capital outlay to total expenditure, (ii) ratio of capital outlay to GSDP, (iii) ratio of revenue expenditure on social and economic services to GSDP, and (iv) ratio of non-salary expenditure incurred in these services. The higher these ratios, the better is the quality of expenditure. Table 2.43 shows these ratios during the six-year period from 2013-14 to 2018-19.

Table 2.43 : Quality Parameters of Expenditure

Expenditure Heads	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Capital Outlay (Rs. crore)	14001	18150	23966	27208	28907	32417
Revenue Expenditure (Rs. crore)	62477	72570	83616	94765	102624	136740
Of which Social and Economic Services	40455	46158	55639	64154	69245	96500
(i) Salary Component (Rs. crore)	9072	9176	9108	9349	10458	12092
Percentage of salary component (%)	22.4	19.9	16.4	14.6	15.1	12.5
(ii) Non salary component (Rs. crore)	31384	36982	46531	54805	58788	84407
Percentage of non-salary component (%)	77.6	80.1	83.6	85.4	84.9	87.5
Capital Outlay/ Total Expenditure (%)	17.4	19.2	21.3	21.5	21.2	18.3
Revenue Expenditure / Total Expenditure (%)	77.7	76.6	74.4	75.0	75.2	77.3
Revenue Expenditure on Social and Economic Services /GSDP (%)	12.8	13.5	15.1	15.1	14.2	18.7
Capital Outlay /GSDP (%)	4.4	5.3	6.5	6.4	5.9	6.3

Source : Finance Accounts, GOB

Judged by all the parameters, the quality of expenditure in Bihar has significantly improved over the recent years. The share of capital outlay in GSDP has increased over the years, though in 2017-18, there has been a decline, and its share in the total expenditure has also shown a similar trend. While the share of revenue expenditure in total expenditure has not been allowed to grow, the non-salary component of developmental revenue expenditure had increased from 77.6 to 87.5 percent between 2013-14 and 2017-18, indicating that the public finances in Bihar are being managed prudently, promoting economic growth and improvement in socio-economic conditions of the people.

2.14 Sectoral Expenditure

Expenditure on Social Services

Providing better education and health services, safe drinking water, sanitation, housing etc. is very important to establish the linkage between economic growth and welfare of citizens. This desired linkage can be established through adequate expenditure on social services. Table 2.44 presents such expenditure by the state government during 2013-14 to 2017-18 and also the budget estimates of 2018-19.

Table 2.44 : Expenditure on Social Services

Expenditure Heads	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Education, Sports, Arts & Culture						
Total Expenditure (Rs. crore)	15047	16531	19155	20226	24833	33411
Revenue Expenditure (Rs. crore)	14344	16267	18605	19152	23315	32252
(a) Salary component (%)	33.7	30.0	24.0	22.8	20.4	15.8
(b) Non-salary component (%)	66.3	70.0	76.0	77.2	79.6	84.2
Capital Outlay (Rs. crore)	704	263	550	1074	1519	1159
Capital Outlay (%)	4.7	1.6	2.9	5.3	6.1	3.5
Health and Family Welfare						
Total Expenditure (Rs. crore)	2574	3604	4571	5493	6182	7564
Revenue Expenditure (Rs. crore)	2113	3288	3481	4622	5617	6456
(a) Salary component (%)	74.8	48.6	52.6	48.3	46.9	48.4
(b) Non-salary component (%)	25.2	51.4	47.4	51.7	53.1	51.6
Capital Outlay (Rs. crore)	460	316	1091	870	565	1108
Capital Outlay (%)	17.9	8.8	23.9	15.8	9.1	14.7
Water Supply, Sanitation, Housing and Urban Development						
Total Expenditure (Rs. crore)	3605	4542	4518	8786	7609	18763
Revenue Expenditure (Rs. crore)	2967	3639	3694	7463	5676	16263
(a) Salary component (%)	7.9	6.5	6.3	3.1	4.6	1.6
(b) Non-salary component (%)	92.1	93.5	93.7	96.9	95.4	98.4
Capital Outlay (Rs. crore)	638	903	824	1323	1933	2500
Capital Outlay (%)	17.7	19.9	18.2	15.1	25.4	13.3
Total (Social Services)						
Total Expenditure (Rs. crore)	28253	33386	38684	44329	50028	72101
Revenue Expenditure (Rs. crore)	26395	31713	35943	40737	45769	66922
(a) Salary component (%)	26.6	22.4	19.2	17.7	17.6	13.5
(b) Non-salary component (%)	73.4	77.6	80.8	82.3	82.4	86.5
Capital Outlay (Rs. crore)	1858	1674	2740	3592	4258	5179
Capital Outlay (%)	6.6	5.0	7.1	8.1	8.5	7.2

Source : Finance Accounts, GOB, (Appendix I)

The state government's concern for social development is amply reflected in the increased allocation for this sector from Rs. 28,253 crore in 2013-14 to Rs. 50,028 crore in 2017-18, growing at an annual rate of 15 percent. In the budget estimates of 2018-19, social services expenditure is projected to increase further by Rs. 22,073 crore (44 percent). The share of capital outlay in social services sector, with some fluctuations in between, increased from 6.6 percent in 2013-14 to 8.5 percent in 2017-18.

The non-salary component of the revenue expenditure on social services (the amount spent on the maintenance of assets already created) was 82 percent in 2017-18, as against 73 percent in 2013-14. The salary component accounted for a large share of total revenue expenditure in respect of health and family welfare (47 percent in 2017-18), though it has been reducing over the years. The salary component in respect of water supply, sanitation, housing and urban development remains very low. The total capital outlay on social services increased from Rs. 1858 crore in 2013-14 to Rs. 4258 crore in 2017-18. In 2018-19 budget, it has been projected to increase sharply to Rs 5179 crore, mostly due to substantial increases in allocations for water supply, sanitation, housing and urban development, followed by education, sports, arts and culture. While the capital outlay is expected to go up by more than Rs 900 crore, the revenue expenditure is expected to increase by over Rs 21,000 crore during 2018-19.

Expenditure on Economic Services

Table 2.45 shows the expenditure on economic services, which creates additional productive capacity in the economy. Agriculture and allied activities, irrigation and flood control, energy and power, industry and minerals, and transport together accounted for nearly 59 percent of the total expenditure on economic services in 2017-18, considering both revenue and capital accounts. About 48 percent of the total expenditure on economic services was made on capital account in 2017-18, little more than a year before. The capital outlay in respect of economic services increased substantially from Rs 10,811 crore in 2013-14 to Rs 21,884 crore in 2017-18. It had increased steadily during the last five years and was nearly 76 percent of the total capital outlay of Rs 28,907 crore in 2017-18.

In 2017-18, out of the total capital outlay on economic services, energy and power (Rs 11,236 crore) had taken the largest share, followed by transport (Rs 6804 crore) and irrigation and flood control (Rs 3967 crore). The non-salary component of the revenue expenditure on economic services, as in the case of social services, also remained high throughout the period and was 90 percent during 2017-18. The salary component was high only in respect of irrigation and flood control, accounting for nearly 57 percent of the total expenditure during 2017-18, same as in 2015-16. Salary in respect of the energy and power sector were almost entirely paid by the respective power generation, transmission and distribution companies.

Table 2.45 : Expenditure on Economic Services

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Agriculture and Allied Activities						
Total Expenditure (Rs. crore)	3670	3615	4120	2414	3824	5176
Revenue Expenditure (Rs. crore)	3193	3431	3515	2287	3626	4935
(a) Salary component (%)	14.7	13.9	14.6	22.7	16.3	16.4
(b) Non-salary component (%)	85.3	86.1	85.4	77.3	83.7	83.6
Capital Outlay (Rs. crore)	477	185	605	128	198	242
Capital Outlay (%)	13.0	5.1	14.7	5.3	5.2	4.7
Irrigation and Flood Control						
Total Expenditure (Rs. crore)	2838	2444	2836	2844	3967	3994
Revenue Expenditure (Rs. crore)	1039	1020	1151	1048	1301	1384
(a) Salary component (%)	56.3	58.0	57.0	56.9	51.2	52.9
(b) Non-salary component (%)	43.7	42.0	43.0	43.1	48.8	47.1
Capital Outlay (Rs. crore)	1799	1424	1685	1796	2665	2610
Capital Outlay (%)	63.4	58.3	59.4	63.1	67.2	65.3
Energy and Power						
Total Expenditure (Rs. crore)	5133	7948	8945	13437	11236	9864
Revenue Expenditure (Rs. crore)	3236	3773	6151	7698	4305	4439
(a) Salary component (%)	0.0	0.0	0.0	0.0	1.0	2.0
(b) Non-salary component (%)	100.0	100.0	100.0	100.0	99.0	98.0
Capital Outlay (Rs. crore)	1897	4175	2794	5739	6931	5425
Capital Outlay (%)	37.0	52.5	31.2	42.7	61.7	55.0
Industry and Minerals						
Total Expenditure (Rs. crore)	1115	564	1230	1116	866	936
Revenue Expenditure (Rs. crore)	580	561	1201	888	756	862
(a) Salary component (%)	11.0	11.5	5.2	5.7	7.8	11.8
(b) Non-salary component (%)	89.0	88.5	94.8	93.0	90.7	88.2
Capital Outlay (Rs. crore)	535	3	29	228	110	74
Capital Outlay (%)	48.0	0.5	2.4	20.4	12.8	7.9
Transport						
Total Expenditure (Rs. crore)	5471	5194	6130	7388	6804	7856
Revenue Expenditure (Rs. crore)	1381	996	1712	1787	1402	2320
(a) Salary component (%)	15.4	21.7	13.9	13.0	19.0	15.0
(b) Non-salary component (%)	84.6	78.3	86.1	87.0	81.0	85.0
Capital Outlay (Rs. crore)	4090	4198	4417	5601	5402	5536
Capital Outlay (%)	74.8	80.8	72.1	75.8	79.4	70.5
Total (Economic Services)						
Total Expenditure (Rs. crore)	24871	29173	37305	44943	45360	53520
Revenue Expenditure (Rs. crore)	14060	14445	19696	23417	23476	29578
(a) Salary component (%)	14.6	14.4	11.2	9.2	10.2	10.3
(b) Non-salary component (%)	85.4	85.6	88.8	90.8	89.8	89.7
Capital Outlay (Rs. crore)	10811	14728	17609	21526	21884	23942
Capital Outlay (%)	43.5	50.5	47.2	47.9	48.2	44.7

Source : Finance Accounts, GOB (Appendix I)

However, if we consider the share of total committed expenditure in total revenue expenditure, as presented in Table 2.46, it is found that the proportion of revenue expenditure actually spent on developmental programmes of the state government is much less, compared to the non-salary components of social and economic services, as presented in Tables 2.45 and 2.46. The committed expenditure in respect of energy and power, as well as transport are very high because of the subsidies and assistance provided to the electricity companies and state transport corporation out of the revenue budget of the state government.

Table 2:46 : Establishment and Committed Expenditure as Percentage of Total Revenue Expenditure : 2017-18

(Rs Crore)

Major Heads	Establishment and Committed Expenditure (ECE)	Total Revenue Expenditure (TRE)	ECE as percentage of TRE	Salary Component as shown earlier
Social Services				
Education	11121	23315	47.7	20.4
Public Health and Family Welfare	3104	5617	55.3	46.9
Water Supply, Sanitation, Housing and Urban Development	1621	5676	28.6	4.6
Total Social Services	19254	45769	42.1	17.6
Economic Services				
Agriculture and Allied Activities	849	3626	23.4	16.3
Irrigation and Flood Control	1158	1301	89.0	51.2
Energy and Power	3872	4305	89.9	1.0
Industries and Minerals	67	756	8.8	7.8
Transport	1376	1402	98.2	19.0
Total Economic Services	14327	23476	61.0	10.2

Source : Finance Accounts, GOB (Statement 15)

Per Capita Expenditure on Social and Economic Services

Tables 2.47 shows the per capita expenditure on social and economic services for the years from 2013-14 to 2017-18 and also for the budget estimates of 2018-19. During 2013-18, the per capita expenditure on social services increased from Rs. 2596 to Rs. 4199, and the increase in economic services was from Rs 2286 to Rs 3807. The per capita capital outlay also increased from Rs 1287 to Rs 2426 during this period.

Table 2.47 : Per Capita Expenditure on Social and Economic Services

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE
Estimated Population (crore)	10.9	11.1	11.4	11.6	11.9	12.2
Total Expenditure (Rs. crore)						
Education, Sports & Culture	15047	16531	19155	20226	24833	33411
Medical and Public Health	2574	3604	4571	5493	6182	7564
Water Supply and Sanitation	3605	4542	4518	8786	7609	18763
Social Services	28253	33386	38684	44329	50028	72101
Economic Services	24871	29173	37305	44943	45360	53520
Capital Outlay	14001	18150	23966	27208	28907	32417
General Services	23351	28157	31589	32697	36139	43529
Per Capita Expenditure (Rs.)						
Education, Sports & Culture	1383	1485	1682	1737	2084	2742
Medical and Public Health	237	324	401	472	519	621
Water Supply and Sanitation	331	408	397	754	639	1540
Social Services	2596	2999	3397	3806	4199	5916
Economic Services	2286	2621	3276	3859	3807	4392
Capital Outlay	1287	1631	2105	2336	2426	2660
General Services	2146	2530	2774	2807	3033	3572

Source : State Government Budgets

2.15 Comparison of Budget Estimates of 2018-19 and Actual Amounts of 2017-18

In this section, the budget estimates of 2018-19 will be compared with the actual receipts and expenditure of the state government during 2017-18, as shown in Table 2.48. The accounts for 2017-18 showed a deficit of Rs. 5789 crore in the Consolidated Fund of the state government, while the budget for 2018-19 shows a surplus of Rs. 4265 crore. The revenue receipts and revenue expenditure are estimated to go up by nearly Rs 40,604 crore and Rs 34,116 crore respectively in 2018-19. The estimated revenue surplus in 2018-19 will be Rs. 21,312 crore, much higher than the revenue surplus of Rs. 14,823 crore in 2017-18.

In the capital account, the budget estimates for 2018-19 envisaged an increase of Rs 6448 crore in expenditure over 2017-18. The capital receipts were estimated to increase by Rs 10,013 crore, mainly from public debt, leaving a net deficit in the capital account of Rs 17,047 crore in 2018-19. In 2017-18, this deficit was Rs 20,612 crore. The repayment of loans in 2018-19 was estimated to increase by only Rs 2672 crore compared to 2017-18, and the lending by the state government was estimated to decrease by Rs 264 crore. The capital outlay was estimated to increase by Rs 3510 crore. The deficit of Rs 17,047 crore in the capital account is estimated to be

completely offset by the revenue surplus of Rs 21,312 crore, leaving a surplus of Rs 4265 crore in the budget. The Public Account is estimated to leave a net deficit of Rs 901 crore, and the net results of all accounts would be a surplus of Rs 3364 crore in 2018-19, compared to a nominal deficit of Rs 68 crore in 2017-18.

Table 2.48 : Summary of Actual Amounts (2017-18) and Budget Estimates (2018-19)

(Rs. crore)					
	2017-18	2018-19 BE		2017-18	2018-19 BE
Revenue Account			Capital Account		
Receipts			Receipts		
Tax revenues	88220	107174	Public Debt	13169	22795
Non-Tax Revenues	3507	4446	Recovery of Loans and Advances	22	408
Grants and Contributions	25720	46431			
Total Revenue Receipts	117447	158051	Total Capital Receipts	13191	23204
Expenditure			Expenditure		
General Services	33374	40234	Capital Outlay	28907	32417
Social Services	45769	66922	Public Debt	4654	7326
Economic Services	23476	29578	Loans & advances	243	507
Grants and Contributions	4	6			
Total Revenue Expenditure	102624	136740	Total Capital Expenditure	33803	40251
Deficit Revenue A/c	-14823	-21312	Deficit Capital Account	20612	17047
Consolidated Fund Receipts	130638	181255	Consolidated Fund Expenditure	136427	176990
Net Consolidated Fund (Receipt-Expenditure)	-5789	4265			
Contingency Fund					
Income			Expenditure		
Contingency Fund Total			Contingency Fund Total		
Public Account			Public Account		
Receipts			Disbursements		
Small Savings, PF etc.	1844	1364	Small Savings, PF etc.	1924	1464
Reserve Funds	1415	1318	Reserve Funds	2111	1319
Deposits and Advances	43180	25306	Deposits and Advances	32866	25207
Suspense and Misc.	388812	700	Suspense and Misc.	392626	1600
Remittances	9863	0	Remittances	9865	0
Total Receipts Public Account	445114	28688	Total Disbursements Public Account	439393	29589
Net Results Public Account (Receipt-Expenditure)	5721	-901			
Net Result (All Accounts) (Receipt-Expenditure)	-68	3364			

Source : State Government Budgets

The structures of receipts and expenditure of the state government are presented in Table 2.49. From this table, it can be seen that, there was a structural change in the composition of receipts. The tax revenue accounted for 59.1 percent of the total receipts in budget estimates of 2018-19, as against 67.5 percent in the previous year. While the share of non-tax revenue showed very little variation in these two years, that of public debt was expected to go up by 2.5 percent to reach 12.6 percent in 2018-19. The share of central government grants is likely to increase substantially from 19.7 percent in 2017-18 to 25.6 percent in 2018-19.

The structure of expenditure also showed some minor changes between these two years. While the revenue expenditure on social services increases from 33.5 percent in 2017-18 to 37.8 percent in 2018-19, the share of capital outlay goes down from 21.2 percent to 18.3 percent. The expenditure on general services also decreases from 24.5 percent to 22.7 percent between 2017-18 and 2018-19. The other components show only minor variations.

Table 2.49 : Percentage Distribution of Consolidated Fund – Receipts and Expenditure

Receipts	2017-18	2018-19 BE	Expenditure	2017-18	2018-19 BE
Revenue Account			Revenue Account		
Tax Revenue	67.5	59.1	General Services	24.5	22.7
Non-Tax Revenue	2.7	2.5	Social Services	33.5	37.8
Grants-in-Aid and Contributions	19.7	25.6	Economic Services	17.2	16.7
Capital Account			Capital Account		
Public Debt	10.1	12.6	Discharge of Public Debt	3.4	4.1
Recovery of Loans and Advances	0.0	0.2	Loans and Advances	0.2	0.3
Inter State Settlement	0.0	0.0	Capital Outlay	21.2	18.3
Total	100.0	100.0	Total	100.0	100.0

Source : State Government Budgets

CHAPTER - III

AGRICULTURE AND ALLIED SECTORS

The implications of a sustained growth of agricultural sector is huge for the economy of Bihar. Its role in stimulating growth, employment generation and poverty reduction in the overall economy stems from its substantial forward and backward linkages. Considering that no less than 88.7 percent of the state's population reside in rural areas, agricultural sector holds the key for its overall growth. Two main features characterise agricultural sector in Bihar — First, around 74 percent of the workforce in Bihar depend on agricultural and allied activities for their livelihood (Census of India, 2011) and, second, the rich natural resources of the Gangetic plains offer substantial opportunities for high agricultural productivity to enhance the welfare of the rural population. In recent years, similar to other developing economies, Bihar's economic growth seems to be moving away from agriculture indicating a structural change. Still, agricultural sector contributes about 20 percent to the state's GSDP.

However, agricultural sector in Bihar is not bereft of risks and challenges, arising from both climatic and non-climatic factors. Factors such as low crop yield, fragmented land holdings, rainfall irregularities, heterogeneity in landscapes and information asymmetry continue to plague this sector. Despite these challenges, the agricultural economy of Bihar is highly diversified with cereals, pulses, oilseeds, sugarcane, fruits and vegetables as its important crops. Various plans and programmes have been outlined by the state government in the Agriculture Roadmap III (2017-22) towards achieving higher agricultural productivity and boosting rural incomes. Establishing organic corridor along the Ganges has received special impetus in the state's planning to reap the benefits of fertile alluvial soil and abundant water resources. Given that the mineral resources of the state have remained in the present state of Jharkhand after the bifurcation of Bihar in 2000, the expansion of agriculture and allied sectors is central to steering development in the state. For strengthening the viability of agricultural system in Bihar, it would require optimum balance between input use and productivity growth, mediated by climate, price and policy factors. The following sections of this chapter will discuss trends and patterns of different aspects of the agriculture and allied sectors in Bihar.

3.1 Agro-Climatic Profile of Bihar

Located in the eastern part of India, Bihar has an area of 93.6 lakh hectares, accounting for nearly 3 percent of the country's total geographical area. Primarily, the climate is sub-tropical with peak summer temperatures averaging around 40 degree Celsius during March-May and winter months during December-January recording temperatures averaging around 8 degree Celsius. Kharif, Rabi and Zaid are the three agricultural seasons in Bihar, with main crops being rice, wheat and maize, along with various horticultural crops. The river Ganges divides Bihar into two halves. Northern Bihar receives water from the Himalayan rivers and is largely flood prone. The south of Bihar benefits from the rivers of central India, but it is prone to drought. Table 3.1 briefly describes the features of Bihar's agro-climatic zones — North West Alluvial Plain, North East Alluvial Plain and South Bihar Alluvial Plain. These features determine the soil characteristics, geographical terrain, rainfall and temperature, which together influence its cropping pattern. As evident from Table 3.1, the alluvial plains of South Bihar are generally characterized by relatively low average rainfall around 1102 mms, with 17 districts falling in this zone. On the other hand, the North Western and North Eastern Zones receive higher rainfall of 1235 and 1382 mms, respectively.

Table 3.1 : Agro-Climatic Zones of Bihar

Zones	Soil Type	Mean Rainfall (mms)	Temperature (Degree Celsius)	Major Crops	Districts
North West Alluvial Plain	Medium acidic, heavy textured, sandy loam to clay loam, flood prone	1235	Max: 36.6 Min: 7.7	Rice, Wheat, Maize, Potato, Sugarcane, Mango, Litchi	West Champaran, East Champaran, Siwan, Saran, Sitamarhi, Sheohar, Muzaffarpur, Vaishali, Madhubani, Darbhanga, Samastipur, Gopalganj, Begusarai
North East Alluvial Plain	Light to medium textured, slightly acidic, sandy to silty loam	1382	Max: 33.8 Min: 8.8	Maize, Jute, Pineapple	Purnea, Katihar, Saharsa, Supaul, Madhepura, Khagaria, Araria, Kishanganj
South Bihar Alluvial Plain	Alluvial to sandy loam	1102	Max: 37.1 Min: 7.8	Rice, Wheat, Potato, Gram, Mango, Guava	Sheikhpura, Munger, Jamui, Lakhisarai, Bhagalpur, Banka, Rohtas, Bhojpur, Buxar, Bhabhua, Arwal, Patna, Nalanda, Nawada, Jehanabad, Aurangabad, Gaya

Source : Department of Agriculture, GOB

3.2 Water Resources in Bihar

Bihar is endowed with rich ground and surface water resources. Along with the river Ganges, the tributaries of Gandak, Ghaghra, Burhi Gandak, Kosi, Mahananda, Karmanasa, Sone, Punpun, Phalgu, Sakri and Kiul contribute towards availability of water in Bihar for agricultural and non-agricultural purposes. Bihar's agriculture is mainly rainfed, drawing its water resources from south-west monsoons and only around 57 percent of the cultivated area in the state is irrigated.

Erratic rainfall and frequent occurrence of droughts and floods pose stress on crop production cycles and yields. In the Agriculture Road Map-III, the efforts of the state government have been outlined towards facilitating water availability in rainfall deficit regions and addressing the issues of water logging in rainfall surplus regions of Bihar. Along with specific schemes to boost climate-resilience agriculture and access to credit, the availability of irrigated water and setting up of irrigation structures has helped in ensuring agricultural production in the state.

Rainfall Scenario in Bihar

Since agricultural operations in Bihar are still substantially dependent on rain water, the variability in rainfall and its monthwise distribution are important determinants of the performance of its agricultural sector. The trends in season-wise annual rainfall in Bihar for the period 2001-2017 and the first nine months of 2018 are presented in Table 3.2.

Table 3.2 : Season-wise Annual Rainfall in Bihar

(Rainfall in mm)

Year	Winter Rain (Jan-Feb)	Hot-Weather Rain (March- May)	Southwest Monsoon (June-Sept)	Northwest Monsoon (Oct-Dec)	Total
2001	20.9 (137.2)	86.7 (113.5)	908.2 (107.1)	192.2 (323.2)	1208 (120.9)
2002	48.9 (320.9)	66.8 (87.4)	896.9 (105.7)	33.2 (55.8)	1045.8 (104.6)
2003	19.2 (126)	93 (121.7)	767.6 (90.5)	128.9 (216.7)	1008.7 (100.9)
2004	23.7 (155.5)	41.4 (54.2)	906.1 (106.8)	60.1 (101.1)	1031.3 (103.2)
2005	0.1 (0.7)	89.5 (117.2)	777.6 (91.7)	30.2 (50.8)	897.4 (89.8)
2006	0.1 (0.7)	90 (117.8)	925.9 (109.2)	27.8 (46.7)	1043.7 (104.4)
2007	28.3 (185.7)	76.4 (100)	1360 (160.3)	40.5 (68.1)	1506.1 (150.7)
2008	30.6 (200.8)	61.8 (80.9)	1084 (127.8)	19.3 (32.5)	1196 (119.7)
2009	0.1 (0.7)	98.2 (128.5)	699.2 (82.4)	71.1 (119.6)	868.6 (86.9)
2010	0.7 (4.9)	49.3 (64.5)	584.4 (68.9)	43.4 (73)	677.9 (67.8)
2011	5.2 (34.1)	79.4 (103.9)	1028 (121.2)	0.5 (0.8)	1113.1 (111.4)
2012	11.2 (73.5)	31.3 (41)	704.2 (83)	51.2 (86.1)	797.9 (79.8)
2013	17.1 (112.2)	73.8 (96.6)	518.4 (61.1)	164.3 (276.3)	773.6 (77.4)
2014	33.3 (218.5)	96.1 (125.8)	788.3 (92.9)	41.9 (70.5)	959.6 (96)
2015	11.7 (76.8)	89.3 (116.9)	690.7 (81.4)	4.3 (7.2)	796 (79.6)
2016	7.5 (49.2)	72.6 (95.1)	936.9 (110.5)	54.5 (91.7)	1071.6 (107.2)
2017	0.4 (2.7)	103.1 (135)	843.2 (99.4)	47.6 (80)	994.4 (99.5)
2018 (Up to September)	0	65.3	689.6	-	754.9
Average (2001-2017)	15.2	76.4	848.2	59.5	999.4

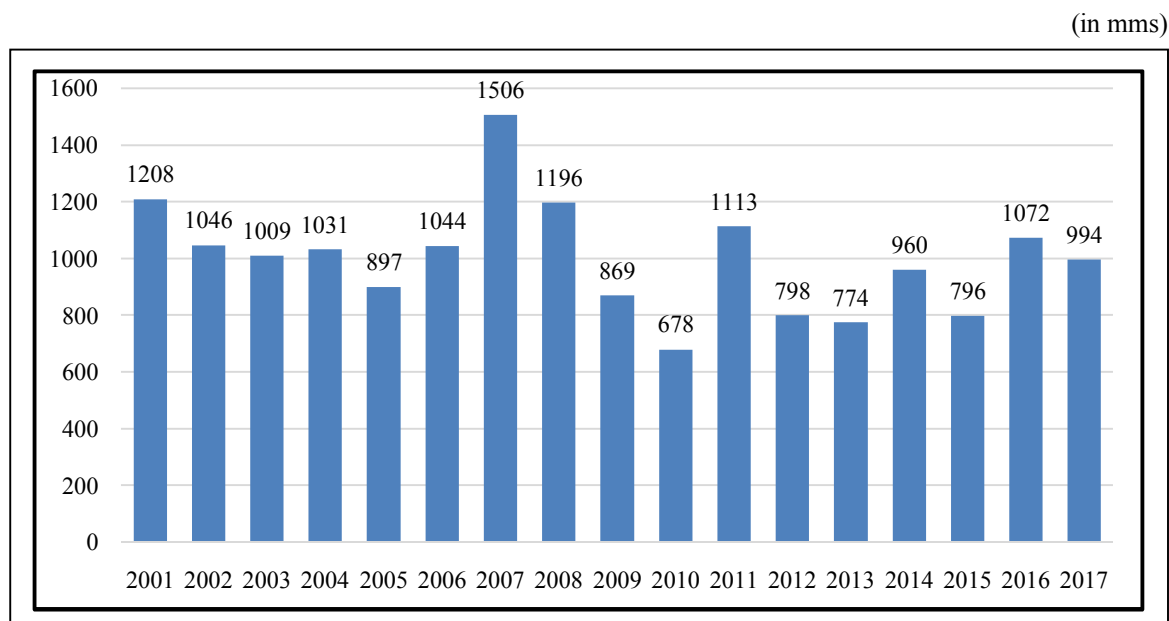
Note : Figures in parentheses denote actual rainfall as percentage of average rainfall

Source : Directorate of Economics and Statistics, GOB

Overall, Bihar received an annual rainfall of 999.4 mms during 2001-2017. About 84.9 percent of this rainfall was largely due to the south-west monsoons, occurring during the period of June to September. Winter rain, hot weather rain and north-west monsoons together accounted for the remaining 15.1 percent of the total rainfall in the state. During 2018, the annual rainfall received due to the south-west monsoons in Bihar stood at 689.6 mms, which is about 20 percent less than the long run average rainfall of 848.2 mms. The season-wise distribution of actual rainfall trends show that there is extreme variability in rainfall in Bihar. Poor or irregular rainfall is bound to induce stress on the supply response of crops which has obvious consequences for food and nutritional security for the growing population in the state.

Chart 3.1 presents an overview of the annual rainfall in Bihar for the period 2001 to 2017. In the above period of 17 years, the annual rainfall received in Bihar varied between 677.9 mms (2010) to 1506.1 mms (2007). During 2018, there was a rainfall deficit of more than 20 percent due to the south-west monsoons, compared to the long run average rainfall. This has resulted in setback for sowing of rainfed kharif crops. Such changes in rainfall patterns and intensities have obvious implications for crop yields. The limited access to water management and conservation structures in the state makes its agriculture vulnerable to weather.

Chart 3.1 : Annual Rainfall in Bihar (2001 to 2017)



Source : Directorate of Economics and Statistics, GOB

Rainfall patterns are also varied across the different agro-climatic zones in the southern and northern plains of Bihar. District-wise annual rainfall patterns are given in the Statistical Appendix (Table A3.1). In 2017, Kishanganj received the highest rainfall of 2089 mms, while

Arwal received the lowest rainfall of 588 mms. Out of the 38 districts, 17 districts received rainfall higher than the state's average of 994 mms in 2017. The district of Kishanganj continued to record the highest rainfall in 2018 due to the southwest monsoons at 1358 mms, while the lowest rainfall was observed in the district of Jehanabad (395 mms). Clearly, the northern districts receive more rainfall on an average from the south-west monsoons during the period of June-September. As a result, the southern districts of Bihar experience poorer groundwater levels making them drought prone, while the northern districts suffer from extreme flood and waterlogging.

Irrigation

The agricultural sector in the state is largely dependent on monsoons and the varying water resource endowments in the southern and northern parts of Bihar calls for a need to identify mechanisms to ensure adequate, timely and assured irrigation for cultivation. In the context of adoption of productivity enhancing inputs such as improved seeds, fertilizers and new methods of cultivation, irrigation plays an important role in rainfed agriculture. Access to irrigation facilitates cultivation in drought-prone areas during rabi season and to adopt high yield varieties of seeds to enhance crop productivity and diversify cropping pattern.

Similar to other states of eastern India, irrigation potential in Bihar has remained untapped to a considerable extent. Given the sensitivity of crops to rain spells, it is imperative to invest in irrigation to compensate for rainfall deficits. In this background, the state government has envisaged specific initiatives for better water management and creation of irrigation potential through measures such as restoration and expansion of canals, linking river projects by intra-basin transfer, command area development, flood control, and schemes for surface and groundwater irrigation. The Agriculture Road Map III (2017-22) presents the details of state government's efforts in monitoring the usage of groundwater through installation of automatic digital water level recorder. This is expected to minimize the over-exploitation of groundwater resource. An in-depth discussion on the status of irrigation is given in Chapter VI, which deals with overall infrastructure development of the state.

3.3 Land Resources

Given the limits to the supply of land resource, it is vital to recognize the different uses of the land resources for productive activities. Rational use of land is important for its implications on economic growth, food supply and ecosystem management. As a landlocked state, Bihar's total geographical area stands at 9.4 million hectares, while its share in country's population is around 8.6 percent.

Pattern of Land Utilisation

Table 3.3 presents the trends in patterns of land use for the state during the period 2012-13 to 2016-17. The data reveals that the land use pattern has remained nearly unchanged over the last few years. The area under forests as a proportion of total area has remained constant at 6.6 percent over the last 5 years at 6.22 lakh hectares. This pattern continues for areas such as barren and unculturable land (4.6 percent), land under tree crops (2.6 percent), fallow land (1.3 percent), culturable waste land (0.5 percent), area under permanent pastures (0.2 percent), and water bodies (3.8 percent) over the five-year period. Gross cropped area (GCA) stood at 76.54 lakh hectares in 2016-17. The cropping intensity in the state has increased marginally from 1.44 in 2012-13 to 1.45 in 2016-17. The slight increase in total unculturable land between 2012-13 and 2016-17 was on account of increase in area under current fallows, which increased to 8.68 lakh hectare in 2016-17 from 7.67 lakh hectare in 2012-13. There has been a marginal decrease in net sown area (NSA) which represents the actual cultivated area during the agricultural year. The NSA decreased from 54.02 lakh hectares in 2012-13 to 52.93 lakh hectares in 2016-17. Overall, about 56.55 percent of the land was under cultivation in Bihar during 2016-17.

Table 3.3 : Land Utilization Pattern in Bihar (2012-13 to 2016-17)

(Area in '000 hectares)

Land Use	2012-13	2013-14	2014-15	2015-16	2016-17
Geographical Area	9359.57 (100)	9359.57 (100)	9359.57 (100)	9359.57 (100)	9359.57 (100)
1. Forests	621.64 (6.64)	621.64 (6.64)	621.64 (6.64)	621.64 (6.64)	621.64 (6.64)
2. Barren & Unculturable Land	431.72 (4.61)	431.72 (4.61)	431.72 (4.61)	431.72 (4.61)	431.72 (4.61)
3. Land put to Non-agricultural use	1708.37 (18.25)	1712.29 (18.29)	1712.1 (18.29)	1713.02 (18.3)	1718.59 (18.36)
Land Area	1352.89 (14.45)	1356.8 (14.5)	1359.77 (14.53)	1360.65 (14.54)	1366.15 (14.6)
Water Area	355.48 (3.8)	355.49 (3.8)	352.33 (3.76)	352.37 (3.76)	352.44 (3.77)
4. Culturable Waste	45.02 (0.48)	44.89 (0.48)	44.67 (0.48)	44.46 (0.48)	44.41 (0.47)
5. Permanent Pastures	15.6 (0.17)	15.47 (0.17)	15.33 (0.16)	15.23 (0.16)	15.14 (0.16)
6. Land under Tree Crops	246.34 (2.63)	247.36 (2.64)	247.81 (2.65)	247.95 (2.65)	248.05 (2.65)
7. Fallow Land (excl. Current Fallow)	121.78 (1.3)	120.49 (1.29)	119.41 (1.28)	119.24 (1.27)	119.08 (1.27)
8. Current Fallow	766.7 (8.19)	913.49 (9.76)	888.59 (9.49)	961.42 (10.27)	868.01 (9.27)
Total Unculturable Land (1 to 8)	3957.17 (42.28)	4107.32 (43.88)	4081.27 (43.61)	4154.68 (44.39)	4066.64 (43.45)
Net Sown Area	5402.39 (57.72)	5252.25 (56.12)	5278.32 (56.39)	5204.89 (55.61)	5292.93 (56.55)
Gross Sown Area	7777.52	7580.14	7672.95	7572.41	7654.36
Cropping Intensity	1.44	1.44	1.45	1.45	1.45

Note : The figures in parentheses denote percentage share in total geographical area
Source : Directorate of Economics and Statistics, GOB

It is interesting to note the varied land use pattern among the districts of Bihar for the year 2015-16. Table A3.2 (Statistical Appendix) presents district-wise land utilization pattern for the year 2015-16. The net sown area of five districts such as Buxar (86.8 percent), Nalanda (77.1 percent), Madhepura (74.4 percent), Bhojpur (72.4 percent), and Siwan (72.3 percent) was higher than 70 percent, whereas the average net sown area for entire Bihar was 55.6 percent in 2015-16. There were five districts whose net sown area was less than 40 percent of their total geographical area. They are — Banka (37.5 percent), Gaya (37.4 percent), Lakhisarai (34.4 percent), Munger (32.4 percent), and Jamui (27.4 percent). About 18 districts recorded cropping intensities higher than that of the state average of 1.45 in 2015-16. Cropping intensity was the highest in Araria (2.05) while the lowest in Nawada (1.12) during 2015-16. The districts of Kaimur, Jamui, West Champaran, Gaya, Rohtas and Nawada together constituted about 81.4 percent of Bihar's total area under forests. Gaya, Purnea, Araria, Patna, Lakhisarai and Saran have more than 4 percent of their area under fallows in the year 2015-16. The districts such as Madhepura, Samastipur, Jehanabad, West Champaran, Madhubani, Buxar, Arwal, Sitamarhi, Darbhanga, Nalanda, Sheikhpura, and Sheohar are fortunate to have less than 4 percent of their total geographical area as barren and unculturable land.

Landholdings in Bihar

The concerns of finite resource of land in the face of growing population are serious for Bihar's economy. As the third populous state in India and having a population density of 1106 persons per sq. km in 2011, the demand for land for alternative uses other than agriculture along with fragmentation of landholdings has increased in recent years. Table 3.4 presents the distribution of landholdings in Bihar for two years, 2010-11 and 2015-16. The figures for the year 2015-16 are provisional, as given in the latest Agriculture Census, 2015-16. About 91.2 percent of Bihar's farm households are marginal (holdings of less than 1 hectare), accounting for 57.7 percent of total land area in 2015-16.

Table 3.4 : Distribution of Landholdings in Bihar

Size Class	Number of Operational Holdings ('000)			Area of Operational Holdings ('000 hectares)			Average Size of Operational Holdings (Hectares)	
	2015-16	2010-11	Percentage Change	2015-16	2010-11	Percentage Change	2015-16	2010-11
Marginal	14971	14744	1.54	3728	3669	1.61	0.25	0.25
Small	944	948	-0.45	1178	1186	-0.64	1.25	1.25
Semi-Medium	414	415	-0.16	1076	1073	0.26	2.60	2.59
Medium	81	81	-0.09	431	415	3.75	5.29	5.09
Large	3	3	-1.28	45	45	-1.12	14.48	14.45
All	16413	16191	1.37	6457	6388	-1.09	0.39	0.39

Note : Percentage variation is based on absolute figures, Data for 2015-16 are Phase-I (Provisional Results)

Source : Agriculture Census, 2015-16

The average land holding size is very small in Bihar at 0.39 hectare in 2015-16. Merely 3 percent of the farm households have semi-medium and medium size land holdings in 2015-16 in the state. As regards the number of holdings, it has increased only for the category of marginal, in all the other categories recording a decrease. This indicates a slight increase in the inequality of landholdings in Bihar over the period of five years. Such inequality in land holding and fragmentation of land are serious deterrents for agricultural growth in Bihar.

3.4 Cropping Pattern

The agro-ecological conditions of the alluvial plains have enabled diversification of cropping system in Bihar. Besides cereals, cultivation of pulses, fruits and vegetables are crucial to meet the food and nutritional needs of the population. The diversification of crops also helps the farmers in risk management. Table 3.5 presents the trend in cropping pattern in Bihar during the period 2012-13 to 2017-18. The cropping pattern, nearly unchanged over the years, reveals that Bihar is primarily a cereal economy, with more than 85 percent of its gross cropped area under cereals. Despite the emphasis on the need to increase acreage on pulses for ensuring nutritional security, there has been a gradual decrease in this acreage from 7.1 percent in 2012-13 to 6.8 percent during 2017-18. Considering the fact that Bihar has achieved self-sufficiency in foodgrain production, specific schemes for cultivation of pulses and oilseeds in rice fallows areas have been undertaken in the state under the scheme of 'Targeting Rice Fallow Areas (TRFA) in Eastern India'. Foodgrains (cereals and pulses) together accounted for 93.7 percent of the gross cropped area in the state. Around 3.3 percent of GCA was occupied by sugarcane crop, which indicates limited commercialization of agriculture in the state.

Table 3.5 : Cropping Pattern in Bihar

Crops	Percentage of Area					
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Foodgrains	93.02	92.89	93.25	93.27	93.60	93.72
Cereals	85.9	85.8	86.14	86.18	86.69	86.94
Pulses	7.11	7.08	7.09	7.07	6.90	6.77
Oilseeds	1.59	1.74	1.63	1.69	1.53	1.46
Fibre Crops	1.94	1.71	1.58	1.58	1.53	1.50
Sugarcane	3.46	3.66	3.56	3.46	3.35	3.33
Total Area	100	100	100	100	100	100

Source : Directorate of Economics and Statistics, GOB

3.5 Trends in Production and Productivity

Bihar's agricultural productivity has increased substantially in the last few years. The abundance of water and rich soil in the state has enabled this growth, along with diversifying agricultural produce among a variety of food and non-food crops. Increasing cereal crop productivity with use of improved technologies has been an important phenomenon in Bihar's agriculture in the recent years.

Crop Sector

The production trends across crop categories during the period 2013-14 to 2017-18 are presented in Table 3.6. The annual growth rate of production of these crops is presented in the last column of the table. Bihar registered a substantial increase in the production of total cereals from 15.72 lakh tonnes in 2013-14 to 17.35 lakh tonnes in 2017-18, registering an annual growth rate of 4.4 percent. Among the major cereals, an increasing trend in production can be seen for both maize and rice, registering growth rates of 6.0 and 4.0 percent respectively, during the last five years. The increase in maize production was from 2.9 lakh tonnes in 2013-14 to 3.23 lakh tonnes in 2017-18 and much of this can be attributed to increase in rabi and summer maize. However, the declining trend in production of pulses and oilseeds is a cause of concern. Among the coarse cereals, the production of bajra, barley and jowar increased at the rate of 11.5 percent, 4.9 percent and 4.2 percent, respectively during the five-year period. The total production of coarse cereals was 3.15 lakh tonnes in 2017-18, registering a growth rate of 6.0 percent between 2013-14 and 2017-18.

It is important to note here that the production performance of Bihar's cereal economy has been improving, owing to the efforts of the state government in providing technological support to the farmers. The System of Rice Intensification (SRI), adoption of zero-tillage methods and provision of assured irrigation facilities through electric tubewells have led to the achievement of high production targets. Despite the fluctuations in rainfall in recent years, the increasing trend of production for some of the major crops is a sign of the resilience of state's agriculture in the face of climate change.

Table 3.6 : Production Levels of Major Crops in Bihar

('000 tonnes)

Crops	2013-14	2014-15	2015-16	2016-17	2017-18	CAGR (%)
Total Foodgrains	16238.32	14750.04	14508.03	18560.78	17802.78	4.22
Total Cereals	15716.3	14321.11	14087.25	18099.11	17348.61	4.41
Total Rice	6649.59	8241.62	6802.22	8238.77	8093.16	4.00
Autumn Rice	798.68	1010.34	725.21	949.37	903.29	1.86
Aghani Rice	5634.96	7049.73	5876.03	7065.07	7046.04	4.59
Summer Rice	215.95	181.56	200.98	224.33	143.83	-5.84
Wheat	6134.68	3570.21	4736.45	5985.84	6104.3	5.20
Total Maize	2904.24	2478.75	2517.1	3845.7	3120.77	6.00
Kharif Maize	778.21	825.15	692.7	624.3	535.88	-9.74
Rabi Maize	1199.39	913.78	1105.14	2131.51	1645.56	15.95
Summer Maize	926.64	739.82	719.26	1089.89	939.34	4.23
Total Coarse Cereals	2932.03	2509.28	2548.58	3874.5	3151.15	5.96
Barley	14.25	13.43	13.9	16.29	16.47	4.94
Jowar	1.31	1.55	1.71	1.91	1.45	4.21
Bajra	3	3.73	4.64	4.05	4.97	11.54
Ragi	7.14	9.84	9.89	3.46	4.18	-19.07
Small Millets	2.09	1.98	1.34	3.1	3.31	14.66
Total Pulses	522.02	428.93	420.78	461.67	454.17	-2.03
Total Kharif Pulses	30.96	33.69	28.98	29.3	22.01	-7.89
Urad	14.14	14.36	12.05	11.49	7.06	-14.89
Bhadai Moong	7.36	9.23	8.34	8.33	5.53	-6.52
Kulthi	7.83	7.96	7.21	7.63	7.98	-0.04
Ghagra	0.34	0.43	0.49	0.43	0.43	4.81
Other Kharif Pulses	1.29	1.71	0.89	1.43	1.02	-6.28
Total Rabi Pulses	491.06	395.24	391.8	332.69	432.17	-4.19
Arhar (Tur)	36.46	28.54	37.13	33.17	28.63	-3.28
Gram	70.34	57.49	58.55	66.5	67.18	0.54
Lentil	196.06	140.06	140.44	146.88	147.49	-5.08
Pea	18.35	17.31	17.94	16.74	16.94	-1.92
Khesari	70.55	60.06	50.99	55.18	50.31	-7.33
Summer Moong	98.01	90.73	86.02	111.55	120.19	6.34
Other Rabi Pulses	1.3	1.05	0.73	2.35	1.43	10.48
Total Oilseeds	157.18	127.01	126.52	125.86	124.24	-4.68
Castor seed	0.15	0.09	0.04	0.07	0.02	-34.83
Safflower (Kusum)	1.32	0.08	0.09	0.09	0.08	-42.24
Sesamum	1.99	2.56	2.39	1.78	1.38	-10.38
Sunflower	19.79	16.64	16.2	14.69	13.38	-8.68
Mustard/Rapeseed	117.14	92.89	94.39	97.68	98.49	-2.92
Linseed	15.87	14.16	12.91	10.56	10.31	-10.92
Groundnut	0.91	0.59	0.5	0.99	0.58	-3.76
Total Fibre Crops	1745.08	1637.12	1630.6	1571	1280	-6.40
Jute	1498.08	1418.71	1308.6	1356	1110	-6.25
Mesta	247	218.41	322	215	170	-7.35
Sugarcane	17938.65	21117.43	18175.59	18239.9	17610.12	-1.82

Note : 1. CAGR (%) is calculated for 5 years (2013-14 to 2017-18)

2. Data for sugarcane is provided by the Department of Sugarcane, GOB

Source : Directorate of Economics and Statistics, GOB

The trends in productivity of major crops for the period 2013-14 to 2017-18 is presented in Table 3.7. The annual growth rate in productivity is presented in the last column of the table. The productivity of cereals increased from 2595 kg per hectare in 2013-14 to 2839 kg per hectare during the period of 2013-14 to 2017-18. This has been made possible with sustained efforts by the state government through provision of quality seeds, tools and equipment through subsidy programmes and encouragement to adopt technologies to mitigate climatic risks. During 2017-18, among the major cereals, productivity of maize was the highest at 4607 kg per hectare, while that of rice was the lowest at 2447 kg per hectare. Increase in productivity of rice from 2110 kg per hectare in 2013-14 to 2447 kg per hectare in 2017-18, indicates a growth rate of 2.8 percent. This has been achieved despite the issues of waterlogging and limited availability of improved seeds in the state. The productivity of maize crop increased from 3966 kg per hectare in 2013-14 to 4607 kg per hectare in 2017-18, with a growth rate of 7.5 percent during these five years. The productivity of wheat crop showed a marginal increase from 2855 kg per hectare in 2013-14 to 2905 kg per hectare in 2017-18, registering a growth rate of 5.9 percent. The increase in productivity in 2017-18 over the period of 2013-14 was found to be 7.3 percent for the coarse cereals.

Though there was a marginal decline in productivity of total oilseeds during the period of 2013-14 to 2017-18 by 0.6 percent, selected oilseeds registered an increase — castor (0.9 percent), safflower (0.4 percent), sunflower (0.3 percent), and sesame (0.1 percent). Urad, bhadaï moong, kulthi, arhar, gram, lentil, pea, khesari and summer moong are the major pulses grown in the state. During the period of 2013-14 to 2017-18, the average productivity of rabi pulses (960 kg per hectare) was higher than the productivity of kharif pulses (855 kg per hectare) in the state. The productivity of pulses was 954 kg per hectare in 2017-18, which was higher than the previous year's productivity of 936 kg per hectare. However, increase in pulse productivity could not offset the declining growth rates in its production. The state government is ensuring supply of quality seeds to cultivators to promote pulse cultivation.

Thus, the overall productivity of major crops in Bihar for the period 2013-14 to 2017-18 has shown an increasing trend. The growth in production and productivity of cereals in Bihar has implications for food supply and management of natural resources. The rapid population growth has outstripped growth in cereal production and has necessitated greater technological investments.

Table 3.7 : Productivity Levels of Major Crops

(Kg/Ha)

Crops	2013-14	2014-15	2015-16	2016-17	2017-18	CAGR (%)
Total Cereals	2595	2328	2320	2919	2839	4.1
Total Rice	2110	2525	2104	2467	2447	2.8
Autumn Rice	1454	1739	1321	1705	1728	3.3
Aghani Rice	2246	2711	2258	2618	2594	2.6
Summer Rice	2342	2207	2472	2660	2119	-0.1
Wheat	2855	1657	2244	2843	2905	5.9
Total Maize	3966	3508	3571	5335	4607	7.5
Kharif Maize	2814	2974	2559	2586	2400	-4.5
Rabi Maize	4522	3630	4421	7482	6138	14.3
Summer Maize	4820	4171	3903	5601	5047	3.9
Total Coarse Cereals	3877	3425	3491	5194	4488	7.3
Barley	1398	1109	1304	1505	1587	5.7
Jowar	1065	1068	1063	1065	1066	0.0
Bajra	1138	1134	1133	1135	1134	-0.1
Ragi	1015	1474	1429	723	994	-7.3
Small Millets	754	757	756	379	752	-6.7
Total Pulses	1044	848	844	936	954	-0.8
Total Kharif Pulses	886	892	821	855	855	-1.1
Urad	912	913	883	885	890	-0.8
Bhadai Moong	805	838	683	782	743	-2.3
Kulthi	952	957	929	919	929	-0.9
Other Kharif Pulses	752	757	753	753	754	0.0
Total Rabi Pulses	1056	844	846	879	960	-1.5
Arhar (Tur)	1667	1438	1577	1581	1548	-0.5
Gram	1147	958	986	1120	1154	1.7
Lentil	1272	916	932	1005	1068	-2.5
Pea	1060	1010	1053	1020	1031	-0.5
Khesari	1116	990	934	1059	1057	-0.4
Summer Moong	672	579	548	690	707	2.8
Other Rabi Pulses	1010	1000	1010	1005	1005	0.0
Total Oilseeds	1279	1093	1059	1155	1208	-0.6
Castor seed	956	958	953	961	1000	0.9
Safflower (Kusum)	805	804	802	813	818	0.4
Sesamum	872	874	868	877	877	0.1
Sunflower	1410	1429	1421	1428	1429	0.3
Mustard & Rapeseed	1374	1100	1053	1180	1245	-1.3
Linseed	850	861	859	833	851	-0.3
Ground Nut	1024	1023	1018	1015	1019	-0.2
Jute	2571	2694	2508	2671	2393	-1.5
Mesta	2746	2402	3515	2369	1479	-11.8
Sugarcane	63080	67040	68970	69060	65480	1.0

Note : 1. CAGR (%) is calculated for 5 years (2013-14 to 2017-18)

2. Data for sugarcane is provided by the Department of Sugarcane, GOB

Source : Directorate of Economics and Statistics, GOB

The differences in natural resource endowments, agro-ecological conditions, price and other institutional factors influence the productivity of crops in Bihar. There exists wide variations in productivity performance across the districts. Based on the production and productivity performance across the districts for four major crops (rice, wheat, maize and pulses), Table 3.8 presents the leading districts in 2017-18.

Table 3.8 : Classification of Districts based on Production/ Productivity for Major Crops

Crop	Categories	2017-18	
		Production	Productivity
Rice	Developed Districts	Rohtas, Aurangabad, Kaimur	Bhojpur, Rohtas, Arwal
	Underdeveloped Districts	Begusarai, Khagaria, Sheohar	Madhubani, East Champaran, Muzaffarpur
Wheat	Developed Districts	Rohtas, East Champaran, Buxar	Patna, Samastipur, Madhepura
	Underdeveloped Districts	Munger, Kishanganj, Arwal	West Champaran, Madhubani, Kishanganj
Maize	Developed Districts	Katihar, Samastipur, Khagaria	Katihar, Purnea, Samastipur
	Underdeveloped Districts	Aurangabad, Kaimur, Rohtas	Lakhisarai, Muzaffarpur, Sheikhpura
Pulses	Developed Districts	Patna, Aurangabad, Nalanda	Saran, Vaishali, Patna
	Underdeveloped Districts	Munger, Sheohar, Gopalganj	Samastipur, Supaul, Purnea

Source : Compilation based on data from Directorate of Economics and Statistics, GOB

Area and Production of Rice

The district-wise figures for area and production of rice for 2016-17 and 2017-18 are presented in the Statistical Appendix (Table A3.3). The district-wise shares in total area and production are shown in the brackets, along with absolute values of area and production. The productivity levels with their relative ranks are also presented. The rice productivity of the districts of Bhojpur, Rohtas and Arwal were relatively higher. The highest productivity of rice was reported from Bhojpur (4054 kg per hectare) cultivated in an area of 0.97 lakh hectare and the lowest levels of productivity was recorded in Muzaffarpur (1327 kg per hectare), grown in an area of 1.23 lakh hectares. In terms of production, the leading districts are Rohtas, Aurangabad and Kaimur which accounted for 22 percent of the total rice production in the state.

Area and Production of Wheat

The figures for area, production and productivity of wheat have been presented across the districts for the years 2016-17 and 2017-18 in Statistical Appendix (Table A3.4). In case of production, top three performing districts are Rohtas, East Champaran and Buxar, which together accounted for 16.9 percent of the total wheat production in Bihar. The relatively low production districts are Munger, Kishanganj and Arwal. In terms of productivity, the leading districts turned out to be Patna, Samastipur and Madhepura, while lower productivity districts are West

Champan, Madhubani and Kishanganj. The highest productivity of wheat crop was reported from Patna at 3618 kg per hectare, while the lowest productivity was reported from Kishanganj at 1862 kg per hectare.

Area and Production of Maize

The district-wise figures for area, production and productivity of maize for the years 2016-17 and 2017-18 are given in the Statistical Appendix (Table A3.5). Considering the level of productivity during 2017-18, the leading districts are Katihar, Purnea and Samastipur, while Lakhisarai, Muzaffarpur and Sheikhpura recorded lower productivity levels. The highest productivity was recorded in Katihar (9002 kg per hectare), occupying an area of 0.65 lakh hectare, while the lowest productivity was seen in Sheikhpura (1497 kg per hectare). With regard to production levels, the leading districts are Katihar, Samastipur and Khagaria.

Area and Production of Pulses

The figures for area, production and productivity of pulses across the districts are presented in the Statistical Appendix (Table A3.6). Patna, Aurangabad and Nalanda are the leading contributors to total pulse production in the state, operating an area of 21.7 percent of the total area under pulses. The highest productivity was recorded in Saran at 1960 kg per hectare, while the lowest one was recorded in Purnea at 475 kg per hectare. Patna recorded the highest production (0.70 lakh tonne) and area under pulses (0.47 lakh hectare) in 2017-18. Towards promotion of cultivating nutrient varieties of crops, the state government has initiated seed production and distribution with technological support. Special Pulses Production programme, mechanization of grading and milling to minimize post-harvest losses in pulses are some of the other schemes aimed to support pulse production in the state.

Area and Production of Sugarcane

Bihar is one of the major sugarcane growing states in the country, where the crop is grown in about 3 lakh hectares of the total gross cropped area of the state. As an important cash crop, it provides employment to both skilled and semi-skilled workers in rural areas. It also supports one of the major agro-processing industries in Bihar by providing input for sugar industries. Rich alluvial soil and adequate water resources provide scope for increasing the production and yield of sugarcane crop. The production and productivity performance of sugarcane in Bihar for the years 2013-14 to 2017-18 are presented in Tables 3.6 and 3.7, respectively. In 2017-18, sugarcane production stood at 176.10 lakh tonnes and productivity of sugarcane was 65.48 tonnes per hectare.

The district-wise figures for area and production of sugarcane are presented in Statistical Appendix (Table A3.7). More than 55 percent of the total sugarcane production in the state came from the district of West Champaran, cultivated in an area of 145.33 lakh hectares, accounting for 54.0 percent of the total area during 2017-18. The districts of West Champaran, East Champaran and Gopalganj together accounted for about 78.1 percent of Bihar's total sugarcane production and they account for 76.3 percent of the total area under sugarcane. Sugarcane yield in Patna district was the highest at 92.14 tonnes per hectare and the lowest in Buxar at 48.83 tonnes per hectare. Sugarcane is a water-intensive crop and requires adequate fertilizer use to make it resistant to pest infection. The sugarcane yield in the state is limited by problems of waterlogging, imbalanced use of nutrients and poor water-use efficiency in rainfed conditions.

Besides providing credit access to sugarcane growers through the Kisan Credit Card, the scheme of Mukhyamantri Ganna Vikas Yojana was launched to provide subsidy to the tune of Rs. 160 per quintal (for SC/ST Rs. 200 per quintal) to farmers on purchase of certified sugarcane seeds for a maximum of 2.5 acres. Under the certified seed distribution programme, the sugarcane growers are given certified/registered seeds at subsidized rates, where the beneficiaries are selected through Panchayati Raj Institutions. Various awareness programmes and workshops related to new methods of cultivation of sugarcane are being organised to enhance knowledge of farmers on technological innovations.

Horticulture

Horticulture sector, which includes fruits and vegetables, has been a major driver of agricultural growth in Bihar. Given their resilience to adverse weather conditions, this sector has gained prominence in recent years, especially among the smallholders. The growing awareness of their nutritional benefits has increased their local demand. As a labour-intensive sector, horticulture generates substantial employment and income opportunities in rural areas. The perishability and seasonality of horticulture crops requires that there should be more investment in modern methods of storage and processing to preserve their nutritive value. The favourable agro-climatic conditions, soil topography, water resources, access to new technology, quality planting material and micro-irrigation techniques together have enabled production of diversified food products in Bihar including fruits and vegetables.

Area and Production of Fruits

Bihar has witnessed substantial increase in production of fruits in the last few years. The gangetic alluvial soil of Bihar is fertile and helps farmers to produce vegetables at a low cost. Among the fruits, Bihar's 'shahi' litchi and 'malda' mango are well known in the country for their taste and flavour. Nearly 40 percent of the total litchi production in the country is from Bihar. Through the programme of 'Litchi Suraksha Abhiyan', the state government is making efforts to increase production, quality and shelf life of litchis.

The trends in area and production of nine major fruits for the period 2015-16 to 2017-18 are presented in Table 3.9. The total acreage under fruits was 3.09 lakh hectares, producing a total output of 42.29 lakh tonnes during 2017-18. The production of major fruits in Bihar in 2017-18 was mango (14.81 lakh tonnes), guava (3.74 lakh tonnes), litchi (2.34 lakh tonnes), banana (15.51 lakh tonnes), pineapple (1.17 lakh tonnes), papaya (0.44 lakh tonnes), amla (0.28 lakh tonnes), watermelon (0.30 lakh tonnes) and muskmelon (0.13 lakh tonnes). The highest annual growth rate in production was seen in the case of amla, while it was negative for papaya during 2015-16 to 2017-18. The highest share in acreage among the fruits is seen in case of mango, which accounted for 49.4 percent of the total area in 2017-18. In case of production, the share of bananas was the highest at 36.7 percent of the total fruit production. It is clear that, except papaya, all the fruits registered a positive growth in production in Bihar during the last three years. Though the acreage under litchis has remained constant at about 11 percent of the total area, its production is increasing steadily. The consistent efforts of the state government through establishment of high density orchards has encouraged the production of mango, litchi and guava.

Table 3.9 : Area and Production of Fruits in Bihar

(Area in '000 hectares/ production in '000 tonnes)

Year	2015-16		2016-17		2017-18		CAGR
	Area	Production	Area	Production	Area	Production	
Mango	149.14	1464.93	149.96	1472.38	152.64	1480.58	0.53
Guava	29.34	370	29.38	370.37	30.63	373.70	0.50
Litchi	32.1	198.0	32.2	198.6	32.50	234.20	8.76
Banana	34.8	1535.3	35.1	1527.8	35.15	1550.65	0.50
Pineapple	4.3	116.3	4.3	116.6	4.34	117.46	0.50
Papaya	1.6	53.4	1.6	43.9	1.98	44.04	-9.22
Amla	1.5	13.5	0.9	14.2	1.68	27.61	43.01
Watermelon	1.4	29.7	1.4	29.7	1.41	30.00	0.50
Muskmelon	1.7	12.9	1.7	12.9	1.72	13.03	0.50
Others	32.4	310.9	32.4	311.0	47.19	357.63	7.25
Total	288.3	4105.0	288.9	4097.5	309.24	4228.90	1.50

Source : Department of Horticulture, GOB

Area and Production of Vegetables

Bestowed with a wide range of agro-climatic and soil conditions, the production level of vegetables in the state has been very encouraging. Besides meeting the growing demand in the local market, Bihar's vegetables are also being exported nationally. Vegetable production in the state constitutes close to 70 percent of the total horticultural production in the state. Highly elastic demand for vegetables has increased their scope in Bihar, as they are most suitable for cultivation in small farms using family labour.

The trends in area and production level for important vegetables in Bihar are presented for the years 2015-16, 2016-17 and 2017-18 in Table 3.10. The overall production of vegetables increased from 142.42 lakh tonnes in 2015-16 to 148.12 lakh tonnes in 2017-18. The total vegetable production in 2017-18 comprised potato (63.78 lakh tonnes), brinjal (12.92 lakh tonnes), onion (12.60 lakh tonnes), cauliflower (11.94 lakh tonnes), tomato (10.11 lakh tonnes), lady's finger (8.54 lakh tonnes), cabbage (7.79 lakh tonnes), and radish (2.49 lakh tonnes). During the last three years, cauliflower registered the highest growth of 9.0 percent, while the lowest growth was recorded for bittergourd (0.15 percent). Except chillies, the production of all the vegetables increased in 2017-18, relative to the previous year. The figures indicate a substantial increase in the production of major vegetables such as onion, tomato, cauliflower, brinjal and cabbage during 2015-16 to 2017-18.

Table 3.10 : Area and Production of Vegetables

(Area in '000 hectares/ Production in '000 tonnes)

Year	Area/ Production	Potato	Onion	Tomato	Cauliflower	Cabbage	Brinjal
2015-16	Area	319.13	54.03	45.81	65.71	40.52	57.62
	Production	6345.52	1247.34	1001.01	1003.9	719.81	1138.05
2016-17	Area	320.48	54.06	46.21	66.11	41.18	57.88
	Production	6377.71	1248.96	1009.6	1003.74	725.9	1141.2
2017-18	Area	320.48	54.57	46.26	66.36	40.92	58.2
	Production	6377.71	1259.81	1011.02	1193.74	778.55	1291.54
CAGR	Production	0.25	0.5	0.5	9.05	4	6.53
Year	Area/ Production	Lady's finger	Chilli	Bittergourd	Cucumber	Pointed gourd	Bittergourd
2015-16	Area	57.9	44.8	40.3	3.6	6.6	9.7
	Production	763	418.3	631.6	67	69.6	67.3
2016-17	Area	58	45.24	40.35	3.6	6.83	9.71
	Production	765.95	476.84	634.73	67	72.13	67.32
2017-18	Area	59.23	45.25	40.7	3.64	6.83	9.72
	Production	854.28	422.48	637.92	67.67	73.3	67.5
CAGR	Production	5.81	0.5	0.5	0.5	2.62	0.15
Year	Area/ Production	Pea	Radish	Carrot	Sweet Potato	Others	Total
2015-16	Area	10.4	24.3	9.1	0.9	29	819.41
	Production	65.7	246.5	53.4	8.4	395.4	14241.82
2016-17	Area	10.54	24.35	9.15	0.9	29.18	823.75
	Production	64.24	246.99	53.73	8.4	397.79	14362.22
2017-18	Area	10.55	24.55	9.19	0.91	29.5	826.86
	Production	66.56	248.97	53.93	8.48	398.59	14812.05
CAGR	Production	0.65	0.5	0.5	0.48	0.4	1.98

Note : CAGR is calculated for 3 years (2015-16 to 2017-18)

Source : Department of Horticulture, GOB

The technological developments in the state have enabled diversification towards horticultural crops in Bihar. Keeping in view the importance of horticultural sector for Bihar's agrarian economy, the state government has started several initiatives to enhance the post-harvest management of horticultural produce. The Agriculture Road Map III (2017-22) indicates the emphasis being given to organic cultivation of fruits and vegetables. For stepping up the facilities for post-harvest management of produce, the National Horticulture Mission is being implemented in 23 districts of the state. The remaining 15 districts are being targeted through the Chief Minister's Horticulture Mission. Providing access to quality planting material, encouragement to tissue culture technology (through the Bihar Agricultural University in Sabour), and boost to integrated nutrient management have benefitted this sector. Strengthening the infrastructure facilities such as construction of low-cost storage units, development of cold chain for marketing, and cultivation in poly houses or shade net houses are being promoted. The supply of water through micro-irrigation schemes has also enabled increase in productivity and quality of horticulture produce. This irrigation practice also saves water to the tune of 60 percent, compared to traditional irrigation practices.

3.6 Agricultural Inputs

Given the dependency of Bihar's agriculture on south-west monsoon and growing emphasis on market-orientation of farming, timely availability of inputs play an important role in enhancing production and productivity. For sustainable agriculture, access to high quality agricultural inputs is required to improve crop productivity and production not only for staple crops such as rice and wheat, but also for pulses, oilseeds, sugarcane, fruits and vegetables. This section briefly discusses the status of key agricultural inputs in Bihar — seeds, fertilizer, farm equipment, agricultural credit and extension services.

Seed

Seeds are central to crop production and the supply of quality seeds is extremely necessary for achieving food and nutritional security. The benefits of modern technology, enabled through Green Revolution, has facilitated higher yields and resource-use efficiency in Bihar's agriculture. Further, as outlined in the Agriculture Road Map III, substantial attention is being given to the production of climate-resilient seeds through technological innovations and creation of infrastructure through cooperatives for proper processing and storage of seeds.

Table 3.11 presents the Seed Replacement Rate (SRR) for major cereals, pulses and oilseeds for the years 2015-16, 2016-17 and 2017-18. The SRR for paddy marginally increased from 39.13 percent in 2015-16 to 40.74 percent in 2017-18. The SRR for rabi maize was the highest,

averaging at 84.4 percent during 2015-16 to 2017-18. Crops such as rice and maize are almost close to SRR targets defined in the Agriculture Roadmap III — 42 percent for rice and 86 percent for maize. The SRR for wheat which stood at 17.84 percent in 2017-18 is yet to reach the targeted SRR of 31 percent. The SRR of rabi crops, such as gram and pea, increased between 2015-16 and 2017-18. However, for other pulses and oilseeds, SRR has not reached the target levels due to challenges of availability of certified seeds. In this regard, various seed schemes in the state have been initiated to meet the demand for quality seeds.

Bihar State Seed Corporation has specific schemes to produce and distribute certified seeds of paddy, wheat, maize, pulses and oilseeds to cultivators in the state, besides providing encouragement to seed farming, seed processing and establishment of agri-clinics. This initiative would not only assist in timely supply of quality seeds, but would also minimize the dependency on private seed companies. Besides all these, the state government is providing training support to set up a network for distribution and marketing of seeds. During 2017-18, against the production targets of 30.96 thousand quintals of seed in kharif season, the seed multiplication in actual terms stood at 70 percent (21.82 thousand quintals). Various schemes such as Mukhyamantri Tivra Beej Vistar Yojana (Chief Minister's Crash Seed Programme) and Integrated Seed Village Programme have been launched in the state so that it becomes self-reliant in seed production. This has substantially impacted the SRR in the state.

Table 3.11 : Distribution of Certified Seeds and Seed Replacement

(Requirement and supply in '000 qntl./SRR in percentage)

Crops	2015-16			2016-17			2017-18		
	Requirement	Supply	SRR	Requirement	Supply	SRR	Requirement	Supply	SRR
Kharif Crops									
Paddy	409.38	273.96	39.13	431.25	317.54	42.88	428.4	319.08	40.74
Maize	90	9.05	10.45	90	11.96	13.82	81.7	13.05	15.97
Urad	1.73	1.46	27	1.78	-	-	-	-	-
Arhar	7.84	1.5	15.01	6.02	1.05	8.72	3.24	1.56	11.55
Moong	1.6	0.45	19.18	1.65	0.32	13.5	0.9	-	-
Rabi Crops									
Wheat	912	616.39	27.12	930	465.16	20.3	720.75	390.13	17.84
Maize	90	70.65	80.66	112.5	108.78	87.02	73.1	72.68	85.51
Gram	29.44	6.58	8.32	30.36	2.99	3.58	16.56	5.83	9.8
Pea	8.96	1.18	2.7	9.24	0.2	0.76	5.04	0.95	5.13
Masoor	27.52	1.07	1.25	28.38	6.24	7.33	15.48	5.14	9.17
Rapeseed/ Mustard	3.59	2.28	36.33	8.21	4.44	58.65	2.57	1.67	31.56

Source : Department of Agriculture, GOB

Fertilizer

The chemical fertilizers, introduced first during the Green Revolution period, continue to be a significant input for enhancing yield in agriculture. This seed-fertilizer technology of Green Revolution also required subsidizing chemical fertilizers and seeds to encourage their wider use towards achieving higher productivity levels in agriculture. Indeed, timely availability of seeds, nutrients, farm implements, credit and water are closely interacting factors influencing growth of output in agriculture. The chemical fertilizers need to be optimally used to ensure appropriate nourishment to the crops.

Table 3.12 : Trends in Fertilizer Consumption in Bihar

(‘000 tonnes)

Type of Fertilizer	2015-16			2016-17			2017-18		
	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total
Urea	954.2	1403.9	2358.1	882.7	1094.8	1977.5	885.6	1154.0	2039.6
DAP	186.4	356.4	542.8	148.7	383.1	531.8	250.5	431.8	682.3
SSP	47.6	26.2	73.7	33.3	33.1	66.4	41.1	30.9	72.0
MOP	48.3	105.5	153.7	50.6	179.2	229.8	81.6	163.2	244.9
Ammonium Sulphate	2.6	15.8	18.4	6.0	13.4	19.4	7.5	25.3	32.8
Complex	150.3	201.6	351.8	53.4	187.2	240.6	58.1	204.0	262.2
Sub Total	1389.2	2109.3	3498.5	1174.7	1890.8	3065.5	1324.4	2009.3	3333.7
N	499.8	749.9	1249.8	444.0	609.2	1053.2	464.2	649.0	1113.2
P	128.1	212.8	340.9	85.2	223.6	308.8	134.9	251.4	386.2
K	35.4	70.7	106.2	31.8	115.0	146.7	52.2	109.6	161.8
Total (NPK)	663.4	1033.4	1696.8	561.0	947.8	1508.8	651.2	1010.0	1661.2
Grand Total	2052.6	3142.7	5195.3	1735.7	2838.6	4574.3	1975.6	3019.2	4994.9
Consumption of Fertilizer (kg/ha.)	160.4	240.2	201.1	137.0	205.3	173.2	153.6	217.5	187.0

Source : Department of Agriculture, GOB

The chemical fertilizers are classified based on their nutritive content which includes nitrogen, phosphate and potash (NPK). The trend in consumption of different types of fertiliser in Bihar for the period 2015-16 to 2017-18 is presented in Table 3.12. The NPK ratios in these years have remained nearly unaltered at 7:2:1 in Bihar, suggesting balanced use of fertilizer nutrients in the state. In 2017-18, the total consumption of fertilizers in Bihar was 49.95 lakh tonnes, which was slightly lower than the 51.95 lakh tonnes in 2015-16. Urea consumption was the highest at 40.8 percent of the total consumption, relative to other nutrients during 2017-18 in Bihar. Further, it is also noticed that nearly 60 percent of the fertilizer consumption in Bihar is during rabi season. The per hectare consumption of fertilizer during rabi season in Bihar stood at 217.5 kg per

hectare, which is much higher than the quantity consumed during Kharif season (153.6 kg per hectare). Different crops have varied nutrient requirements across three agricultural seasons, stressing the need to ensure quality supply of fertilizers to all types of crops. The state government is trying to ensure that small holders have timely access to fertilizers to produce nutrient rich crops, since rising input costs would pose challenges to their viability.

The district-wise trends in consumption of fertilisers have been presented in the Statistical Appendix (Table A3.8 and Table A3.9) for the years 2016-17 and 2017-18. Wide variation exists in consumption of fertilizers across the southern and northern districts of Bihar. In 2017-18, nearly 65.7 percent of the total fertilizers was consumed in northern Bihar. Madhepura ranked the highest in overall consumption of fertilizers at 2.87 lakh tonnes and Sheohar ranked the lowest at 0.19 lakh tonnes. Even as fertilizer use enables greater water use efficiency and yield improvements, a balanced and integrated use of different nutrients based on the type of crop holds the key for higher agricultural output. Subsidy provisions are also expanding beyond NPK to more balanced use of nutrients as per the need of the crops.

Organic Farming

Recognising the adverse effects of excessive use of fertilizers, the state government is now promoting organic farming which would help retain the nutritive content in the soil and also produce food which is free of health hazards. The state government is making vermi-compost and bio-fertilizers available to farmers at affordable rates to minimize the dependency on chemical fertilizers. The establishment of organic corridor is part of the Agricultural Road Map III and it is envisaged to cover around 25,000 acres during the period 2017-22, involving a fiscal outlay of Rs 255.00 crore. For this purpose, subsidy is being provided to farmers to purchase organic inputs from selected agencies. For promotion of organic farming, farmers have been identified in villages along the river Ganges in the districts of Patna, Nalanda, Bhagalpur, Vaishali, Samastipur, Begusarai, Lakhisarai, Khagaria and Munger. Agriculture and Processed Food Products Exports Development Authority (APEDA) has been entrusted as the certifying agency for organic produce. Bihar State Seed and Organic Certification Agency (BSSOCA) is involved in the certification process of organic produce and is undertaking programmes to educate farmers on organic farming practices.

Agricultural Machinery

The rising population and the increasing demand for food and other agricultural produce have necessitated mechanization of farming operations for efficient utilization of resources in Bihar.

Though the debate on desirability of mechanization of small farms continues in development literature, the timeliness of operations, higher input efficiency, reduced costs and better quality of produce rests the case for mechanization of farming operations in Bihar. Also, the significant decline in availability of cheap labour because of outmigration gives a huge impetus for use of mechanized power for agricultural activities.

The number of farm implements in Bihar bought through the subsidy schemes of the state government are presented in Table 3.13. There have been mixed trends in the number of farm implements bought in Bihar. In 2015-16, the number of tractors bought using subsidy in Bihar was 4617, but thereafter, the scheme has not attracted any farmer. The combine harvesters rose in number from 177 in 2015-16 to 249 in 2017-18. The figures in the table also indicate marginal decline in supply of machineries such as zero tillage, pumpset, power tillers and manually operated tools through subsidy scheme during the period 2015-16 to 2017-18. The number of subsidized threshers increased from 2460 in 2015-16 to 4722 in 2017-18. This implies a growth of more than 90 percent in just two years. Thus, subsidizing the farm machinery has promoted farm mechanization in Bihar to a considerable extent, though this trend has been uneven in the recent years.

Table 3.13 : Number of Farm Implements bought through Subsidy Scheme

Farm Implements	2015-16	2016-17	2017-18
Tractor	4617	Nil	Nil
Combine Harvesters	177	182	249
Zero Tillage	1537	1269	1087
Pumpsets	5787	6725	3797
Power Tiller	1636	1402	926
Manually operated tools/implements	46590	23908	13635
Threshers	2460	4044	4722
Total	62804	37530	24416

Source : Department of Agriculture, GOB

The district-wise distribution of subsidy for farm implements for the period 2016-17 and 2017-18 has been given in Statistical Appendix (Table A3.10 and Table A3.11). The highest number of combine harvesters was acquired in the district of Rohtas (29.3 percent), while Kaimur received the highest subsidy for purchase of zero tillage machines (34.0 percent) during 2017-18. Out of the total pumpsets acquired with subsidy in the state, the highest number was in Bhagalpur district in 2017-18.

The state government continues to organize annual Agricultural Mechanization Melas in different districts of the state to facilitate subsidized supply of quality agricultural machinery to farmers. The objective of providing access to machinery for small and marginal farmers is being pursued through machinery packages with a subsidy of up to 50 percent. In collaboration with Jeevika, farmer interest groups, cooperatives and other village organizations, the state government provides support for establishment of Custom Hiring Centres on a 'First Come First Serve Basis'. To minimize the post-harvest losses, particularly for cereals and pulses, special assistance is being provided to the mills for agricultural equipment that would ensure better processing of agricultural produce.

Agricultural Credit

Agricultural credit is an important instrument for productive agricultural operations. Besides enhancing quantity and quality of farm produce, institutional credit enables the farmers to invest in capital assets, minimises risks during production uncertainties and enables adoption of new technologies. Credit from financial institutions such as banks and co-operatives also help the small farmers to minimize their dependency on costly borrowings from local moneylenders. Agricultural credit also helps in accelerating developmental activities in rural areas by offering the working capital to the farmers.

The source-wise agricultural credit from different institutional sources that include commercial banks, Regional Rural Banks (RRB) and Central Co-operative Banks (CCB) are presented in Table 10.18 for the period 2013-14 to 2017-18, given in Chapter-X (Banking and Allied Sectors). In 2013-14, the overall achievement level for agricultural credit has been around 95 percent. The level rose to 97.3 percent in 2015-16, before declining to 86.0 percent in 2017-18. The gross flow of credit which was Rs. 28,770 crore in 2013-14 increased to Rs. 42,161 crore in 2017-18. However, with rising prices of inputs and rising demand for modern inputs by the farmers, the present level of agricultural credit seems insufficient. The share of three different sources of agricultural credit has been — Commercial Banks (58.7 percent), RRBs (35.3 percent) and CCB (6.0 percent) in 2017-18. Thus, commercial banks met mostly the growing demands of agricultural credit in Bihar in the last five years.

The district-wise position of targets and achievements of Co-operative Banks is shown in Statistical Appendix (Table A 3.12). The targets of co-operative credit supply were comparatively higher in Patna, Nawada, Madhubani, Nalanda, Bhojpur and Gopalganj in 2017-18. The achievements were close to or higher than the targets in the districts of Khagaria, Begusarai, East Champaran and Samastipur. In districts such as Saharsa, Supaul, Madhepura,

Sheikhpura, Lakhisarai, Darbhanga and Jamui, co-operative credit operations are either small or negligible.

The disbursement of the Kisan Credit Cards (KCC) has been an important pathway to spearhead agricultural finance in the state. Introduced about two decades ago, this scheme enables access of farmers to a maximum credit of Rs. 50,000 to meet the input related expenses through banks, under a single window system. During 2017-18, about 35.5 percent of the targets were achieved towards issuing KCC in the state.

Extension Services

Extension services in agriculture have wide scope not only to focus on technology transfer and adoption, but also to enhance the capacity building of farmers through a participatory approach. Towards promoting technical change in agriculture, extension services in Bihar have received huge encouragement from the state government. Various programmes were organised, such as crop seminars, agricultural melas, and mass media programmes on agriculture during the financial year of 2017-18. The establishment of Agricultural Technology Management Agency (ATMA) and Krishi Vigyan Kendra (KVK) in different districts of the state is a step towards enhancing greater interaction between farmers and extension workers. The state government has initiated appointment of Fishery Extension Services Officer (FESO) to promote fish farming by providing advisory services to fish farmers across the state. Further, in 2017-18, as per the Annual Report of Agriculture of the state government, nearly 13,000 farmers have registered with Aadhar verification through online portal of DBT towards organic cultivation of vegetables. The appointment of subject matter specialist and Kisan Salahkar at the sub-block level, training programmes through Kisan Pathshalas and organization of Kisan Vikas Shivirs and Kisan Chaupals have enhanced knowledge sharing. The programmes such as exposure visits, farmers training, and crop specific demonstration activities are being carried out to induce skills and enhance the employability of the youth. The concept of Kisan Call Centres to provide 24x7 advisory services aims at addressing specific crop concerns of farmers.

3.7 Animal Husbandry, Fisheries and Dairy Farming

Livestock development is an integral component of Bihar's economy as it provides a supplementary source of livelihood in rural areas. Its allied sectors not only provide opportunities for gainful employment, they also assist in risk coverage during crop failure, especially for small holders. Also, this sector is a vital source of protein and other key nutrients required to meet the growing nutritional needs of the population. The contribution of livestock sector and fisheries to state's GSDP stood at 5.30 and 1.53 percent, respectively during 2017-18. Given the uncertainty

in crop production which is much dependent on rains, development of livestock sector helps minimize distress of the rural households. Moreover, the participation of poorer households is much wider in this sector and, as such, development of livestock sector makes the growth process more inclusive.

Livestock Wealth

Table 3.14 presents the details of different species of animal population as per the last three Livestock Census reports. According to the Livestock Census of 2012, the total livestock population in Bihar increased from 269.57 lakh in 2003 to 329.39 lakh in 2012, registering an increase of 22 percent. In 2012, milch animals constituted about 60.1 percent of the total livestock population, with cow population of 122.32 lakh and buffalo population of 75.67 lakh. The goat population, popularly termed as poor man's cow, was 121.54 lakh in 2012, which increased from 96.06 lakh in 2003. On the other hand, poultry population registered a marginal decline from 139.68 lakh in 2003 to 127.48 lakh in 2012.

Table 3.14 : Livestock Wealth (2003, 2007 and 2012)

(Figures in '000)

Livestock and Poultry	2003	2007	2012
Cattle	10470	12408	12232
Males over 3 years	3020	2737	1915
Females over 3 years	3643	4919	5982
Young stock	3807	4752	4334
Buffalo	5766	6690	7567
Males over 3 years	274	329	300
Females over 3 years	2901	3546	4017
Young stock	2590	2815	3250
Sheep	346	218	232
Goat	9606	10167	12154
Pigs	627	632	650
Horses and Ponies	115	51	49
Others	0	0	55
Total Livestock	26957	30167	32939
Total Poultry	13968	11420	12748

Source : Department of Animal Husbandry, GOB

The proportion of cattle in total livestock population was the highest relative to other animals at 37.1 percent, followed by goat population (36.9 percent) and buffaloes (23.0 percent), as per

2012 livestock census. The increase in buffalo population by 13.1 percent between the period of 2007 and 2012 census clearly indicates the preference to raise buffaloes. This may be due to the suitability of buffaloes to Bihar's climate and their resilience to diseases. Overall, it is clear that Bihar is well-endowed with livestock and poultry wealth.

District-wise variations in livestock wealth as per the census data of 2012 has been presented in Table A 3.13 (Statistical Appendix). There is considerable variation in the distribution of livestock wealth across the districts. The north-eastern region of the state has higher proportion of goats and poultry, enabled by conducive climate for their breeding. For the bovine population (cows and buffaloes), the districts with higher shares of cow are — Araria, Gaya, Katihar, Banka and Madhubani, while the districts of Madhepura, Madhubani, East Champaran, Nalanda and Gaya had higher proportion of buffaloes. The districts of Katihar, Muzaffarpur, Vaishali, Kishanganj and Araria have higher concentration of poultry in the state, together constituting about 30.9 percent of its total poultry wealth.

The progress of livestock services over the period 2013-14 to 2017-18 has been presented in Table 3.15. In Bihar, 44.67 lakh animals were treated during 2017-18, which is higher than those treated in the previous year (41.03 lakh). About 526.72 lakh animals were immunized in Bihar and the coverage of artificial insemination stood at 28.23 lakh animals in 2017-18. Besides schemes of artificial insemination and vaccination for protection of animal health, the state government has initiated specific livestock health programmes towards breeding of cows and goats, and training of personnel for veterinary services. The state government has also promoted establishment of Gaushala and animal sheds for protection of bovines, with a view to modernize livestock development in the state.

Table 3.15 : Livestock Services in Bihar

Year	Animal Treated (lakh)	Immunization (lakh)	Artificial Insemination (lakh)
2013-14	25.12	147.57	24.14
2014-15	32.99	26.24	26.40
2015-16	38.26	163.31	26.31
2016-17	41.03	296.45	26.20
2017-18	44.67	526.72	28.23

Source : Department of Animal Husbandry, GOB

The district-wise achievement of different livestock-related services is presented in Table A3.14 (Statistical Appendix). Out of the total animals treated during 2017-18, the highest number was

in the districts of Samastipur (2.91 lakh), Patna (2.40 lakh), and Gaya (2.20 lakh). The districts of Araria (28.24 lakh), Gaya (26.94 lakh), Madhubani (22.15 lakh), Supaul (21.38 lakh) and East Champaran (20.38 lakh) had the highest number of immunization cases for animals, accounting for 22.6 percent of the total animals immunized in the state during 2017-18. More than 1 lakh animals were artificially inseminated in the districts of Samastipur, Muzaffarpur, Begusarai, Vaishali, Bhojpur, Patna, Gopalganj, Khagaria and Buxar in 2017-18. Overall, the number of animals treated, immunized and artificially inseminated has increased in 2017-18, compared to the previous year in most of the districts.

Production of Livestock and Fishery Products

The production trends of livestock and fishery products for the period 2013-14 to 2017-18 are presented in Table 3.16. In absolute terms, Bihar's milk production increased to 92.41 lakh tonnes in 2017-18 from 71.97 lakh tonnes in 2013-14, indicating an annual growth rate of 6.33 percent, during the five-year period. A substantial increase in production of eggs is evident from its growth rate of 6.84 percent during the same period. In 2017-18, egg production stood at 121.85 crores in Bihar. Similarly, meat production in the state increased from 2.92 lakh tonnes in 2013-14 to 3.43 lakh tonnes in 2017-18, indicating an annual growth rate of 4.34 percent.

Table 3.16 : Livestock and Fish Production in Bihar

Year	Milk (lakh tonnes)	Egg (crores)	Wool (lakh kgs)	Meat (lakh tonnes)	Fish (lakh tonnes)
2013-14	71.97	93.08	2.71	2.92	4.32
2014-15	77.75	98.35	2.78	2.94	4.79
2015-16	82.88	100.21	2.4	3.02	5.07
2016-17	87.10	111.17	2.81	3.26	5.09
2017-18	92.41	121.85	2.98	3.43	5.87
CAGR (%)	6.33	6.84	2.03	4.34	6.97

Note : CAGR (%) is calculated for the last 5 years (2013-14 to 2017-18)

Source : Department of Animal Husbandry, GOB

The Animal Health and Production Institute in Patna works as a nodal agency for successful implementation of different kinds of vaccinations and it also conducts research on animal infections and diseases. Strengthening the livestock in Bihar is a key agenda for the state government, as evident from the development of Gaushalas in the state. Till date, 86 Gaushalas have already been registered in the state and steps are being taken to modernize them with better infrastructure.

Fisheries

Fisheries sector occupies a central place in the socio-economic development of Bihar; for its substantial role in employment and income generation in rural areas. The abundant freshwater resources in the state provide impetus for development of fisheries. Bihar has around 3.76 percent (352.37 thousand hectares) of its total geographical area endowed with water resource. The share of fisheries and aquaculture in agricultural GSDP was about 8.17 percent in Bihar during 2017-18. As evident in Table 3.16, the fish production in the state steadily increased from 4.32 lakh tonnes in 2013-14 to 5.87 lakh tonnes during 2017-18, registering a growth rate of 6.97 percent. Fisheries serve as a productive source of livelihood for a large proportion of landless labourers and smallholders in the state.

The district-wise details of fish production and distribution of seeds are given in the Statistical Appendix (Table A3.15) for the period 2015-16 to 2017-18. Three leading districts in terms of fish production in 2017-18 are Madhubani (65.7 thousand tonnes), Darbhanga (54.0 thousand tonnes) and East Champaran (51.62 thousand tonnes), together constituting about 29.1 percent of the total fish production in the state. For fish seeds, three leading districts are Darbhanga (1750 lakhs), Madhubani (1626 lakhs) and East Champaran (731 lakhs) during 2017-18. Various initiatives of the state government in terms of providing financial and technical support to fish producers have helped in realizing the potential of fisheries in the state. Subsidizing the tools and equipment needed for construction of nursery ponds, fish seed hatcheries, vehicle distribution for marketing, and renovation of ponds have resulted in achieving record production of fish and feed seed. Input subsidy towards for purchase of fish feed is being given to fish producers to increase fish productivity in the state. Towards setting up of fish-seed mills, subsidy amounting to about half of the cost with a maximum limit of Rs. 50.00 lakh is also being provided by the state government. In order to protect the fishermen from the yearly threats of droughts and floods, insurance coverage is being extended through co-operative societies. To encourage the fishermen to continue their traditional occupation of fishing, various training programmes are also being organized in collaboration with Indian Council of Agricultural Research (ICAR).

Dairy Farming

Dairy farming has historically been an important farm enterprise in Bihar, providing opportunities for additional employment and income, especially for landless labourers and smallholders. Besides providing fresh milk, dairy farmers produce high-quality animal protein products to meet the growing demand of the population. The production and processing facilities for milk sector is being carried out by dairy co-operatives, which are promoted and supported by the Directorate of Dairy Development and COMFED. Towards supplementing the supply of

green fodder in villages, efforts are being made to establish animal feed factories in all the districts. The total milk production in the state for the year 2017-18 was 92.41 lakh tonnes. The major source of milk production in the state is cows which accounted for nearly 58.6 percent of the total milk production, followed by buffaloes (39.2 percent) and goat (2.2 percent).

The trend in district-wise milk production in the state for the years 2016-17 and 2017-18 is presented in the Statistical Appendix (Table A3.16 And Table A3.17). The districts of Patna, Samastipur, Nalanda, Begusarai, Muzaffarpur, Bhagalpur and Supaul had a higher proportion of milk production from the bovines. Similarly, Araria, East Champaran, West Champaran, Muzaffarpur and Katihar have a higher share in milk production from goats in 2017-18. Towards creation of self-employment opportunities for dairy farmers, Dairy Entrepreneurship Development Scheme has been initiated to encourage the establishment of dairy farms for production of clean milk. Expansion of cold chains, strengthening dairy plant and market network will spearhead milk production in the state. A comprehensive analysis of the dairy industry and Bihar State Milk Cooperative Federation (COMFED) is presented in Chapter IV, which deals with the Enterprises Sector.

APPENDIX

Table A 3.1 : District-wise Annual Rainfall across Different Seasons

(Rainfall in mm)

District	2017					2018 (Up to September)			
	Winter Rain	Hot Weather Rain	South-West Monsoon	North-West Monsoon	Total	Winter Rain	Hot Weather Rain	South-West Monsoon	Total
Patna	0.0	40.1	627.3	15.2	682.6	0	25.2	582.2	607.4
Nalanda	0.0	26.2	653.9	18	698.1	0	31.4	647.9	679.3
Bhojpur	0.0	39	727.4	7.9	774.3	0	19.1	723.6	742.7
Buxar	0.0	28.4	655.5	20.4	704.3	0	25.3	691.3	716.6
Rohtas	0.0	11	739	4.2	754.2	0	1.5	607.5	609
Kaimur	0.0	2.8	818.3	0.3	821.4	0	16.5	837.2	853.7
Gaya	0.0	7.9	790.4	9.1	807.4	0	16	747.2	763.2
Jehanabad	0.0	11.3	617.6	7.3	636.2	0	0.9	394.5	395.4
Arwal	0.0	23.2	564.8	0	588	0	0	581.4	581.4
Nawada	0.0	8.3	575	34.4	617.8	0	24.5	651.3	675.8
Aurangabad	0.4	17.2	851.3	5	873.9	0	2.2	727.7	729.9
Saran	0.0	68.1	716.6	0	784.6	0	37.4	464	501.4
Siwan	0.0	77.2	696.2	1.3	774.7	0	74.5	599.9	674.4
Gopalganj	5.5	74.4	717.6	3.4	800.9	0	75.5	665.7	741.2
W. Champaran	9.0	114.3	1107.3	7.7	1238.4	0	156.5	1011.8	1168.3
E. Champaran	0.0	125.6	813.6	0	939.3	0	71.2	716.4	787.6
Muzaffarpur	0.0	119.6	745.9	0.2	865.7	0	55.2	483.5	538.7
Sitamarhi	0.0	105.8	891	1.2	997.9	0	89.5	877.3	966.8
Sheohar	0.0	143.6	918	0	1061.6	0	83.6	678.1	761.7
Vaishali	0.0	109.2	880.8	4.5	994.5	0	59.1	493.2	552.3
Darbhanga	0.0	174	963.8	6.9	1144.6	0	57.7	513.6	571.3
Madhubani	0.0	216.1	1180.6	12.3	1409	0	61	836.3	897.3
Samastipur	0.0	134.1	819.8	19.7	973.6	0	111.1	622.3	733.4
Begusarai	0.0	73.8	671.3	48.8	794	0	78.6	584.2	662.8
Munger	0.0	86.5	744.8	179.6	1010.8	0	99.9	818.4	918.3
Sheikhpura	0.0	67.3	658.1	39.7	765.1	0	26.1	525.7	551.8
Lakhisarai	0.0	54	733.5	133.2	920.7	0	73.4	561.7	635.1
Jamui	0.0	73.6	732.6	228.4	1034.6	0	84.7	582.1	666.8
Khagaria	0.0	118.8	702.3	85.2	906.3	0	35.9	509.7	545.6
Bhagalpur	0.0	174	999.2	232.5	1405.7	0	120	728.8	848.8
Banka	0.0	93.2	806	226	1125.2	0	33.8	699.2	733
Saharsa	0.0	242.8	1071.3	38.9	1353	0	81.3	556.4	637.7
Supaul	0.0	200.4	1193.9	27.6	1421.9	0	138.2	843.6	981.8
Madhepura	0.0	235.8	948.2	67.8	1251.8	0	102.7	765.6	868.3
Purnea	1.0	289.6	926.8	68.4	1285.8	1	94.6	942.5	1037.1
Kishanganj	0.0	235.5	1818.6	34.3	2088.5	0	138.5	1358.1	1496.6
Araria	0.0	154.9	1029.7	48.6	1233.2	0	151.6	852.8	1004.4
Katihar	0.0	141.8	933.4	172.3	1247.5	0	126.9	722.6	849.5
Bihar	0.4	103.1	843.2	47.6	994.4	0	65.3	689.6	754.9

Source : Directorate of Economics and Statistics, GOB

Table A 3.2 : District-wise Land Utilization Pattern (2015-16)

(Area in '000 hectares)

District	Geographical Area (1)	Forest (2)	Barren & Unculturable land (3)	Non- Agriculture Use (4)			Culturable Waste Land (5)
				Land area	Water Area		
					Perennial	Temporary	
Patna	317.2 (100)	0.1 (0)	12.4 (3.9)	67.8 (21.4)	10.3 (3.3)	2.1 (0.6)	0.7 (0.2)
Nalanda	232.7 (100)	4.6 (2)	1.2 (0.5)	35.9 (15.4)	2.5 (1.1)	7.1 (3)	0.2 (0.1)
Bhojpur	237.3 (100)	0 (0)	6.7 (2.8)	30.3 (12.8)	2.8 (1.2)	1.5 (0.6)	0.6 (0.2)
Buxar	167 (100)	0 (0)	2.2 (1.3)	13.2 (7.9)	3.2 (1.9)	1.1 (0.7)	0.6 (0.4)
Rohtas	390.7 (100)	66.7 (17.1)	16.8 (4.3)	39.4 (10.1)	9 (2.3)	0.6 (0.2)	1.1 (0.3)
Kaimur	342.5 (100)	113 (33)	19.3 (5.6)	31.1 (9.1)	2.5 (0.7)	1.6 (0.5)	1.9 (0.5)
Gaya	493.8 (100)	77.8 (15.8)	27.5 (5.6)	63.4 (12.8)	3.8 (0.8)	6.1 (1.2)	3.2 (0.7)
Jehanabad	94 (100)	0.6 (0.7)	3.3 (3.5)	13.9 (14.8)	0.8 (0.9)	0.5 (0.6)	0.1 (0.1)
Arwal	62.6 (100)	0 (0)	2.2 (3.5)	9.2 (14.6)	0.6 (0.9)	0.8 (1.3)	0.1 (0.1)
Nawada	248.7 (100)	63.8 (25.6)	11.2 (4.5)	25.8 (10.4)	3 (1.2)	7 (2.8)	1.1 (0.4)
Aurangabad	330 (100)	18.8 (5.7)	16.4 (5)	56.3 (17.1)	1.7 (0.5)	1.7 (0.5)	1.8 (0.5)
Saran	264.9 (100)	0 (0)	17.9 (6.8)	28.8 (10.9)	3.5 (1.3)	0.2 (0.1)	0.2 (0.1)
Siwan	224.4 (100)	0 (0)	8.7 (3.9)	29.8 (13.3)	2 (0.9)	0.6 (0.2)	0.7 (0.3)
Gopalganj	203.8 (100)	0 (0)	5.5 (2.7)	31.3 (15.4)	2.1 (1)	0.5 (0.2)	1.4 (0.7)
W. Champaran	484.4 (100)	91.8 (18.9)	2.9 (0.6)	71.2 (14.7)	15.2 (3.1)	8.8 (1.8)	1.2 (0.3)
E. Champaran	431.7 (100)	0.1 (0)	8.1 (1.9)	51.6 (12)	10.1 (2.3)	15.2 (3.5)	0.3 (0.1)
Muzaffarpur	315.4 (100)	0 (0)	5.3 (1.7)	51.6 (16.4)	7.8 (2.5)	4.1 (1.3)	0.3 (0.1)
Sitamarhi	221.9 (100)	0 (0)	1.8 (0.8)	45.2 (20.4)	2.5 (1.1)	16 (7.2)	0.1 (0.1)
Sheohar	43.5 (100)	0 (0)	0.4 (0.9)	10 (23)	1.3 (2.9)	0.2 (0.3)	0 (0)
Vaishali	201.5 (100)	0 (0)	24.1 (12)	30.5 (15.1)	5.8 (2.9)	2 (1)	0.1 (0.1)
Darbhanga	254.1 (100)	0 (0)	1.3 (0.5)	44.3 (17.4)	9.4 (3.7)	7.4 (2.9)	0.1 (0.1)
Madhubani	353.5 (100)	0 (0)	2.2 (0.6)	71.3 (20.2)	13.4 (3.8)	2.2 (0.6)	0.5 (0.1)
Samastipur	262.4 (100)	0 (0)	3.8 (1.5)	54.7 (20.9)	8.2 (3.1)	0.8 (0.3)	0 (0)
Begusarai	187.8 (100)	0 (0)	18 (9.6)	30.2 (16.1)	7.7 (4.1)	4 (2.1)	0 (0)
Munger	139.8 (100)	28.5 (20.4)	11.4 (8.2)	20.9 (15)	5.8 (4.2)	5.3 (3.8)	0.9 (0.7)
Sheikhpura	62.1 (100)	0 (0)	1 (1.6)	7.8 (12.5)	0.9 (1.4)	2 (3.2)	0.2 (0.4)
Lakhisarai	128.6 (100)	13.5 (10.5)	7 (5.5)	9.3 (7.2)	1.2 (0.9)	4.8 (3.7)	0.7 (0.5)
Jamui	305.3 (100)	92.9 (30.4)	28.6 (9.4)	39.6 (13)	2.2 (0.7)	2.8 (0.9)	10.3 (3.4)
Khagaria	149.3 (100)	0 (0)	13.6 (9.1)	19.3 (12.9)	7.7 (5.2)	4.2 (2.8)	0.6 (0.4)
Bhagalpur	254.3 (100)	0.1 (0)	22.4 (8.8)	54.9 (21.6)	6.6 (2.6)	9.6 (3.8)	2.3 (0.9)
Banka	305.6 (100)	46.3 (15.2)	43 (14.1)	36.9 (12.1)	2.9 (0.9)	3.1 (1)	7.9 (2.6)
Saharsa	164.6 (100)	0 (0)	10.8 (6.6)	22.3 (13.5)	4.8 (2.9)	2.3 (1.4)	0.4 (0.2)
Supaul	238.6 (100)	0 (0)	20.2 (8.5)	39.2 (16.4)	9.8 (4.1)	3.1 (1.3)	1.4 (0.6)
Madhepura	179.6 (100)	0 (0)	3.9 (2.2)	26.9 (15)	3.9 (2.1)	1.2 (0.6)	0 (0)
Purnea	313.9 (100)	0.1 (0)	12.3 (3.9)	38.1 (12.1)	6.9 (2.2)	1.6 (0.5)	1.1 (0.4)
Kishanganj	189.1 (100)	0.4 (0.2)	11.2 (5.9)	25.9 (13.7)	7.3 (3.8)	2.7 (1.4)	1.2 (0.6)
Araria	271.7 (100)	0.8 (0.3)	5 (1.8)	40.9 (15.1)	6.4 (2.4)	6.5 (2.4)	0.5 (0.2)
Katihar	291.4 (100)	1.8 (0.6)	22.1 (7.6)	42.2 (14.5)	12.1 (4.2)	4.2 (1.4)	0.6 (0.2)
Bihar	9359.6 (100)	621.6 (6.6)	431.7 (4.6)	1360.7 (14.5)	207.4 (2.2)	145 (1.5)	44.5 (0.5)

Note : Figures in the parentheses denote percentage

Source : Directorate of Economics and Statistics, GOB

(Contd.)

Table A 3.2 : District-wise Land Utilization Pattern (2015-16) (Contd.)

(Area in '000 hectares)

District	Permanent Pastures (6)	Tree Crops (7)	Fallow land (8)	Current Fallow (9)	Total Uncultivable Land (10) (2 to 9)	Net Area Sown (11)	Gross Crop Area (12)	Cropping Intensity (13)
Patna	0.1 (0)	1 (0.3)	1.5 (0.5)	63.5 (20)	159.5 (50.3)	157.8 (49.7)	203.5 (64.1)	1.3 (0.4)
Nalanda	0 (0)	1.3 (0.6)	0.2 (0.1)	0.4 (0.2)	53.3 (22.9)	179.4 (77.1)	245.3 (105.4)	1.4 (0.6)
Bhojpur	0.1 (0)	2.1 (0.9)	2.4 (1)	19 (8)	65.5 (27.6)	171.9 (72.4)	209.2 (88.1)	1.2 (0.5)
Buxar	0 (0)	0.8 (0.5)	0.6 (0.3)	0.3 (0.2)	22 (13.2)	145 (86.8)	209.5 (125.5)	1.4 (0.9)
Rohtas	0.1 (0)	2.9 (0.7)	0.7 (0.2)	2 (0.5)	139.3 (35.7)	251.4 (64.3)	343.3 (87.9)	1.4 (0.3)
Kaimur	0.1 (0)	0.8 (0.2)	0.1 (0)	28.5 (8.3)	198.8 (58)	143.7 (42)	205 (59.9)	1.4 (0.4)
Gaya	2.1 (0.4)	3.9 (0.8)	11.3 (2.3)	110.3 (22.3)	309.3 (62.6)	184.4 (37.4)	228.1 (46.2)	1.2 (0.3)
Jehanabad	0.1 (0.1)	0.7 (0.8)	0.2 (0.2)	31.2 (33.1)	51.5 (54.7)	42.6 (45.3)	78.8 (83.8)	1.9 (2)
Arwal	0.1 (0.2)	0.9 (1.5)	1.6 (2.5)	5.8 (9.2)	21.2 (33.9)	41.4 (66.1)	46.9 (74.8)	1.1 (1.8)
Nawada	0.9 (0.3)	0.7 (0.3)	2.6 (1.1)	19.2 (7.7)	135.2 (54.4)	113.5 (45.6)	127.3 (51.2)	1.1 (0.5)
Aurangabad	0.5 (0.2)	0.6 (0.2)	1.1 (0.3)	35.6 (10.8)	134.5 (40.8)	195.5 (59.2)	271.1 (82.1)	1.4 (0.4)
Saran	0.1 (0.1)	8.6 (3.3)	3.6 (1.4)	38.5 (14.5)	101.4 (38.3)	163.5 (61.7)	207 (78.1)	1.3 (0.5)
Siwan	0.1 (0.1)	9 (4)	1.4 (0.6)	8.9 (4)	62.2 (27.7)	162.2 (72.3)	224.7 (100.1)	1.4 (0.6)
Gopalganj	0.2 (0.1)	7.5 (3.7)	2.3 (1.1)	11.9 (5.8)	62.7 (30.8)	141.1 (69.2)	210.4 (103.2)	1.5 (0.7)
W. Champaran	1.1 (0.2)	6.5 (1.3)	2.2 (0.5)	38.3 (7.9)	239.1 (49.4)	245.2 (50.6)	397.2 (82)	1.6 (0.3)
E. Champaran	0.4 (0.1)	27.2 (6.3)	2.9 (0.7)	29 (6.7)	144.9 (33.6)	286.8 (66.4)	423.7 (98.1)	1.5 (0.3)
Muzaffarpur	0 (0)	17.5 (5.5)	1.3 (0.4)	36.4 (11.5)	124.2 (39.4)	191.1 (60.6)	288.2 (91.4)	1.5 (0.5)
Sitamarhi	1.4 (0.6)	14 (6.3)	0.5 (0.2)	13.9 (6.3)	95.3 (42.9)	126.6 (57.1)	232.1 (104.6)	1.8 (0.8)
Sheohar	0 (0)	3.7 (8.4)	0.8 (1.9)	4.7 (10.8)	21 (48.4)	22.5 (51.6)	44.7 (102.8)	2 (4.6)
Vaishali	0.3 (0.2)	9.8 (4.9)	0.3 (0.1)	8.9 (4.4)	81.8 (40.6)	119.7 (59.4)	176.5 (87.6)	1.5 (0.7)
Darbhanga	0.1 (0.1)	12.5 (4.9)	2.1 (0.8)	25 (9.8)	102.2 (40.2)	151.9 (59.8)	179.2 (70.5)	1.2 (0.5)
Madhubani	1.3 (0.4)	24 (6.8)	2.9 (0.8)	2 (0.6)	119.8 (33.9)	233.7 (66.1)	342.6 (96.9)	1.5 (0.4)
Samastipur	0.1 (0)	8.3 (3.2)	0.9 (0.3)	23.1 (8.8)	99.9 (38.1)	162.5 (61.9)	290.6 (110.8)	1.8 (0.7)
Begusarai	0 (0)	3.8 (2)	0.8 (0.4)	9.7 (5.2)	74.2 (39.5)	113.6 (60.5)	169.4 (90.2)	1.5 (0.8)
Munger	0.2 (0.1)	0.6 (0.4)	1.9 (1.3)	18.9 (13.5)	94.5 (67.6)	45.3 (32.4)	51.7 (36.9)	1.1 (0.8)
Sheikhpura	0 (0)	0.3 (0.5)	1.6 (2.6)	4.9 (7.8)	18.7 (30.1)	43.4 (69.9)	57.2 (92.2)	1.3 (2.1)
Lakhisarai	0.1 (0)	0.4 (0.3)	6.2 (4.8)	41.2 (32.1)	84.4 (65.6)	44.2 (34.4)	64.4 (50.1)	1.5 (1.1)
Jamui	1.6 (0.5)	2.1 (0.7)	16 (5.2)	25.5 (8.4)	221.6 (72.6)	83.7 (27.4)	150.5 (49.3)	1.8 (0.6)
Khagaria	0.2 (0.1)	3.1 (2.1)	2.2 (1.4)	12.3 (8.3)	63.2 (42.3)	86.2 (57.7)	126.7 (84.8)	1.5 (1)
Bhagalpur	0.6 (0.2)	6.8 (2.7)	4.9 (1.9)	15.4 (6)	123.3 (48.5)	131 (51.5)	162.2 (63.8)	1.2 (0.5)
Banka	1.1 (0.3)	7.5 (2.4)	11.1 (3.6)	31.3 (10.3)	191 (62.5)	114.6 (37.5)	151.6 (49.6)	1.3 (0.4)
Saharsa	1.1 (0.7)	4.4 (2.7)	3.7 (2.3)	16.1 (9.8)	65.9 (40)	98.7 (60)	185.7 (112.8)	1.9 (1.1)
Supaul	0.2 (0.1)	3.1 (1.3)	9.4 (3.9)	11.5 (4.8)	98 (41.1)	140.6 (58.9)	236.6 (99.2)	1.7 (0.7)
Madhepura	0.1 (0)	7.2 (4)	1 (0.6)	2 (1.1)	46 (25.6)	133.6 (74.4)	205.3 (114.3)	1.5 (0.9)
Purnea	0 (0)	8.9 (2.8)	4.6 (1.5)	89.7 (28.6)	163.4 (52.1)	150.5 (47.9)	200.3 (63.8)	1.3 (0.4)
Kishanganj	0.4 (0.2)	5.2 (2.8)	3 (1.6)	34.2 (18.1)	91.4 (48.4)	97.6 (51.6)	139.8 (73.9)	1.4 (0.8)
Araria	0.2 (0.1)	19.2 (7.1)	3.5 (1.3)	72.3 (26.6)	154.4 (56.8)	117.3 (43.2)	241.1 (88.7)	2.1 (0.8)
Katihar	0.1 (0)	11.1 (3.8)	5.9 (2)	20.1 (6.9)	120.2 (41.3)	171.2 (58.7)	245.1 (84.1)	1.4 (0.5)
Bihar	15.2 (0.2)	248 (2.6)	119.2 (1.3)	961.4 (10.3)	4154.7 (44.4)	5204.9 (55.6)	7572.4 (80.9)	1.5 (0)

Note : Figures in the parentheses denote percentage

Source : Directorate of Economics and Statistics, GOB

Table A 3.3 : District-wise Area, Production and Productivity of Rice

(Area in '000 hectare/Production in '000 tonnes/ Productivity in kg/ha)

District	2016-17			2017-18		
	Area	Production	Productivity	Area	Production	Productivity
Patna	61.37 (1.8)	184.64 (2.2)	3009 (14)	72.1 (2.2)	216.66 (2.7)	3005 (14)
Nalanda	115.09 (3.4)	358.38 (4.3)	3114 (10)	119.79 (3.6)	381.09 (4.7)	3181 (13)
Bhojpur	98.9 (3)	257.29 (3.1)	2601 (17)	97.11 (2.9)	393.67 (4.9)	4054 (1)
Buxar	87.78 (2.6)	284.34 (3.5)	3239 (9)	87.48 (2.6)	306.03 (3.8)	3498 (6)
Rohtas	193.38 (5.8)	640.72 (7.8)	3313 (8)	190.72 (5.8)	739.67 (9.1)	3878 (2)
Kaimur	118.1 (3.5)	316.28 (3.8)	2678 (16)	117.43 (3.6)	400.63 (5)	3412 (9)
Gaya	98.65 (3)	327.85 (4)	3323 (7)	100.02 (3)	342.28 (4.2)	3422 (8)
Jehanabad	35.88 (1.1)	108.64 (1.3)	3028 (13)	35.53 (1.1)	117.59 (1.5)	3310 (11)
Arwal	41.71 (1.2)	145.71 (1.8)	3493 (3)	42.52 (1.3)	159.9 (2)	3761 (3)
Nawada	68.66 (2.1)	237.33 (2.9)	3457 (4)	77.05 (2.3)	247.15 (3.1)	3208 (12)
Aurangabad	175.2 (5.2)	619.15 (7.5)	3534 (2)	178.07 (5.4)	638.83 (7.9)	3588 (4)
Saran	76.45 (2.3)	151.59 (1.8)	1983 (26)	62.39 (1.9)	116.16 (1.4)	1862 (24)
Siwan	90.48 (2.7)	177.47 (2.2)	1961 (28)	91 (2.8)	151.3 (1.9)	1663 (34)
Gopalganj	83.02 (2.5)	134.16 (1.6)	1616 (37)	83.24 (2.5)	145.62 (1.8)	1749 (30)
W. Champaran	148.49 (4.4)	290.9 (3.5)	1959 (29)	140.28 (4.2)	238.73 (2.9)	1702 (32)
E. Champaran	185.07 (5.5)	346.11 (4.2)	1870 (32)	188.95 (5.7)	270.04 (3.3)	1429 (37)
Muzaffarpur	124.09 (3.7)	169.91 (2.1)	1369 (38)	122.74 (3.7)	162.92 (2)	1327 (38)
Sitamarhi	96.29 (2.9)	204.63 (2.5)	2125 (25)	97.9 (3)	180.6 (2.2)	1845 (26)
Sheohar	22.12 (0.7)	35.78 (0.4)	1617 (36)	22.02 (0.7)	36.87 (0.5)	1675 (33)
Vaishali	39.62 (1.2)	85.9 (1)	2168 (23)	42.03 (1.3)	89.26 (1.1)	2124 (21)
Darbhanga	78.61 (2.4)	144.4 (1.8)	1837 (33)	78.57 (2.4)	135.76 (1.7)	1728 (31)
Madhubani	206.62 (6.2)	363.13 (4.4)	1757 (34)	203.4 (6.2)	303.34 (3.7)	1491 (36)
Samastipur	88.67 (2.7)	222.67 (2.7)	2511 (19)	97.11 (2.9)	202.59 (2.5)	2086 (22)
Begusarai	27.18 (0.8)	84.52 (1)	3109 (11)	18.68 (0.6)	51.44 (0.6)	2753 (16)
Munger	24.45 (0.7)	91.74 (1.1)	3752 (1)	27.18 (0.8)	76.67 (0.9)	2821 (15)
Sheikhpura	22.08 (0.7)	63.27 (0.8)	2865 (15)	30.7 (0.9)	71.27 (0.9)	2322 (18)
Lakhisarai	71.39 (2.1)	220.01 (2.7)	3082 (12)	31.68 (1)	107.29 (1.3)	3387 (10)
Jamui	18.15 (0.5)	61.05 (0.7)	3364 (6)	65.8 (2)	165.66 (2)	2518 (17)
Khagaria	22.25 (0.7)	42.68 (0.5)	1918 (31)	18.9 (0.6)	42.04 (0.5)	2224 (19)
Bhagalpur	32 (1)	74.22 (0.9)	2319 (20)	33.69 (1)	115.95 (1.4)	3442 (7)
Banka	95.54 (2.9)	323.63 (3.9)	3387 (5)	91.76 (2.8)	325.73 (4)	3550 (5)
Saharsa	78.69 (2.4)	135.79 (1.6)	1726 (35)	67.54 (2)	120.25 (1.5)	1780 (28)
Supaul	104.63 (3.1)	203.08 (2.5)	1941 (30)	101.31 (3.1)	159.45 (2)	1574 (35)
Madhepura	84.09 (2.5)	217.78 (2.6)	2590 (18)	71.91 (2.2)	133.25 (1.6)	1853 (25)
Purnea	120.95 (3.6)	276.75 (3.4)	2288 (21)	110.9 (3.4)	217.59 (2.7)	1960 (23)
Kishanganj	78.41 (2.3)	167.19 (2)	2132 (24)	78.53 (2.4)	140.19 (1.7)	1785 (27)
Araria	115.83 (3.5)	227.56 (2.8)	1965 (27)	157.36 (4.8)	275.84 (3.4)	1753 (29)
Katihar	109.9 (3.3)	242.53 (2.9)	2207 (22)	53.51 (1.6)	113.85 (1.4)	2128 (20)
Bihar	3339.78 (100)	8238.77 (100)	2467	3306.9 (100)	8093.16 (100)	2447

Note : Figures in parentheses denote percentage and ranking for productivity

Source : Department of Agriculture, GOB

Table A 3.4 : District-wise Area, Production and Productivity of Wheat

(Area in '000 hectare/Production in '000 tonnes/ Productivity in kg/ha)

District	2016-17			2017-18		
	Area	Production	Productivity	Area	Production	Productivity
Patna	60.44 (2.9)	200.79 (3.4)	3322 (8)	68.18 (3.2)	246.69 (4)	3618 (1)
Nalanda	84.13 (4)	265.35 (4.4)	3154 (12)	80.5 (3.8)	253.45 (4.2)	3149 (11)
Bhojpur	50.36 (2.4)	166.61 (2.8)	3309 (9)	71.5 (3.4)	213.08 (3.5)	2980 (16)
Buxar	82.73 (3.9)	278.86 (4.7)	3371 (6)	78.75 (3.7)	272.22 (4.5)	3456 (5)
Rohtas	140.55 (6.7)	460.38 (7.7)	3276 (10)	140.75 (6.7)	472.04 (7.7)	3354 (7)
Kaimur	81.29 (3.9)	176.69 (3)	2174 (35)	68.51 (3.3)	161.44 (2.6)	2356 (33)
Gaya	71.95 (3.4)	199.49 (3.3)	2773 (19)	71.95 (3.4)	231.67 (3.8)	3220 (10)
Jehanabad	23.39 (1.1)	46.06 (0.8)	1970 (36)	23.43 (1.1)	58.33 (1)	2490 (28)
Arwal	14.28 (0.7)	37.75 (0.6)	2643 (22)	13.56 (0.6)	31.54 (0.5)	2327 (34)
Nawada	50.6 (2.4)	141.05 (2.4)	2787 (18)	43.03 (2)	132.29 (2.2)	3075 (14)
Aurangabad	71.13 (3.4)	165.65 (2.8)	2329 (31)	70.32 (3.3)	177.44 (2.9)	2523 (27)
Saran	89.82 (4.3)	312.71 (5.2)	3482 (3)	77.6 (3.7)	243.27 (4)	3135 (12)
Siwan	90.18 (4.3)	263.04 (4.4)	2917 (16)	90.63 (4.3)	262.86 (4.3)	2901 (19)
Gopalganj	77.64 (3.7)	263.96 (4.4)	3400 (4)	74.21 (3.5)	192.6 (3.2)	2595 (26)
W. Champaran	69.57 (3.3)	154.24 (2.6)	2217 (33)	70.31 (3.3)	160.94 (2.6)	2289 (36)
E. Champaran	118.63 (5.6)	287.31 (4.8)	2422 (29)	118.82 (5.7)	289.77 (4.7)	2439 (31)
Muzaffarpur	92.18 (4.4)	257.33 (4.3)	2792 (17)	91.87 (4.4)	258.18 (4.2)	2810 (21)
Sitamarhi	87.8 (4.2)	273.72 (4.6)	3118 (13)	87.79 (4.2)	258.99 (4.2)	2950 (18)
Sheohar	14.31 (0.7)	34.72 (0.6)	2425 (28)	14.45 (0.7)	44.55 (0.7)	3083 (13)
Vaishali	43.14 (2)	143.46 (2.4)	3326 (7)	40.75 (1.9)	132.67 (2.2)	3256 (9)
Darbhanga	59.88 (2.8)	150.01 (2.5)	2505 (23)	57.92 (2.8)	173.99 (2.9)	3004 (15)
Madhubani	92.17 (4.4)	176.07 (2.9)	1910 (38)	90.46 (4.3)	196.94 (3.2)	2177 (37)
Samastipur	49.36 (2.3)	185.32 (3.1)	3755 (2)	55.97 (2.7)	202.36 (3.3)	3616 (2)
Begusarai	60.6 (2.9)	228.99 (3.8)	3779 (1)	57.33 (2.7)	200.23 (3.3)	3492 (4)
Munger	13.89 (0.7)	34.32 (0.6)	2470 (24)	13.89 (0.7)	38.83 (0.6)	2795 (22)
Sheikhpura	22.19 (1.1)	52.05 (0.9)	2345 (30)	21.93 (1)	60.66 (1)	2766 (23)
Lakhisarai	29.4 (1.4)	89.22 (1.5)	3035 (15)	29.69 (1.4)	88.05 (1.4)	2966 (17)
Jamui	46.11 (2.2)	102.98 (1.7)	2233 (32)	42.92 (2)	105.71 (1.7)	2463 (29)
Khagaria	29.34 (1.4)	89.31 (1.5)	3044 (14)	28.48 (1.4)	97.21 (1.6)	3414 (6)
Bhagalpur	48.35 (2.3)	163.6 (2.7)	3384 (5)	47.5 (2.3)	156.47 (2.6)	3294 (8)
Banka	32.96 (1.6)	88.2 (1.5)	2676 (20)	33.13 (1.6)	90.88 (1.5)	2743 (24)
Saharsa	49.76 (2.4)	133 (2.2)	2673 (21)	49.38 (2.3)	140.53 (2.3)	2846 (20)
Supaul	51.18 (2.4)	100.6 (1.7)	1965 (37)	52.62 (2.5)	126.33 (2.1)	2401 (32)
Madhepura	9.6 (0.5)	30.57 (0.5)	3184 (11)	32.03 (1.5)	115.71 (1.9)	3612 (3)
Purnea	35.39 (1.7)	85.96 (1.4)	2429 (27)	19.78 (0.9)	48.7 (0.8)	2462 (30)
Kishanganj	17.73 (0.8)	39.25 (0.7)	2214 (34)	17.77 (0.8)	33.09 (0.5)	1862 (38)
Araria	36.22 (1.7)	88.81 (1.5)	2452 (25)	25.36 (1.2)	58.14 (1)	2293 (35)
Katihar	7.58 (0.4)	18.45 (0.3)	2435 (26)	28.25 (1.3)	76.45 (1.3)	2706 (25)
Bihar	2105.81 (100)	5985.84 (100)	2843	2101.31 (100)	6104.3 (100)	2905

Note : Figures in parentheses denote percentage and ranking for productivity

Source : Department of Agriculture, GOB

Table A 3.5 : District-wise Area, Production and Productivity of Maize

(Area in '000 hectare/Production in '000 tonnes/ Productivity in kg/ha)

District	2016-17			2017-18		
	Area	Production	Productivity	Area	Production	Productivity
Patna	6.34 (0.9)	13.91 (0.4)	2194 (31)	5.56 (0.8)	24.58 (0.8)	4418 (12)
Nalanda	8.05 (1.1)	36.56 (1)	4540 (14)	6.92 (1)	29.48 (0.9)	4263 (14)
Bhojpur	2.64 (0.4)	5.16 (0.1)	1957 (34)	2.11 (0.3)	5.24 (0.2)	2482 (33)
Buxar	1.28 (0.2)	3.01 (0.1)	2357 (30)	1.35 (0.2)	3.59 (0.1)	2665 (31)
Rohtas	0.08 (0)	0.13 (0)	1663 (37)	0.07 (0)	0.22 (0)	3027 (26)
Kaimur	0.35 (0)	0.73 (0)	2098 (32)	0.12 (0)	0.43 (0)	3612 (20)
Gaya	4.39 (0.6)	13.71 (0.4)	3124 (24)	2.88 (0.4)	8.81 (0.3)	3057 (25)
Jehanabad	0.44 (0.1)	2.08 (0.1)	4751 (12)	0.4 (0.1)	1.66 (0.1)	4163 (15)
Arwal	0.52 (0.1)	2.93 (0.1)	5684 (7)	0.45 (0.1)	2.09 (0.1)	4634 (9)
Nawada	1.51 (0.2)	4.38 (0.1)	2910 (25)	1.21 (0.2)	4.38 (0.1)	3622 (19)
Aurangabad	1.18 (0.2)	2.84 (0.1)	2414 (29)	0.23 (0)	0.6 (0)	2658 (32)
Saran	24.99 (3.5)	109.42 (2.8)	4378 (16)	26.89 (4)	84.13 (2.7)	3129 (24)
Siwan	18.02 (2.5)	85.09 (2.2)	4724 (13)	18.96 (2.8)	53.14 (1.7)	2802 (29)
Gopalganj	11.28 (1.6)	31.74 (0.8)	2815 (26)	14.9 (2.2)	41.2 (1.3)	2765 (30)
W. Champaran	5.37 (0.7)	18.39 (0.5)	3423 (21)	4.9 (0.7)	15.91 (0.5)	3245 (23)
E. Champaran	46.68 (6.5)	122.28 (3.2)	2619 (28)	46.09 (6.8)	111.43 (3.6)	2418 (34)
Muzaffarpur	31.38 (4.4)	56.62 (1.5)	1804 (35)	35.04 (5.2)	54.01 (1.7)	1542 (37)
Sitamarhi	5.38 (0.7)	21.83 (0.6)	4057 (17)	5.34 (0.8)	21.07 (0.7)	3945 (16)
Sheohar	1.5 (0.2)	6.68 (0.2)	4439 (15)	1.63 (0.2)	5.71 (0.2)	3503 (21)
Vaishali	32.39 (4.5)	123.48 (3.2)	3813 (19)	32.18 (4.8)	105.22 (3.4)	3269 (22)
Darbhanga	14.36 (2)	101.96 (2.7)	7100 (3)	9.38 (1.4)	34.47 (1.1)	3675 (18)
Madhubani	0.09 (0)	0.34 (0)	3953 (18)	0.17 (0)	0.84 (0)	5078 (7)
Samastipur	61.88 (8.6)	300.39 (7.8)	4855 (11)	66.89 (9.9)	444.68 (14.2)	6648 (3)
Begusarai	56.44 (7.8)	211.4 (5.5)	3745 (20)	46.45 (6.9)	99.95 (3.2)	2152 (35)
Munger	2.19 (0.3)	4.3 (0.1)	1962 (33)	2.2 (0.3)	6.61 (0.2)	3002 (27)
Sheikhpura	0.68 (0.1)	1.19 (0)	1758 (36)	0.61 (0.1)	0.91 (0)	1497 (38)
Lakhisarai	4.44 (0.6)	1.86 (0)	420 (38)	2.47 (0.4)	5.03 (0.2)	2032 (36)
Jamui	4.43 (0.6)	11.99 (0.3)	2704 (27)	3.42 (0.5)	9.75 (0.3)	2852 (28)
Khagaria	63.53 (8.8)	404.63 (10.5)	6369 (6)	59.51 (8.8)	295.74 (9.5)	4953 (8)
Bhagalpur	40.7 (5.6)	138.49 (3.6)	3403 (22)	38.91 (5.7)	179.46 (5.8)	4613 (10)
Banka	10.37 (1.4)	33.89 (0.9)	3267 (23)	10.13 (1.5)	39.09 (1.3)	3859 (17)
Saharsa	29.68 (4.1)	165.1 (4.3)	5564 (8)	26.14 (3.9)	134.49 (4.3)	5145 (6)
Supaul	15.26 (2.1)	83.79 (2.2)	5491 (9)	17.91 (2.6)	100.1 (3.2)	5641 (5)
Madhepura	40.89 (5.7)	214.46 (5.6)	5246 (10)	37.61 (5.6)	166.7 (5.3)	4432 (11)
Purnea	36.93 (5.1)	285.54 (7.4)	7731 (2)	30.53 (4.5)	205.7 (6.6)	6738 (2)
Kishanganj	3.51 (0.5)	23 (0.6)	6561 (4)	3.56 (0.5)	23.3 (0.7)	6541 (4)
Araria	42.25 (5.9)	274.13 (7.1)	6489 (5)	48.9 (7.2)	212.19 (6.8)	4339 (13)
Katihar	89.55 (12.4)	928.28 (24.1)	10366 (1)	65.42 (9.7)	588.87 (18.9)	9002 (1)
Bihar	720.91 (100)	3845.7 (100)	5335	677.44 (100)	3120.77 (100)	4607 (48)

Note : Figures in parentheses denote percentage and ranking for productivity
Source : Department of Agriculture, GOB

Table A 3.6 : District-wise Area, Production and Productivity of Pulses

(Area in '000 hectare/Production in '000 tonnes/ Productivity in kg/ha)

District	2016-17			2017-18		
	Area	Production	Productivity	Area	Production	Productivity
Patna	46.9 (9.4)	57.97 (12.5)	1236 (4)	46.9 (9.9)	69.92 (15.4)	1491 (3)
Nalanda	26.51 (5.3)	26.22 (5.6)	989 (18)	25.43 (5.3)	28.76 (6.3)	1131 (11)
Bhojpur	14.83 (3)	17.86 (3.8)	1204 (5)	12.8 (2.7)	13.76 (3)	1076 (12)
Buxar	7.14 (1.4)	9.28 (2)	1299 (2)	7.71 (1.6)	10.88 (2.4)	1410 (4)
Rohtas	10.94 (2.2)	14.07 (3)	1286 (3)	10.92 (2.3)	11.41 (2.5)	1046 (13)
Kaimur	12.47 (2.5)	11.46 (2.5)	919 (22)	11.46 (2.4)	10.81 (2.4)	944 (19)
Gaya	19.57 (3.9)	21.71 (4.7)	1109 (9)	18.78 (3.9)	16.68 (3.7)	888 (22)
Jehanabad	15.63 (3.1)	14.88 (3.2)	952 (20)	14.54 (3.1)	18.44 (4.1)	1268 (6)
Arwal	6.06 (1.2)	5.39 (1.2)	889 (24)	5.65 (1.2)	4.66 (1)	825 (25)
Nawada	9.33 (1.9)	7.91 (1.7)	848 (26)	9.58 (2)	12.27 (2.7)	1281 (5)
Aurangabad	31.74 (6.4)	26.04 (5.6)	820 (28)	31.06 (6.5)	29.8 (6.6)	959 (17)
Saran	2.84 (0.6)	2.27 (0.5)	798 (31)	2.39 (0.5)	4.68 (1)	1960 (1)
Siwan	4.31 (0.9)	4.37 (0.9)	1015 (15)	3.76 (0.8)	4.48 (1)	1190 (9)
Gopalganj	2.05 (0.4)	2.03 (0.4)	991 (17)	1.58 (0.3)	1.14 (0.3)	718 (31)
W. Champaran	9.83 (2)	11.21 (2.4)	1140 (7)	9.79 (2.1)	7.72 (1.7)	789 (27)
E. Champaran	10.51 (2.1)	9.96 (2.1)	947 (21)	9.94 (2.1)	11.76 (2.6)	1183 (10)
Muzaffarpur	27.46 (5.5)	12.63 (2.7)	460 (38)	27.71 (5.8)	15.74 (3.5)	568 (35)
Sitamarhi	6.26 (1.3)	4.85 (1)	775 (32)	6.12 (1.3)	4.57 (1)	748 (30)
Sheohar	2.08 (0.4)	1.27 (0.3)	609 (36)	2.11 (0.4)	1.22 (0.3)	577 (34)
Vaishali	8.71 (1.8)	4.99 (1.1)	574 (37)	8.64 (1.8)	13.19 (2.9)	1526 (2)
Darbhanga	11.5 (2.3)	9.87 (2.1)	858 (25)	12.12 (2.5)	9.16 (2)	756 (29)
Madhubani	24.03 (4.8)	19.25 (4.1)	801 (30)	23.51 (4.9)	21.72 (4.8)	924 (21)
Samastipur	18.49 (3.7)	15.45 (3.3)	836 (27)	15.77 (3.3)	8.77 (1.9)	556 (36)
Begusarai	4.92 (1)	5.02 (1.1)	1021 (14)	4.96 (1)	4.98 (1.1)	1003 (14)
Munger	3.75 (0.8)	3.65 (0.8)	975 (19)	2.3 (0.5)	2.25 (0.5)	980 (16)
Sheikhpura	6.76 (1.4)	7.9 (1.7)	1168 (6)	5.02 (1.1)	6.2 (1.4)	1235 (7)
Lakhisarai	10.06 (2)	13.23 (2.8)	1314 (1)	10.42 (2.2)	12.6 (2.8)	1209 (8)
Jamui	12.11 (2.4)	13.75 (3)	1135 (8)	8.61 (1.8)	8.24 (1.8)	957 (18)
Khagaria	8.04 (1.6)	7.23 (1.6)	900 (23)	6.82 (1.4)	6.31 (1.4)	925 (20)
Bhagalpur	12.55 (2.5)	10.17 (2.2)	810 (29)	12.06 (2.5)	9.37 (2.1)	777 (28)
Banka	9.36 (1.9)	10.13 (2.2)	1083 (10)	9.2 (1.9)	7.43 (1.6)	807 (26)
Saharsa	20.23 (4.1)	15.35 (3.3)	759 (33)	20.1 (4.2)	12.73 (2.8)	633 (33)
Supaul	26.33 (5.3)	19.49 (4.2)	740 (34)	32.14 (6.8)	16.09 (3.5)	501 (37)
Madhepura	20.14 (4.1)	13.37 (2.9)	664 (35)	19.55 (4.1)	16.76 (3.7)	857 (24)
Purnea	6.87 (1.4)	7.1 (1.5)	1033 (11)	5.45 (1.1)	2.59 (0.6)	475 (38)
Kishanganj	9.44 (1.9)	9.71 (2.1)	1028 (13)	9.49 (2)	6.22 (1.4)	656 (32)
Araria	9.59 (1.9)	9.9 (2.1)	1032 (12)	5.15 (1.1)	4.49 (1)	871 (23)
Katihar	7.96 (1.6)	7.93 (1.7)	997 (16)	6.46 (1.4)	6.37 (1.4)	986 (15)
Bihar	497.3 (100)	464.83 (100)	935	476 (100)	454.17 (100)	954

Note : Figures in parentheses denote percentage and ranking for productivity
Source : Department of Agriculture, GOB

Table A 3.7 : District-wise Area, Production and Productivity of Sugarcane

(Area in ha./ Production in Ton/ Yield in Ton/ha)

District	2016-17			2017-18		
	Area	Production	Productivity	Area	Production	Productivity
Patna	0.38 (0.14)	3.52 (0.19)	92.14 (2)	0.38 (0.14)	3.52 (0.2)	92.14 (1)
Nalanda	0.06 (0.02)	0.64 (0.04)	101.03 (1)	0.06 (0.02)	0.39 (0.02)	63.84 (15)
Bhojpur	0.39 (0.15)	2.03 (0.11)	52.04 (36)	0.33 (0.12)	1.66 (0.09)	50 (36)
Buxar	0.28 (0.1)	1.44 (0.08)	52 (37)	0.18 (0.07)	0.89 (0.05)	48.83 (37)
Rohtas	0.25 (0.09)	1.56 (0.09)	62.42 (16)	0.21 (0.08)	1.26 (0.07)	60.01 (18)
Kaimur	0.13 (0.05)	0.68 (0.04)	54.53 (33)	0.1 (0.04)	0.52 (0.03)	52.22 (35)
Gaya	0.15 (0.06)	1.11 (0.06)	73.99 (5)	0.15 (0.06)	1.11 (0.06)	73.99 (3)
Jehanabad	0.1 (0.04)	0.61 (0.03)	59.75 (20)	0.1 (0.04)	0.61 (0.03)	59.75 (20)
Arwal	0.01 (0)	0.06 (0)	65.79 (12)	0.01 (0)	0.06 (0)	65.79 (11)
Nawada	0.21 (0.08)	1.21 (0.07)	56.81 (26)	0.21 (0.08)	1.21 (0.07)	56.81 (27)
Aurangabad	0.1 (0.04)	0.72 (0.04)	73.98 (6)	0.1 (0.04)	0.72 (0.04)	73.98 (4)
Saran	0.89 (0.34)	4.85 (0.27)	54.79 (32)	1.17 (0.43)	8.54 (0.49)	73.17 (6)
Siwan	1.39 (0.52)	7.64 (0.42)	55.16 (31)	1.35 (0.5)	9.86 (0.56)	73.21 (5)
Gopalganj	21.16 (8.01)	146.41 (8.03)	69.19 (8)	25.11 (9.34)	162.99 (9.26)	64.92 (12)
W. Champaran	132.86 (50.31)	925.22 (50.72)	69.64 (7)	145.33 (54.04)	992.1 (56.34)	68.27 (8)
E. Champaran	43.31 (16.4)	344.71 (18.9)	79.59 (4)	34.7 (12.9)	220.85 (12.54)	63.65 (16)
Muzaffarpur	7.13 (2.7)	46.68 (2.56)	65.43 (13)	8.17 (3.04)	54.35 (3.09)	66.54 (9)
Sitamarhi	12.07 (4.57)	74.87 (4.1)	62.02 (17)	15.45 (5.75)	92.44 (5.25)	59.82 (19)
Sheohar	3.62 (1.37)	21.37 (1.17)	59.04 (22)	3.59 (1.33)	20.83 (1.18)	58.08 (25)
Vaishali	1.23 (0.47)	8.02 (0.44)	65.27 (14)	1.24 (0.46)	8.19 (0.46)	65.93 (10)
Darbhanga	2.12 (0.8)	14.07 (0.77)	66.5 (11)	1.56 (0.58)	10.11 (0.57)	64.83 (14)
Madhubani	5.14 (1.95)	34.25 (1.88)	66.66 (10)	4.28 (1.59)	27.75 (1.58)	64.83 (13)
Samastipur	6.35 (2.4)	40.08 (2.2)	63.16 (15)	6.05 (2.25)	33.51 (1.9)	55.38 (30)
Begusarai	7.47 (2.83)	45.11 (2.47)	60.42 (19)	5.88 (2.19)	33.68 (1.91)	57.3 (26)
Munger	0.18 (0.07)	1.08 (0.06)	60.86 (18)	0.18 (0.07)	1.08 (0.06)	60.86 (17)
Sheikhpura	0.32 (0.12)	1.86 (0.1)	58.86 (23)	0.32 (0.12)	1.86 (0.11)	58.86 (22)
Lakhisarai	0.02 (0.01)	0.11 (0.01)	56.14 (27)	0.02 (0.01)	0.11 (0.01)	56.14 (29)
Jamui	0.29 (0.11)	1.74 (0.1)	59.27 (21)	0.29 (0.11)	1.74 (0.1)	59.27 (21)
Khagaria	1.1 (0.42)	6.28 (0.34)	57.31 (25)	0.38 (0.14)	2.19 (0.12)	58.16 (24)
Bhagalpur	4.89 (1.85)	27.3 (1.5)	55.82 (29)	2.4 (0.89)	12.95 (0.74)	53.92 (33)
Banka	3.08 (1.17)	17.22 (0.94)	55.93 (28)	2.2 (0.82)	12.36 (0.7)	56.3 (28)
Saharsa	1.29 (0.49)	7.12 (0.39)	55.22 (30)	1.29 (0.48)	7.12 (0.4)	55.22 (31)
Supaul	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Madhepura	4.68 (1.77)	25.04 (1.37)	53.57 (35)	4.68 (1.74)	25.04 (1.42)	53.57 (34)
Purnea	0.9 (0.34)	5.26 (0.29)	58.46 (24)	0.9 (0.33)	5.26 (0.3)	58.46 (23)
Kishanganj	0.22 (0.08)	2.05 (0.11)	91.51 (3)	0.22 (0.08)	2.05 (0.12)	91.51 (2)
Araria	0.28 (0.11)	1.52 (0.08)	54.07 (34)	0.28 (0.1)	1.52 (0.09)	54.07 (32)
Katihar	0.08 (0.03)	0.55 (0.03)	68.74 (9)	0.08 (0.03)	0.55 (0.03)	68.74 (7)
Bihar	264.1 (100)	1824.02 (100)	69.06	268.94 (100)	1761.01 (100)	65.48

Note : Figures in parentheses denote percentage and ranking for productivity

Source : Department of Sugarcane, GOB

Table A 3.8 : District-wise Consumption of Fertilizers in Bihar (2016-17)

('000 tonnes)

District	Urea	DAP	SSP	MOP	Ammonium Sulphate	Complex	Sub Total	N	P	K	Total (NPK)	Grand Total
Patna	71.5	19.7	1.9	6.7	2.2	5.7	107.7	38	11	4	52.8	160.5
Nalanda	88.8	20.7	6.5	1.6	0.4	5.7	123.8	45	12	2	59.2	182.9
Bhojpur	62.9	11.2	1.7	0.5	1	10.7	88.1	33	8	1	41.5	129.6
Buxar	51.2	5.2	0.5	0.4	1	9.4	67.6	26	4	0	31.4	99
Rohtas	101.4	20.9	8.1	2	0	24.1	156.6	54	17	4	75.2	231.8
Kaimur	49	7.6	3	0.2	0	7.6	67.3	25	6	1	31.5	98.8
Gaya	66.8	14.6	3	1	0	8.8	94.2	35	9	1	44.8	139
Jehanabad	22.2	2.5	0.2	0.2	0	1	26.1	11	1	0	12.4	38.5
Arwal	19.6	2.6	0.2	0.2	0	0.7	23.2	10	1	0	11.1	34.3
Nawada	26.1	3.5	0.8	0.1	0	1.6	32.1	13	2	0	15.1	47.2
Aurangabad	61.9	14.6	5.9	0.7	0	10.7	93.9	33	10	1	44	137.9
Saran	51.4	7.4	0	0.4	0	6.8	66	26	5	0	31.3	97.3
Siwan	38.9	3.8	0	0.1	0	2.4	45.2	19	2	0	21.4	66.7
Gopalganj	21.5	1.1	0	0.5	0	2.2	25.4	11	1	0	11.9	37.2
W. Champaran	68.2	20.4	0.3	10.1	1.6	6.9	107.5	37	11	6	53.8	161.3
E. Champaran	99.5	25.3	3.2	7.8	0.1	8.7	144.6	52	14	5	71.1	215.7
Muzaffarpur	90.1	22.9	2.4	12.7	0.1	10	138.2	47	13	8	68.7	206.9
Sitamarhi	42.6	11.7	0.4	3.5	0.7	2.2	61	22	6	2	30.3	91.4
Sheohar	7.5	1.5	0	0.6	0	0.4	9.9	4	1	0	4.9	14.8
Vaishali	73.9	25.6	1.2	14.7	3.4	9.8	128.7	41	14	9	64.4	193.1
Darbhanga	39.7	11.9	0.4	4.9	0.4	3.3	60.6	21	6	3	30.5	91.1
Madhubani	36.1	15.3	0.1	5.3	0.6	2.8	60.3	20	8	3	31	91.3
Samastipur	65.9	18.2	1.7	10.8	0.1	4.3	101	34	10	7	50.8	151.8
Begusarai	65.9	37.9	2.3	18.7	3	11.2	139.1	40	20	12	71.9	211
Munger	14.5	2	0.4	1.9	0	0.6	19.4	7	1	1	9.4	28.8
Sheikhpura	11	2.3	0.3	0.3	0	1.1	15	6	1	0	7.2	22.1
Lakhisarai	18.6	3.2	1.5	0.1	0	0.7	24	9	2	0	11.2	35.2
Jamui	45.2	14.2	0.7	2.4	0.1	1.4	64.1	24	7	2	32.1	96.2
Khagaria	67.9	15.8	2	12.4	1.1	5.2	104.4	35	9	7	51.4	155.8
Bhagalpur	38.6	8.5	1.2	2.9	0.1	1.5	52.9	20	4	2	25.8	78.7
Banka	37.1	10.5	0.2	7.6	0.2	4.5	60.1	20	6	5	30.3	90.4
Saharsa	34.9	16.4	0.1	9.6	0.1	9.2	70.2	21	9	6	36	106.3
Supaul	46.5	13.7	0.4	12.3	0.4	9.5	82.9	26	8	8	41.7	124.6
Madhepura	103.3	39.2	6.6	24.5	1.8	16	191.3	58	22	15	95.2	286.5
Purnea	19.8	5.3	1.4	1.6	0	0.7	28.8	10	3	1	14	42.9
Kishanganj	77.8	25.3	2.9	21.1	0.4	12.5	140.1	43	15	13	70.4	210.4
Araria	75.2	28	3.7	15.8	0.8	16.4	139.9	43	17	10	69.6	209.6
Katihar	64.4	21.3	0.9	13.6	0	4.1	104.4	34	11	8	53.4	157.8
Bihar	1977.5	531.7	66.5	229.8	19.5	240.6	3065.5	1053	308.8	147	1508.8	4574.3

Source : Department of Agriculture, GOB

Table A 3.9 : District-wise Consumption of Fertilizers in Bihar (2017-18)

('000 tonnes)

District	Urea	DAP	SSP	MOP	Ammonium Sulphate	Complex	Sub Total	N	P	K	Total (NPK)	Grand Total
Patna	75.9	15.9	3.6	1.6	1	6.1	104	39	9	1	49.6	153.7
Nalanda	99.5	24.5	8.4	1.6	0.7	10.6	145.3	52	15	2	69.5	214.8
Bhojpur	70.7	20.1	2.2	1.4	0.4	10.9	105.6	38	12	1	51.4	157
Buxar	60.1	14.7	1	1	0	11.2	88	32	9	1	42.5	130.6
Rohtas	111.5	25.8	8.6	3.1	0	21.8	170.8	59	19	4	82.6	253.4
Kaimur	61.3	16.2	4.3	0.9	0	10.3	93	33	10	1	44.4	137.3
Gaya	62.4	22.1	2.7	2.2	0	5.6	95	34	12	2	47.2	142.1
Jehanabad	21	3.6	0	0.4	0.2	0.8	26.2	11	2	0	12.7	38.9
Arwal	17.9	3.6	0.1	0.4	0	0.5	22.5	9	2	0	11	33.5
Nawada	25	5	1.3	0.2	0	1.9	33.4	13	3	0	15.9	49.3
Aurangabad	61.5	18.5	7.7	1.6	0	9.5	98.9	33	12	1	46.4	145.2
Saran	54.9	16.3	0.3	2.3	0	4.7	78.5	29	9	2	39.2	117.7
Siwan	45.6	9.5	0	0.8	0	4.1	60	23	5	1	29.2	89.2
Gopalganj	26	4.4	0.1	0.8	0	2.1	33.4	13	2	1	16.1	49.6
W. Champaran	71.4	29.3	1.6	12.2	3.3	8.4	126.2	40	16	8	63.7	189.9
E. Champaran	93.7	35	3.3	10.6	0.7	11.1	154.4	51	19	7	77.8	232.2
Muzaffarpur	80.8	27.9	1.8	13.9	0.1	8.4	132.8	44	15	9	67.7	200.6
Sitamarhi	43	12.7	0.7	5.1	0.6	6.3	68.4	23	7	4	34.2	102.6
Sheohar	8.7	2.2	0.1	0.8	0	0.6	12.3	5	1	0	6.2	18.5
Vaishali	70.2	36.4	2.4	14.4	5.9	8.6	137.9	41	19	9	69.9	207.9
Darbhanga	40.7	15.6	1.1	6	1.3	6.2	70.9	23	9	4	36	107
Madhubani	40.5	21.9	0.1	3.6	0.7	3.1	69.8	23	11	2	36.4	106.2
Samastipur	62.8	22.4	1.6	10.5	0.1	5.6	103	34	12	6	52.2	155.2
Begusarai	63.2	29.3	2.2	13.6	4	8.6	120.9	37	16	9	61.2	182.1
Munger	15.4	3.8	0.1	1.1	0	0.6	21	8	2	1	10.5	31.5
Sheikhpura	12.4	2.7	0.4	0.2	0	0.7	16.3	6	1	0	7.8	24.1
Lakhisarai	19.7	4.2	1.6	0	0	1.4	27	10	3	0	12.8	39.8
Jamui	45.6	14.4	1	2.1	0.1	4	67.2	24	8	2	33.7	101
Khagaria	75.2	24.4	1.1	13	1.5	7.7	122.9	41	13	8	62.1	184.9
Bhagalpur	38.2	11.4	0.7	3.5	0.4	3.2	57.4	20	6	2	28.8	86.2
Banka	37.3	13	0.1	8.9	0.3	4.7	64.3	20	7	6	33.3	97.6
Saharsa	40.5	19.7	0.1	10.2	0.1	9	79.5	24	11	7	41.4	120.9
Supaul	54.6	21.4	0.1	14.8	0.9	9.8	101.5	31	12	9	52.3	153.8
Madhepura	94.9	40.6	5.4	24.7	5.2	20.8	191.7	56	24	15	95.3	287
Purnea	20.6	9.1	0.7	2.8	0.2	2.5	35.8	12	5	2	18.2	54
Kishanganj	72.5	29.4	1.9	20.1	1.6	11	136.6	41	16	12	69.6	206.2
Araria	68.6	30.4	2.8	19.3	3.5	12.8	137.4	40	17	12	69.6	207
Katihar	75.7	24.8	0.7	15.3	0.3	6.9	123.7	41	13	9	62.9	186.6
Bihar	2039.5	682.3	72	244.9	32.8	262.2	3333.6	1113.2	386.2	161.8	1661.2	4994.9

Source : Department of Agriculture, GOB

Table A 3.10 : District-wise Number of Farm Implements (2016-17)

District	Farm Implements	Combine Harvester	Zero Tillage	Pumpset	Power Tiller	Manually Operated tools	Thresher
Patna	2498	7	33	317	175	293	151
Nalanda	1806	14	24	166	310	265	131
Bhojpur	1366	6	163	133	6	317	71
Buxar	788	15	47	125	0	125	2
Rohtas	2483	31	170	174	4	148	84
Kaimur	1788	14	95	116	0	304	23
Gaya	2057	17	11	241	286	919	116
Jehanabad	1168	4	2	73	204	617	51
Arwal	423	1	0	56	21	65	143
Nawada	917	14	5	120	74	392	75
Aurangabad	1076	8	5	170	15	89	189
Saran	3469	0	76	540	13	544	165
Siwan	1207	6	5	200	4	203	94
Gopalganj	2288	5	5	229	0	734	109
W. Champaran	4023	4	27	246	40	1273	191
E. Champaran	3480	0	32	373	1	553	145
Muzaffarpur	2194	0	4	351	1	1009	16
Sitamarhi	3488	0	39	272	1	1477	254
Sheohar	964	0	6	35	0	464	8
Vaishali	3878	0	30	144	19	1074	112
Darbhanga	261	0	13	21	0	6	3
Madhubani	2902	0	27	257	0	920	342
Samastipur	5906	0	23	514	0	2723	33
Begusarai	1343	3	6	112	0	260	15
Munger	620	0	2	64	10	285	12
Sheikhpura	412	12	4	28	9	171	69
Lakhisarai	893	6	7	83	0	435	36
Jamui	623	4	1	67	38	197	41
Khagaria	1047	2	1	89	0	707	42
Bhagalpur	1753	0	23	251	7	807	47
Banka	2049	3	32	183	105	995	85
Saharsa	3582	0	16	124	0	1612	125
Supaul	1748	0	2	115	0	571	18
Madhepura	1734	0	1	120	1	953	60
Purnea	2729	0	8	220	30	835	162
Kishanganj	1294	0	9	79	2	217	86
Araria	3052	0	313	184	0	686	634
Katihar	2033	6	2	133	26	663	104
Bihar	75342	182	1269	6725	1402	23908	4044

Source : Department of Agriculture, GOB

Table A 3.11 : District-wise Number of Farm Implements (2017-18)

District	Farm Implements	Combine Harvester	Zero Tillage	Pumpset	Power Tiller	Manually Operated tools	Thresher
Patna	3048	12	21	84	134	182	238
Nalanda	1176	24	20	60	203	121	93
Bhojpur	1168	14	115	88	1	205	46
Buxar	739	27	74	118	0	32	24
Rohtas	1656	73	239	59	1	62	144
Kaimur	778	31	370	44	1	125	44
Gaya	1835	6	1	152	238	311	345
Jehanabad	527	2	2	26	72	236	62
Arwal	461	0	0	29	22	104	114
Nawada	725	11	2	30	54	216	123
Aurangabad	1211	12	5	62	18	55	346
Saran	2343	2	30	89	1	250	229
Siwan	2005	7	6	227	0	177	316
Gopalganj	1876	11	9	112	0	210	211
W. Champaran	3572	6	3	258	29	669	95
E. Champaran	5230	0	39	212	0	796	190
Muzaffarpur	2833	0	9	257	1	649	170
Sitamarhi	2989	0	22	56	0	983	199
Sheohar	734	0	9	69	4	236	32
Vaishali	2505	0	10	66	0	613	90
Darbhanga	860	0	4	36	0	0	32
Madhubani	2606	0	8	75	1	535	300
Samastipur	4518	1	7	200	0	137	121
Begusarai	3175	2	15	44	1	318	86
Munger	779	0	3	84	4	308	51
Sheikhpura	765	1	4	22	3	233	87
Lakhisarai	1062	0	14	96	0	328	149
Jamui	993	0	2	68	58	366	53
Khagaria	836	1	0	16	0	397	97
Bhagalpur	2533	0	7	265	2	865	110
Banka	1912	1	20	171	47	720	66
Saharsa	2417	0	3	42	0	679	76
Supaul	4161	0	1	133	1	402	57
Madhepura	2054	0	2	124	0	654	44
Purnea	3124	0	10	58	4	624	221
Kishanganj	933	1	0	74	1	76	10
Araria	1145	0	1	45	0	263	32
Katihar	2253	4	0	146	25	498	19
Bihar	73537	249	1087	3797	926	13635	4722

Source : Department of Agriculture, GOB

Table A 3.12 : District-wise Cooperative Credit Distribution

District	Target (Rs. Lakh)			Achievement (Rs. lakh)		
	2015-16	2016-17	2017-18	2015-16	2016-17	2017-18
Patna	11433	3990	7197	3072.4 (26.9)	3065.15 (76.8)	680.33 (9.5)
Nalanda	4303	5586	5758	770.75 (17.9)	794.01 (14.2)	276.37 (4.8)
Bhojpur	5391	6383	5758	592.86 (11)	473.78 (7.4)	528.01 (9.2)
Buxar	3926	3724	3359	351.83 (9)	297.41 (8)	300.55 (8.9)
Rohtas	2351	3458	3838	2051.04 (87.2)	2043.55 (59.1)	1947.09 (50.7)
Kaimur	1647	2926	2879	1036.47 (62.9)	864.05 (29.5)	849.86 (29.5)
Gaya	3047	1596	1439	374.15 (12.3)	296.02 (18.5)	168.91 (11.7)
Jehanabad	1018	532	480	38.89 (3.8)	4.7 (0.9)	4.7 (1)
Arwal	383			18.4 (4.8)		
Nawada	2865	6118	6237	2078 (72.5)	589.36 (9.6)	1785.03 (28.6)
Aurangabad	3208	5320	4798	1434.97 (44.7)	558.77 (10.5)	406.95 (8.5)
Saran						
Siwan	3393	4242	3838	2296.54 (67.7)	1049.7 (24.7)	765.77 (20)
Gopalganj	1092	6383	5758	1773.31 (162.4)	1618.93 (25.4)	2376.75 (41.3)
W. Champaran	3583	2128	2877	567.91 (15.9)	556.63 (26.2)	581.06 (20.2)
E. Champaran	2199	4256	3838	3046.64 (138.5)	2385.44 (56)	2946 (76.8)
Muzaffarpur	2997	4256	3838	575.96 (19.2)	341.67 (8)	259.1 (6.8)
Sitamarhi	1601	3192	2879	224.72 (14)	209.91 (6.6)	245.36 (8.5)
Sheohar	286	532	480	55.46 (19.4)	68.4 (12.9)	49.56 (10.3)
Vaishali	964	1862	1919	64.53 (6.7)	6.52 (0.4)	66.91 (3.5)
Darbhanga						
Madhubani	7907	6118	6237	6661.54 (84.2)	6532.86 (106.8)	3478.72 (55.8)
Samastipur	3398	2660	2879	3088.95 (90.9)	1916.27 (72)	2053.88 (71.3)
Begusarai	11727	3458	4318	10047.5 (85.7)	9127.11 (263.9)	6312.49 (146.2)
Munger	563			17.11 (3)		
Sheikhpura	814					
Lakhisarai	1532					
Jamui	977					
Khagaria	3388	2394	2399	3791.35 (111.9)	5100.63 (213.1)	3850.35 (160.5)
Bhagalpur	1265	2660	3359	289.47 (22.9)	346.03 (13)	310.85 (9.3)
Banka	1557	3458	3359	33.69 (2.2)	24.35 (0.7)	22.62 (0.7)
Saharsa						
Supaul						
Madhepura						
Purnea	3464	4522	4798	327.56 (9.5)	412.04 (9.1)	478.69 (10)
Kishanganj	3540	2128	2399	209.11 (5.9)	87.23 (4.1)	173.28 (7.2)
Araria	2180	2926	3359	584.01 (26.8)	283.52 (9.7)	611.66 (18.2)
Katihar	2001	3192	3359	87.5 (4.4)	60.61 (1.9)	137.79 (4.1)
Bihar	100000	100000	103636	45562.62 (45.6)	39129.56 (39.1)	31785.66 (30.7)

Note : Figures in parentheses denote percentage

Source : Department of Cooperative, GOB

Table A 3.13 : District-wise Livestock Wealth (2012)

Figures in '000

District	Cow	Buffalo	Pig	Sheep	Goat	Poultry
Patna	306 (2.5)	293 (3.9)	39 (5.9)	13 (5.7)	179 (1.5)	401 (3.1)
Nalanda	176 (1.4)	317 (4.2)	23 (3.5)	8 (3.5)	157 (1.3)	520 (4.1)
Bhojpur	204 (1.7)	202 (2.7)	131 (20.2)	19 (8.1)	115 (0.9)	161 (1.3)
Buxar	162 (1.3)	183 (2.4)	8 (1.3)	16 (6.7)	81 (0.7)	80 (0.6)
Rohtas	396 (3.2)	299 (3.9)	11 (1.7)	14 (6.0)	369 (3.0)	187 (1.5)
Kaimur	204 (1.7)	222 (2.9)	8 (1.3)	43 (18.5)	111 (0.9)	131 (1.0)
Gaya	654 (5.3)	314 (4.2)	83 (12.8)	10 (4.2)	428 (3.5)	496 (3.9)
Jehanabad	80 (0.7)	132 (1.7)	16 (2.5)	2 (0.9)	73 (0.6)	95 (0.7)
Arwal	53 (0.4)	73 (1.0)	4 (0.6)	2 (1.0)	50 (0.4)	134 (1.0)
Nawada	307 (2.5)	130 (1.7)	28 (4.3)	3 (1.1)	224 (1.8)	274 (2.1)
Aurangabad	364 (3.0)	200 (2.6)	11 (1.7)	25 (10.9)	209 (1.7)	377 (3.0)
Saran	321 (2.6)	187 (2.5)	8 (1.3)	5 (2.2)	188 (1.5)	325 (2.5)
Siwan	295 (2.4)	149 (2.0)	10 (1.6)	2 (0.9)	235 (1.9)	232 (1.8)
Gopalganj	188 (1.5)	115 (1.5)	6 (1.0)	0 (0.2)	211 (1.7)	146 (1.1)
W. Champaran	367 (3.0)	260 (3.4)	17 (2.7)	2 (1.0)	593 (4.9)	466 (3.7)
E. Champaran	360 (2.9)	340 (4.5)	16 (2.5)	2 (0.7)	725 (6.0)	684 (5.4)
Muzaffarpur	344 (2.8)	278 (3.7)	5 (0.8)	2 (0.8)	564 (4.6)	853 (6.7)
Sitamarhi	151 (1.2)	186 (2.5)	6 (1.0)	0 (0.1)	366 (3.0)	281 (2.2)
Sheohar	40 (0.3)	47 (0.6)	1 (0.2)	0 (0.0)	96 (0.8)	48 (0.4)
Vaishali	213 (1.7)	169 (2.2)	2 (0.3)	2 (0.7)	299 (2.5)	756 (5.9)
Darbhanga	260 (2.1)	222 (2.9)	9 (1.3)	1 (0.2)	302 (2.5)	480 (3.8)
Madhubani	526 (4.3)	380 (5.0)	16 (2.4)	1 (0.5)	400 (3.3)	259 (2.0)
Samastipur	467 (3.8)	241 (3.2)	3 (0.5)	3 (1.1)	387 (3.2)	551 (4.3)
Begusarai	363 (3.0)	99 (1.3)	4 (0.6)	0 (0.0)	231 (1.9)	256 (2.0)
Munger	167 (1.4)	52 (0.7)	8 (1.2)	0 (0.1)	169 (1.4)	141 (1.1)
Sheikhpura	67 (0.5)	46 (0.6)	5 (0.8)	1 (0.5)	64 (0.5)	60 (0.5)
Lakhisarai	126 (1.0)	58 (0.8)	4 (0.6)	1 (0.6)	107 (0.9)	45 (0.4)
Jamui	459 (3.8)	78 (1.0)	33 (5.0)	11 (4.6)	351 (2.9)	189 (1.5)
Khagaria	239 (2.0)	88 (1.2)	4 (0.7)	0 (0.0)	228 (1.9)	148 (1.2)
Bhagalpur	509 (4.2)	191 (2.5)	9 (1.4)	1 (0.2)	582 (4.8)	358 (2.8)
Banka	552 (4.5)	142 (1.9)	21 (3.3)	16 (6.9)	377 (3.1)	212 (1.7)
Saharsa	298 (2.4)	163 (2.1)	11 (1.7)	0 (0.0)	347 (2.9)	138 (1.1)
Supaul	475 (3.9)	313 (4.1)	11 (1.7)	16 (7.1)	448 (3.7)	176 (1.4)
Madhepura	346 (2.8)	820 (10.8)	7 (1.1)	1 (0.3)	403 (3.3)	198 (1.6)
Purnea	499 (4.1)	133 (1.8)	19 (2.9)	0 (0.0)	516 (4.2)	559 (4.4)
Kishanganj	411 (3.4)	45 (0.6)	12 (1.8)	1 (0.6)	407 (3.4)	736 (5.8)
Araria	678 (5.5)	300 (4.0)	16 (2.4)	3 (1.4)	980 (8.1)	722 (5.7)
Katihar	605 (4.9)	101 (1.3)	23 (3.5)	6 (2.7)	580 (4.8)	876 (6.9)
Bihar	12232 (100.0)	7567 (100.0)	650 (100.0)	232 (100.0)	12154 (100.0)	12748 (100.0)

Note : Figures in parentheses denote percentage
Source : Directorate of Animal Husbandry, GOB

Table A 3.14 : District-wise Achievement for Livestock-Related Services

District	Animal Treated (lakh)		Immunization (lakh)		Artificial Insemination (lakh)	
	2016-17	2017-18	2016-17	2017-18	2016-17	2017-18
Patna	2.15	2.40	8.42	16.52	3.26	1.32
Nalanda	1.29	1.60	6.59	13.48	0.11	0.72
Bhojpur	1.05	1.19	5.24	10.95	3.06	1.44
Buxar	0.60	0.54	4.32	8.98	0.35	1.01
Rohtas	1.25	1.30	8.84	14.91	0.12	0.86
Kaimur	0.38	0.55	5.50	11.07	0.05	0.51
Gaya	2.16	2.20	13.59	26.94	1.27	0.72
Jehanabad	0.82	0.73	2.86	5.50	0.06	0.32
Arwal	0.40	0.35	1.63	3.22	0.03	0.19
Nawada	1.36	1.10	6.26	11.71	0.12	0.26
Aurangabad	1.39	1.37	8.08	15.78	0.11	0.33
Saran	1.78	1.95	6.86	13.40	0.48	0.80
Siwan	0.94	0.83	6.47	9.80	0.32	0.63
Gopalganj	0.74	0.95	4.74	10.81	0.41	1.21
W. Champaran	1.03	1.18	10.96	18.21	0.03	0.51
E. Champaran	1.39	1.76	12.62	20.38	0.10	0.93
Muzaffarpur	1.54	1.94	10.60	18.11	5.18	2.37
Sitamarhi	1.05	1.15	6.17	9.83	0.04	0.53
Sheohar	0.15	0.28	1.61	2.53	0.02	0.41
Vaishali	0.97	1.09	6.40	10.68	0.29	1.47
Darbhanga	1.29	1.58	7.42	13.15	0.12	0.71
Madhubani	1.26	1.24	12.28	22.15	0.05	0.53
Samastipur	2.28	2.91	10.56	19.16	4.12	3.31
Begusarai	1.73	1.74	6.69	12.76	3.94	2.32
Munger	0.74	0.82	3.54	6.13	0.33	0.55
Sheikhpura	0.68	0.63	1.67	3.03	0.04	0.13
Lakhisarai	0.51	0.54	2.75	4.98	0.12	0.52
Jamui	0.77	0.77	8.33	15.18	0.03	0.08
Khagaria	0.71	0.70	5.17	9.22	0.04	1.12
Bhagalpur	1.47	1.26	11.68	19.53	0.95	0.59
Banka	0.87	0.94	10.19	18.91	0.25	0.59
Saharsa	0.80	1.06	7.46	12.84	0.03	0.27
Supaul	1.26	1.18	11.71	21.38	0.30	0.13
Madhepura	1.06	1.23	11.72	16.63	0.04	0.18
Purnea	1.28	1.40	10.56	17.81	0.30	0.23
Kishanganj	0.48	0.56	7.79	12.93	0.04	0.07
Araria	0.68	0.72	17.40	28.24	0.06	0.16
Katihar	0.70	0.93	11.79	19.87	0.03	0.19
Bihar	41.03	44.67	296.45	526.72	26.20	28.23

Source : Directorate of Animal Husbandry, GOB

Table A 3.15 : District-wise Production of Fish and Fish Seeds

District	Fish Production ('000 tonnes)	Fish Seeds (Lakh)	Fish Production ('000 tonnes)	Fish Seeds (Lakh)	Fish Production ('000 tonnes)	Fish Seeds (Lakh)
	2015-16		2016-17		2017-18	
Patna	15.47	308.88	15.63	225	17.43	467.8
Nalanda	17.61	360	17.62	360	20.33	365.25
Bhojpur	10.05	60	10.07	60.05	12.2	62.5
Buxar	6.91	45	6.92	84	6.69	85.02
Rohtas	6.75	100	6.78	175	8.44	178.3
Kaimur	9.95	124	9.98	125	12.51	127.5
Gaya	6.5	1.86	6.5	150	8.07	152.15
Jehanabad	1.26	15	1.26	15	1.26	16.05
Arwal	1.37	20	1.37	20	1.26	21.03
Nawada	5.4	0	5.5	1	4.9	1.5
Aurangabad	7.02	70	8.13	70	9.15	75
Saran	9.71	48.4	9.71	56.8	11.25	57.25
Siwan	6.21	20	6.22	20	7.27	21.02
Gopalganj	9.25	23.2	9.41	16.25	10.8	17.3
W. Champaran	23.1	460	23.2	461	25.02	462.15
E. Champaran	50.4	216	50	725	51.62	731.02
Muzaffarpur	21.75	480	21.75	520	25.6	520
Sitamarhi	12.24	596	12.25	598	12.41	599.7
Sheohar	2.05	5	2.2	6	2.62	35
Vaishali	15.09	95.2	15.09	96	18.9	97.25
Darbhangha	44	450	44	1000	54	1750
Madhubani	51.45	150	51.8	1600	65.65	1625.65
Samastipur	13.08	300	14.02	320	14.24	320.3
Begusarai	21.76	25	21.81	0	24.1	0
Munger	9.4	20	9.4	20	9.2	18
Sheikhpura	2.93	10	2.93	10	2.91	15
Lakhisarai	7.9	0	7.9	0	6.75	0
Jamui	2.35	0.5	2.35	1.5	2.51	2
Khagaria	18.9	125	20	120	23.89	124.3
Bhagalpur	13.6	364	13.61	375	14.09	377.25
Banka	9.89	0	9.91	0	9.98	0
Saharsa	6.7	25	6.85	10	8.82	11.5
Supaul	10.54	3.1	8.1	2.2	12.95	10
Madhepura	3.73	46	3.82	1.25	4.3	15
Purnea	12.05	63	12.1	70	16.4	160
Kishanganj	6.17	112	6.19	115	5.75	117.25
Araria	10.85	28.6	10.85	33.5	13.13	95
Katihar	23.5	470	23.85	470	31.45	472.25
Bihar	506.89	5240.74	509.08	7932.55	587.85	9206.29

Source : Department of Animal Husbandry, GOB

Table A 3.16 : District-wise Milk Production in Bihar (2016-17)

('000 tonnes)

District	Crossbred Cow	Local Cow	Total Cow	Buffalo	Total (Cow +Buffalo)	Goat	Total Production
Patna	278.92 (10.1)	16.49 (0.7)	295.41 (5.7)	174.23 (5.2)	469.65 (5.5)	3.78 (1.9)	473.42 (5.4)
Nalanda	99.73 (3.6)	27.03 (1.1)	126.76 (2.5)	208.19 (6.2)	334.95 (3.9)	3.16 (1.6)	338.1 (3.9)
Bhojpur	135.62 (4.9)	25.95 (1.1)	161.57 (3.1)	124.71 (3.7)	286.28 (3.4)	2.67 (1.3)	288.95 (3.3)
Rohtas	69.38 (2.5)	52.64 (2.2)	122.02 (2.4)	148.24 (4.4)	270.26 (3.2)	3.09 (1.5)	273.35 (3.1)
Kaimur	28.81 (1)	47.36 (2)	76.17 (1.5)	108.77 (3.2)	184.94 (2.2)	1.26 (0.6)	186.2 (2.1)
Buxar	62.33 (2.2)	32.53 (1.4)	94.86 (1.8)	86.17 (2.6)	181.03 (2.1)	1.25 (0.6)	182.29 (2.1)
Gaya	39.81 (1.4)	129.65 (5.5)	169.46 (3.3)	123.59 (3.7)	293.04 (3.4)	7.11 (3.5)	300.16 (3.4)
Jehanabad	25.26 (0.9)	13.4 (0.6)	38.67 (0.8)	56.51 (1.7)	95.18 (1.1)	1.33 (0.7)	96.52 (1.1)
Arwal	29.56 (1.1)	2.99 (0.1)	32.55 (0.6)	37.45 (1.1)	70 (0.8)	1.08 (0.5)	71.08 (0.8)
Nawada	18.32 (0.7)	64.93 (2.7)	83.24 (1.6)	57.57 (1.7)	140.82 (1.7)	3.28 (1.6)	144.1 (1.7)
Aurangabad	31.82 (1.1)	90.6 (3.8)	122.43 (2.4)	99.57 (3)	221.99 (2.6)	4.75 (2.3)	226.75 (2.6)
Saran	116.54 (4.2)	61.89 (2.6)	178.43 (3.5)	87.37 (2.6)	265.8 (3.1)	2.93 (1.4)	268.73 (3.1)
Siwan	53.38 (1.9)	62.66 (2.6)	116.04 (2.3)	77.59 (2.3)	193.64 (2.3)	3.44 (1.7)	197.07 (2.3)
Gopalganj	38.39 (1.4)	36.65 (1.5)	75.04 (1.5)	58.43 (1.7)	133.47 (1.6)	3.23 (1.6)	136.7 (1.6)
W. Champaran	60.43 (2.2)	92.2 (3.9)	152.63 (3)	97.09 (2.9)	249.72 (2.9)	8.71 (4.3)	258.43 (3)
E. Champaran	39.14 (1.4)	103.97 (4.4)	143.11 (2.8)	136.58 (4.1)	279.69 (3.3)	10.81 (5.3)	290.5 (3.3)
Muzaffarpur	182.48 (6.6)	18.98 (0.8)	201.46 (3.9)	125.15 (3.7)	326.62 (3.8)	8.73 (4.3)	335.35 (3.9)
Sitamarhi	23.92 (0.9)	16.52 (0.7)	40.44 (0.8)	85.66 (2.6)	126.1 (1.5)	6.46 (3.2)	132.56 (1.5)
Sheohar	11.99 (0.4)	7.91 (0.3)	19.9 (0.4)	21.3 (0.6)	41.2 (0.5)	1.78 (0.9)	42.97 (0.5)
Vaishali	161.56 (5.8)	4.81 (0.2)	166.36 (3.2)	74.51 (2.2)	240.87 (2.8)	4.52 (2.2)	245.39 (2.8)
Darbhanga	50.88 (1.8)	58.7 (2.5)	109.59 (2.1)	120.6 (3.6)	230.19 (2.7)	5.11 (2.5)	235.29 (2.7)
Madhubani	9.13 (0.3)	124.89 (5.3)	134.02 (2.6)	144.22 (4.3)	278.24 (3.3)	7.07 (3.5)	285.31 (3.3)
Samastipur	317.68 (11.5)	12.18 (0.5)	329.85 (6.4)	105.06 (3.1)	434.92 (5.1)	5.75 (2.8)	440.67 (5.1)
Begusarai	286.27 (10.3)	6.18 (0.3)	292.45 (5.7)	49.89 (1.5)	342.34 (4)	3.74 (1.8)	346.08 (4)
Munger	63.92 (2.3)	35.16 (1.5)	99.08 (1.9)	30.82 (0.9)	129.9 (1.5)	3.4 (1.7)	133.3 (1.5)
Sheikhpura	27.37 (1)	13.08 (0.5)	40.45 (0.8)	26.82 (0.8)	67.26 (0.8)	1.09 (0.5)	68.35 (0.8)
Lakhisarai	58.36 (2.1)	16.07 (0.7)	74.43 (1.4)	31.08 (0.9)	105.51 (1.2)	1.54 (0.8)	107.04 (1.2)
Jamui	12.78 (0.5)	95.54 (4)	108.33 (2.1)	38.65 (1.2)	146.97 (1.7)	5.5 (2.7)	152.48 (1.8)
Khagaria	172.66 (6.2)	27.52 (1.2)	200.18 (3.9)	57.51 (1.7)	257.7 (3)	3.78 (1.9)	261.48 (3)
Bhagalpur	141.61 (5.1)	91.66 (3.9)	233.27 (4.5)	90.27 (2.7)	323.55 (3.8)	7.8 (3.8)	331.35 (3.8)
Banka	27.36 (1)	126.34 (5.3)	153.69 (3)	62.85 (1.9)	216.54 (2.5)	5.66 (2.8)	222.2 (2.6)
Saharsa	20.72 (0.7)	84.1 (3.5)	104.82 (2)	85.95 (2.6)	190.77 (2.2)	5.45 (2.7)	196.22 (2.3)
Supaul	2.46 (0.1)	116.44 (4.9)	118.9 (2.3)	211.19 (6.3)	330.1 (3.9)	7.07 (3.5)	337.17 (3.9)
Madhepura	17.66 (0.6)	88.2 (3.7)	105.86 (2.1)	84.93 (2.5)	190.79 (2.2)	5.93 (2.9)	196.71 (2.3)
Purnea	23.73 (0.9)	131.98 (5.5)	155.72 (3)	52.47 (1.6)	208.19 (2.4)	6.43 (3.2)	214.62 (2.5)
Kishanganj	13.55 (0.5)	120.02 (5)	133.57 (2.6)	26.52 (0.8)	160.09 (1.9)	6.06 (3)	166.15 (1.9)
Araria	7.64 (0.3)	163.75 (6.9)	171.4 (3.3)	98.88 (2.9)	270.28 (3.2)	29.51 (14.5)	299.78 (3.4)
Katihar	10.18 (0.4)	157.33 (6.6)	167.51 (3.3)	50.66 (1.5)	218.17 (2.6)	8.67 (4.3)	226.84 (2.6)
Bihar	2771.38 (100)	2378.31 (100)	5149.69 (100)	3357.05 (100)	8506.74 (100)	202.92 (100)	8709.65 (100)

Source : Department of Animal Husbandry, GOB

Table A 3.17 : District-wise Milk Production in Bihar (2017-18)

('000 tonnes)

District	Crossbred Cow	Local Cow	Total Cow	Buffalo	Total (Cow+Buffalo)	Goat	Total Production
Patna	285.03 (9.8)	17.38 (0.7)	302.41 (5.6)	196.06 (5.4)	498.47 (5.5)	3.9 (1.9)	502.37 (5.4)
Nalanda	118.36 (4.1)	28.14 (1.1)	146.49 (2.7)	213.99 (5.9)	360.49 (4)	3.16 (1.5)	363.65 (3.9)
Bhojpur	138.97 (4.8)	24.48 (1)	163.45 (3)	136.9 (3.8)	300.35 (3.3)	2.75 (1.3)	303.1 (3.3)
Rohtas	71.19 (2.4)	62.37 (2.5)	133.56 (2.5)	159.29 (4.4)	292.85 (3.2)	3.12 (1.5)	295.97 (3.2)
Kaimur	29.45 (1)	50.54 (2)	79.99 (1.5)	118.35 (3.3)	198.33 (2.2)	1.08 (0.5)	199.41 (2.2)
Buxar	63.93 (2.2)	35.42 (1.4)	99.36 (1.8)	92.98 (2.6)	192.34 (2.1)	1.23 (0.6)	193.56 (2.1)
Gaya	40.91 (1.4)	144.68 (5.8)	185.59 (3.4)	132.16 (3.7)	317.75 (3.5)	7.33 (3.5)	325.08 (3.5)
Jehanabad	25.9 (0.9)	13 (0.5)	38.9 (0.7)	64.59 (1.8)	103.49 (1.1)	1.34 (0.6)	104.82 (1.1)
Arwal	30.26 (1)	2.88 (0.1)	33.14 (0.6)	41.53 (1.1)	74.67 (0.8)	1.09 (0.5)	75.75 (0.8)
Nawada	18.79 (0.6)	68.63 (2.7)	87.42 (1.6)	60.83 (1.7)	148.25 (1.6)	3.49 (1.7)	151.74 (1.6)
Aurangabad	34.99 (1.2)	94.66 (3.8)	129.66 (2.4)	106.86 (3)	236.52 (2.6)	4.8 (2.3)	241.31 (2.6)
Saran	127.62 (4.4)	63.17 (2.5)	190.79 (3.5)	90.98 (2.5)	281.77 (3.1)	2.94 (1.4)	284.71 (3.1)
Siwan	54.81 (1.9)	64.82 (2.6)	119.63 (2.2)	80.87 (2.2)	200.5 (2.2)	3.44 (1.7)	203.94 (2.2)
Gopalganj	39.27 (1.3)	42.84 (1.7)	82.11 (1.5)	62.77 (1.7)	144.88 (1.6)	3.26 (1.6)	148.14 (1.6)
W. Champaran	61.83 (2.1)	93.53 (3.7)	155.35 (2.9)	101.33 (2.8)	256.68 (2.8)	9.04 (4.4)	265.72 (2.9)
E. Champaran	40.22 (1.4)	108.95 (4.4)	149.17 (2.8)	150.05 (4.1)	299.23 (3.3)	11.13 (5.4)	310.36 (3.4)
Muzaffarpur	194.68 (6.7)	19.5 (0.8)	214.19 (4)	138.27 (3.8)	352.45 (3.9)	8.92 (4.3)	361.37 (3.9)
Sitamarhi	24.46 (0.8)	17.39 (0.7)	41.86 (0.8)	89.1 (2.5)	130.95 (1.4)	6.56 (3.2)	137.51 (1.5)
Sheohar	12.26 (0.4)	8.23 (0.3)	20.49 (0.4)	22.35 (0.6)	42.84 (0.5)	1.79 (0.9)	44.63 (0.5)
Vaishali	180.5 (6.2)	5.01 (0.2)	185.5 (3.4)	81.8 (2.3)	267.31 (3)	4.54 (2.2)	271.85 (2.9)
Darbhanga	53.14 (1.8)	64.72 (2.6)	117.87 (2.2)	130.3 (3.6)	248.17 (2.7)	5.2 (2.5)	253.37 (2.7)
Madhubani	9.85 (0.3)	122.01 (4.9)	131.86 (2.4)	151.68 (4.2)	283.54 (3.1)	7.12 (3.4)	290.67 (3.1)
Samastipur	338.76 (11.6)	12.38 (0.5)	351.14 (6.5)	111.42 (3.1)	462.56 (5.1)	5.78 (2.8)	468.34 (5.1)
Begusarai	294.73 (10.1)	6.23 (0.2)	300.96 (5.6)	52.66 (1.5)	353.62 (3.9)	3.76 (1.8)	357.38 (3.9)
Munger	74.02 (2.5)	40.08 (1.6)	114.09 (2.1)	36.01 (1)	150.1 (1.7)	3.42 (1.7)	153.53 (1.7)
Sheikhpura	28.06 (1)	13.3 (0.5)	41.35 (0.8)	28.56 (0.8)	69.91 (0.8)	1.1 (0.5)	71.01 (0.8)
Lakhisarai	61.33 (2.1)	16.73 (0.7)	78.06 (1.4)	34.61 (1)	112.67 (1.2)	1.48 (0.7)	114.16 (1.2)
Jamui	12.94 (0.4)	110.02 (4.4)	122.95 (2.3)	42.36 (1.2)	165.31 (1.8)	5.79 (2.8)	171.1 (1.9)
Khagaria	176.25 (6)	28.78 (1.2)	205.03 (3.8)	63.3 (1.7)	268.33 (3)	3.81 (1.8)	272.15 (2.9)
Bhagalpur	145.64 (5)	99.11 (4)	244.74 (4.5)	102.46 (2.8)	347.21 (3.8)	7.93 (3.8)	355.14 (3.8)
Banka	28.22 (1)	144.15 (5.8)	172.37 (3.2)	68.85 (1.9)	241.22 (2.7)	5.98 (2.9)	247.2 (2.7)
Saharsa	21.28 (0.7)	85.77 (3.4)	107.05 (2)	92.08 (2.5)	199.12 (2.2)	5.48 (2.6)	204.6 (2.2)
Supaul	2.51 (0.1)	121.44 (4.9)	123.95 (2.3)	220.23 (6.1)	344.18 (3.8)	7.15 (3.5)	351.33 (3.8)
Madhepura	18.39 (0.6)	89.76 (3.6)	108.15 (2)	91.55 (2.5)	199.7 (2.2)	5.94 (2.9)	205.65 (2.2)
Purnea	24.33 (0.8)	138.35 (5.5)	162.68 (3)	60.65 (1.7)	223.33 (2.5)	6.55 (3.2)	229.89 (2.5)
Kishanganj	13.87 (0.5)	120.76 (4.8)	134.63 (2.5)	29.49 (0.8)	164.13 (1.8)	6.33 (3.1)	170.46 (1.8)
Araria	7.81 (0.3)	164.8 (6.6)	172.61 (3.2)	105.61 (2.9)	278.22 (3.1)	30.3 (14.7)	308.53 (3.3)
Katihar	10.52 (0.4)	156.18 (6.2)	166.71 (3.1)	56.49 (1.6)	223.2 (2.5)	8.8 (4.3)	232 (2.5)
Bihar	2915.06 (100)	2500.21 (100)	5415.27 (100)	3619.37 (100)	9034.64 (100)	206.85 (100)	9241.49 (100)

Source : Department of Animal Husbandry, GOB

CHAPTER - IV

ENTERPRISES SECTOR

Sustainable economic growth in any developing country is largely determined by a process of structural change which implies a larger space for its industrial sector. Such a structural change is observed in both Bihar and India, although the pace of change has been slower in Bihar than in India as a whole. This has been so partly because of historical reasons. Additionally, this trend has also been caused by the increasing role of tertiary sector at the cost of secondary sector, which is indeed a national phenomenon. However, in the recent past, the state government has adopted a number of policies that are expected to promote industrial growth in the coming years. These policies include both infrastructural development and incentives for entrepreneurial activities. In particular, one may mention here that there has been a dramatic improvement in the power sector in the state and, secondly, the ranking of the state in terms of ‘ease of doing business’ has also improved.

In Bihar, the annual growth rate of secondary sector was unstable over the years and had only moderate impact on overall economic growth (Table 4.1). In 2016-17 and 2017-18, the manufacturing sector registered growth rates of 7.6 percent and 2.7 percent per annum, respectively. However, quick estimates of 2017-18 show a slowing of its growth process. The growth rate of electricity, gas, water supply and other utility services has again been volatile over the period, ranging from 0.1 percent in 2015-16 to a satisfactory 7.3 percent in 2016-17.

Table 4.1 : Annual Growth Rate of Secondary Sector in Bihar at constant prices

Sector	2013-14	2014-15	2015-16	2016-17 (P)	2017-18 (Q)
Mining and quarrying	540.6	-58.3	210.0	-0.1	3.5
Manufacturing	94.5	37.4	-10.0	7.6	2.7
EGWUS*	2.8	3.4	0.1	7.3	3.6
Construction	6.5	-4.5	10.2	1.0	2.2
Secondary	27.8	11.9	0.1	4.2	2.5
Gross State Domestic Product	4.9	3.6	5.8	9.9	11.3

Note : * EGWUS = Electricity, gas, water supply & other utility services
Source : Directorate of Economics and Statistics, GOB

Table 4.2 presents the contribution of industrial sector in Gross State Value Added (GSVA) of different Indian states in three years (2014-15 to 2016-17). It clearly indicates the limited size of industrial sector in Bihar. The contribution of industrial sector in GSVA was only 19.2 percent in Bihar in 2016-17, registering a fall of 1.2 percentage points from 2015-16. In all other states, the share of industrial sector in GSVA ranges between 25.5 percent (Telangana) to 48.0 percent (Chhattisgarh) in 2016-17. One may, however, note here that the relatively faster growth of tertiary sector has ensured a fast growth of the non-agricultural and overall economy. The state government has been pursuing its industrial promotion policies for the last few years to alter the growth trajectory towards the industrial sector.

Table 4.2 : Contribution of Industrial Sector in GSVA in Different Indian States

State	2014-15	2015-16	2016-17	State	2014-15	2015-16	2016-17
Andhra Pradesh	27.5	27.5	26.7	Maharashtra	34.8	35.1	34.1
Assam	31.0	38.0	38.0	Odisha	40.2	43.6	42.1
Bihar	21.1	20.4	19.2	Punjab	25.0	25.2	25.0
Chhattisgarh	47.6	48.3	48.0	Rajasthan	30.5	31.5	31.0
Gujarat	47.2	49.8	49.8	Tamil Nadu	33.6	36.2	36.9
Haryana	31.2	31.1	30.5	Telangana	23.7	25.7	25.5
Jharkhand	43.5	41.3	37.1	Uttar Pradesh	26.5	28.2	29.1
Karnataka	26.5	27.6	27.4	West Bengal	24.4	25.0	26.9
Kerala	27.3	27.4	27.0	India	31.1	31.6	31.5
Madhya Pradesh	27.3	29.3	27.0				

Source : Central Statistical Organisation (CSO)

4.1 Status of Industries

The industrial sector in Bihar, as elsewhere in India, comprises both formal and informal sector. In this section, status of both these sectors will be discussed. While the status of formal sector will be discussed, based on Annual Survey of Industries (ASI) data, the status of informal sector will be analysed using a recent National Sample Survey Organisation (NSSO) survey on unincorporated non-agricultural enterprises.

Industries covered under Annual Survey of Industries

The ASI, one of the most reliable sources of information about the industries in India, provides data on different aspects of industries in the country. ASI covers the entire Factory Sector comprising industrial units (called factories), registered under the Factories Act, 1948. Moreover, ASI also collects information on bidi & cigar units, employing 10 or more workers with the aid

of power and 20 or more workers without the aid of power and registered under the Bidi & Cigar Workers (Conditions of Employment) Act, 1966. The electricity undertakings engaged in generation, transmission and distribution of electricity, not registered with the Central Electricity Authority (CEA) are also covered under ASI.

It is a well-known fact that, given proper infrastructure, Bihar has comparative advantage in agro-based industries. In this direction, Bihar has shown tremendous promise, as indicated by the growth rate of its agro-based industries (19.2 percent) over the last 10 year period (Table 4.3).

Table 4.3 : Number of Factories and Factories in Operation

Year	No. of Factories			No. of Factories in Operation		
	Agro-based	Non-Agro Based	Total	Agro-based	Non-Agro Based	Total
Bihar						
2006-07	278 (17)	1323 (83)	1601 (100)	228 (16)	1182 (84)	1410 (100)
2007-08	466 (26)	1319 (74)	1785 (100)	404 (25)	1209 (75)	1613 (100)
2008-09	437 (25)	1340 (75)	1777 (100)	377 (24)	1172 (76)	1549 (100)
2009-10	510 (27)	1409 (73)	1919 (100)	454 (26)	1271 (74)	1725 (100)
2010-11	918 (33)	1889 (67)	2807 (100)	822 (32)	1725 (68)	2547 (100)
2011-12	1126 (35)	2106 (65)	3232 (100)	1014 (35)	1858 (65)	2872 (100)
2012-13	1141 (34)	2206 (66)	3347 (100)	1005 (34)	1941 (66)	2946 (100)
2013-14	1148 (34)	2272 (66)	3420 (100)	1036 (33)	2096 (67)	3132 (100)
2014-15	1232 (35)	2298 (65)	3530 (100)	1129 (38)	1813 (62)	2942 (100)
2015-16	1251 (35)	2372 (65)	3623 (100)	1092 (37)	1826 (63)	2918 (100)
CAGR	18.3	8.4	11.0	19.2	6.9	10.2
India						
2006-07	54902 (38)	89809 (62)	144711 (100)	51681 (37)	86937 (63)	138618 (100)
2007-08	62189 (42)	84196 (58)	146385 (100)	59124 (42)	81443 (58)	140567 (100)
2008-09	67259 (43)	88063 (57)	155322 (100)	64005 (43)	86285 (57)	150290 (100)
2009-10	65409 (41)	93469 (59)	158878 (100)	62299 (41)	90336 (59)	152635 (100)
2010-11	87520 (43)	117011 (57)	204531 (100)	69249 (42)	97387 (58)	166636 (100)
2011-12	93251 (43)	124303 (57)	217554 (100)	72769 (41)	102939 (59)	175708 (100)
2012-13	87803 (40)	134317 (60)	222120 (100)	68698 (38)	110403 (62)	179101 (100)
2013-14	87775 (39)	136803 (61)	224578 (100)	70993 (38)	114697 (62)	185690 (100)
2014-15	95887 (42)	134546 (58)	230433 (100)	77049 (41)	112417 (59)	189466 (100)
2015-16	90762 (39)	142354 (61)	233116 (100)	73427 (38)	117635 (62)	191062 (100)
CAGR	6.1	6.7	6.5	3.6	4.4	4.1

Note : Figures in the parenthesis denote percent share to total

Source : Annual Survey of Industries

This growth in agro-based industries was almost five times the growth rate achieved across all states of India. In case of non-agro-based industries in Bihar, the growth was again higher than the growth rate achieved at all-India level. The state government has devised the Industrial Investment Promotion Policy, 2016. The resolution document of the Industrial Investment Promotion Policy, 2016 unequivocally argues that “the main strategy for achieving the goals of this policy is to focus on development of support infrastructure, prioritizing core sectors of future development with emphasis on advanced technology, skill development, a modified structured package of assistance and balanced regional development i.e. uniformly extending the benefits of investment to all geographical areas of the State.”

Table 4.4 indicates that the size of the industrial sector in Bihar remains small. Of the total number of industries in operation in India, share of Bihar was only 1.5 percent in 2015-16, though the growth rate of such industries in Bihar was 10 percent, much higher than the growth rate of 4 percent at the all-India level. Other aspects of industries like total amount of fixed capital, working capital, employment, value of output etc. can also be considered for understanding the health of the industries in Bihar. In 2015-16, there was marginal decline in the above-mentioned indicators compared to 2014-15 for Bihar. However, the decline in the indicators was not isolated facts for Bihar; these indicators had either registered a small change or remained stagnant at the all-India level as well. It can be expected that, in the coming years, with reinforced commitment of the state government towards industrialisation, the growth prospect of key indicators of the industries will improve.

Table 4.5 shows that the industries in Bihar have relatively lower productive capacity which translate into low return to capital and labour. Low return to capital and labour can be explained with the few structural ratios for industries in Bihar vis-à-vis India. For instance, the average size of fixed capital per factory in Bihar was only Rs. 3.39 crore, compared to Rs 14.70 crore at all-India level in 2015-16. The growth of average size of fixed capital per operational factory in Bihar has been almost stagnant. Similarly, the net value added per operational factory has declined from Rs 1.97 crore in 2014-15 to Rs. 1.80 crore in 2015-16 which was just 32 percent of the all-India average.

Table 4.4 : Industries in India and Bihar

Year	Number of Factories in Operation (in '000)		Fixed capital (Rs. '000 crore)		Working Capital (Rs. '000 crore)	
	India	Bihar	India	Bihar	India	Bihar
2006-07	139	1.41 (1.0)	715	2.95 (0.4)	282	1.61 (0.6)
2007-08	141	1.61 (1.1)	845	3.01 (0.4)	317	1.64 (0.5)
2008-09	150	1.55 (1.0)	1056	3.03 (0.3)	311	1.47 (0.5)
2009-10	153	1.73 (1.1)	1352	4.45 (0.3)	388	0.95 (0.2)
2010-11	167	2.55 (1.5)	1607	5.26 (0.3)	620	2.47 (0.4)
2011-12	176	2.87 (1.6)	1950	7.55 (0.4)	589	(-)0.24 (-0.04)
2012-13	179	2.95 (1.6)	2180	6.47 (0.3)	603	2.48 (0.4)
2013-14	186	3.13 (1.7)	2374	8.04 (0.3)	1011	5.88 (0.6)
2014-15	189	2.94 (1.6)	2474	9.94 (0.4)	641	3.49 (0.5)
2015-16	191	2.92 (1.5)	2810	9.92 (0.4)	741	1.45 (0.2)
CAGR	4	10	17	17	13	9.7
Year	Persons Engaged (in '000)		Value of Output (Rs. '000 crore)		Net Value Added (Rs. '000 crore)	
	India	Bihar	India	Bihar	India	Bihar
2006-07	10328	67 (0.6)	2409	19.04 (0.8)	396	0.32 (0.1)
2007-08	10453	74 (0.7)	2776	21.87 (0.8)	482	1.16 (0.2)
2008-09	11327	74 (0.7)	3273	29.54 (0.9)	528	3.18 (0.6)
2009-10	11792	87 (0.7)	3733	2.83 (0.1)	592	2.32 (0.4)
2010-11	12695	106 (0.8)	4676	36.05 (0.8)	705	4.42 (0.6)
2011-12	13430	127 (0.9)	5776	60.17 (1.0)	837	5.64 (0.7)
2012-13	12950	116 (0.9)	6026	51.68 (0.9)	852	1.30 (0.2)
2013-14	13538	114 (0.8)	6555	55.30 (0.8)	895	5.15 (0.6)
2014-15	13881	146 (1.1)	6884	58.76 (0.9)	975	5.82 (0.6)
2015-16	14300	119 (0.8)	6862	47.73 (0.7)	1072	5.23 (0.5)
CAGR	4	8	14	52	11	25

Note : Figures in the parenthesis denote percent share to All India

Source : Annual Survey of Industries

Table 4.5 : Structural Ratios of Industries in India and Bihar

Characteristics	2012-13		2013-14		2014-15		2015-16	
	India	Bihar	India	Bihar	India	Bihar	India	Bihar
Fixed capital / Factory in Operation (Rs. lakh)	1217	220 (18.1)	1278	257 (20.1)	1306	338 (25.9)	1470	339.9 (23.1)
Fixed capital/ Persons Engaged (Rs. lakh)	16.9	5.6 (33.1)	17.5	7.1 (40.4)	17.8	6.8 (38.2)	19.6	8.3 (42.3)
Workers / Factory in Operation (Number)	56	34 (60.7)	56	31 (54.6)	57	43 (75.2)	58	35.4 (60.7)
Persons Engaged / Factory in operation (Number)	72	40 (55.6)	73	36 (49.7)	73	50 (67.8)	75	41.0 (54.8)
Net Value Added / Factory in operation (Rs. lakh)	476	44 (9.2)	482	165 (34.1)	515	197 (38.5)	561	180 (32.0)
Net Value Added / Persons Engaged (Rs. lakh)	6.6	1.1 (17.0)	6.6	4.5 (68.6)	7.0	4.0 (56.7)	7.5	4.4 (58.7)

Note : The figures in bracket indicate Bihar's figure as percentage of India's figure.

Source : Annual Survey of Industries

A brief comparison of the industries in Bihar with those in other states and at all-India level clearly shows the low scale of industrial production in Bihar, primarily due to low injection of capital (Table 4.6). In Bihar, Gross Value-Added (GVA) as percentage of Gross Value of Output (GVO) was just 12.7 percent compared to that of Telangana (24.1 percent), where this ratio was the highest among all the states in India. The labour absorption capacity has been very low in Bihar vis-à-vis other states of India. In 2015-16, the total employment in industries in Bihar was 1.19 lakh, just 0.8 percent of the total employment in industries across all states in India. Similarly, the number of workers per factory was only 41, compared to 75 at all-India level. Interestingly, wages, salaries (including bonus) per person annually in factories in Bihar was not particularly low. In Bihar, wages, salaries (including bonus) was Rs. 1,19,305 per person annually in 2015-16, that has increased from Rs. 97,790 in the previous year (Table 4.7). It can be argued that an increase in wages, salaries (including bonus) is an important feature, since the unemployment rate in Bihar has been very high, which tends to depress the wages, especially for a differentially skilled working population.

Table 4.6 : State-wise GVO and GVA of Industrial Sector (2015-16)

State	No. of Factories in Operation	Gross Value of Output (GVO) (Rs. crore)	Gross Value Added (GVA)		
			Amount in Rs. Crore	Percentage Share in Total	as Percentage of GVO
Andhra Pradesh	12864	233776	38806	3.0	16.6
Bihar	2918	47734	6083	0.5	12.7
Chhattisgarh	2641	97317	13994	1.1	14.4
Gujarat	18545	1154039	210956	16.6	18.3
Haryana	6523	395350	61778	4.9	15.6
Jharkhand	2462	114749	18109	1.4	15.8
Karnataka	10289	437723	78685	6.2	18.0
Kerala	6890	122691	18299	1.4	14.9
Madhya Pradesh	3878	193423	35710	2.8	18.5
Maharashtra	22165	1168017	248475	19.5	21.3
Odisha	2634	137118	23855	1.9	17.4
Punjab	10308	185520	26715	2.1	14.4
Rajasthan	8176	240800	43076	3.4	17.9
Tamil Nadu	29925	699001	131349	10.3	18.8
Telangana	13073	188520	45417	3.6	24.1
Uttar Pradesh	12585	428136	64679	5.1	15.1
West Bengal	8215	270938	30607	2.4	11.3
India	191062	6862354	1273280	100.0	18.6

Source : Annual Survey of Industries

Table 4.7 : State-wise Persons Engaged in Industrial Sector (2015-16)

State	No. of Factories in Operation	Persons Engaged			Wages, Salaries & Bonus per Person annually (Rs.)
		Number	Percentage Share in Total	Employment per Factory	
Andhra Pradesh	12864	520056	3.6	40	218851
Bihar	2918	119496	0.8	41	119305
Chhattisgarh	2641	171906	1.2	65	318016
Gujarat	18545	1563868	10.9	84	250789
Haryana	6523	717193	5.0	110	256909
Jharkhand	2462	179639	1.3	73	381914
Karnataka	10289	1005074	7.0	98	260647
Kerala	6890	338920	2.4	49	201370
Madhya Pradesh	3878	358323	2.5	92	231787
Maharashtra	22165	1970456	13.8	89	336213
Odisha	2634	257842	1.8	98	268148
Punjab	10308	609675	4.3	59	165171
Rajasthan	8176	508574	3.6	62	225663
Tamil Nadu	29925	2326458	16.3	78	202188
Telangana	13073	689537	4.8	53	174454
Uttar Pradesh	12585	941293	6.6	75	217689
West Bengal	8215	634835	4.4	77	197890
India	191062	14000000	100.0	75	238796

Source : Annual Survey of Industries

Till now, the industrial sector in Bihar has played a limited role in the economic growth process, though Bihar has the potential to develop as a major industrial hub, particularly in agro-based industries. It is perceived that an expansion of agro-based industries would play a dual role; on the one hand, it would utilise Bihar's crop and horticultural production to add value to the perishable commodities and, on the other, it may generate large employment to skilled and semi-skilled workforce, as agro-based industries are generally labour-intensive. Moreover, given the labour abundance, Bihar may also be developed as a host of unincorporated small-scale enterprises, where the required level of investment is low and can generate large surplus through utilisation of labour.

Unincorporated Non-Agricultural Enterprises

The Unincorporated Non-Agricultural Enterprises (UNAE) are generally those industrial units which are small and they are not covered by the ASI. However, the size of this sector is very large and they contribute substantially to the overall industrial output in a state as well as in

India. Unfortunately, there is no adequate data on this sector is collected annually. To fill this data gap, the National Sample Survey Office (NSSO) conducts survey on this sector at some intervals. The latest refers to the year 2015-16.

Table 4.8 : Percentage Distribution of Enterprises by State/UTs for Each Sector and Enterprise Type

State	Rural			Urban			Rural and Urban		
	OAE	Establishment	All	OAE	Establishment	All	OAE	Establishment	All
Andhra Pradesh	6.0	5.8	6.0	5.1	3.2	4.7	5.6	3.9	5.3
Assam	2.5	4.0	2.6	1.0	1.6	1.2	1.8	2.3	1.9
Bihar	7.5	6.3	7.4	3.4	3.2	3.4	5.7	4.0	5.4
Chhattisgarh	1.8	0.9	1.5	1.1	1.3	1.1	1.4	1.2	1.3
Gujarat	3.1	2.6	3.0	8.0	5.9	7.5	5.3	5.0	5.2
Haryana	1.1	1.8	1.2	1.7	2.6	1.9	1.4	2.4	1.5
Jharkhand	3.8	3.2	3.7	1.3	1.0	1.2	2.7	1.6	2.5
Karnataka	5.4	5.6	5.4	6.2	8.3	6.7	5.8	7.6	6.0
Kerala	2.8	8.5	3.3	4.0	4.9	4.2	3.3	5.9	3.7
Madhya Pradesh	4.3	3.2	4.2	4.4	3.9	4.2	4.3	3.7	4.2
Maharashtra	5.9	5.9	5.9	8.5	11.5	9.2	7.1	10.0	7.5
Odisha	4.6	4.1	4.6	1.6	1.6	1.6	3.3	2.3	3.1
Punjab	1.8	2.7	2.0	2.6	3.2	2.7	2.2	3.1	2.3
Rajasthan	3.9	3.9	3.9	4.7	4	4.6	4.3	4.0	4.2
Tamil Nadu	4.7	7.5	4.9	10.5	12.1	10.9	7.2	10.8	7.8
Telangana	4.2	1.9	4.0	4.3	3.8	4.2	4.3	3.3	4.1
Uttar Pradesh	15.0	13.8	14.9	14.4	10.2	13.4	14.8	11.2	14.2
West Bengal	18.0	11.9	17.4	11.2	7.6	10.4	15.0	8.8	14.0
Sub total	98.9	97.7	98.7	98.5	97.9	98.3	98.6	97.9	98.5
All-India	100	100	100	100	100	100	100	100	100

Source : NSS 73rd Round, July 2015 - June 2016

According to this database, in Bihar, the total number of UNAEs was about 34.48 lakh, about 5.4 percent of all such enterprises in the country. To contextualise the number of enterprises, Bihar's share of 5.4 percent of all enterprises in India was lower than Bihar's population share of 8.6 percent of India (Table 4.8). It was estimated to employ 53.07 lakh workers. The UNAE was dominantly household-based proprietary and partnership enterprises, especially Own Account Enterprises (OAE). A very small portion of the enterprises operate only in season depending on the availability of raw materials, and demand for their products/services. In terms of the Gross Value Added (GVA) of such enterprises (engaged exclusively in market production), Bihar's share was 4.5 percent of the total GVA of the country (Table 4.9). Moreover, the proportionate

share of Bihar in total GVA of India was higher than that of Haryana, Punjab, Madhya Pradesh, Odisha, and Jharkhand. Furthermore, total GVA of enterprises in Bihar was Rs. 51.6 thousand crores. Within the state, the enterprises located in rural Bihar generated about 52 percent of the annual GVA vis-à-vis 48 percent in urban Bihar. Given the low level of urbanisation, the share of GVA from urban enterprises in Bihar is indeed very high. It is noteworthy that rural enterprises of Bihar contributed 7.7 percent of India's GVA which was higher than the state's proportionate share in number of rural enterprises.

Table 4.9 : Percentage Share of Different States in Number and GVA of Enterprise of States in Total GVA of All States

State	Rural Enterprises		Urban Enterprises		All Enterprises	
	Share in number	Share in GVA	Share in number	Share in GVA	Share in number	Share in GVA
Andhra Pradesh	6.0	5.1	4.7	3.4	5.3	3.9
Assam	2.6	2.6	1.2	1.0	1.9	1.5
Bihar	7.4	7.7	3.4	3.1	5.4	4.5
Chhattisgarh	1.5	1.0	1.1	0.9	1.3	1.0
Gujarat	3.0	5.3	7.5	7.8	5.2	7.0
Haryana	1.2	2.2	1.9	2.8	1.5	2.7
Jharkhand	3.7	3.1	1.2	0.8	2.5	1.5
Karnataka	5.4	6.6	6.7	8.6	6.0	8.0
Kerala	3.3	6.7	4.2	5.2	3.7	5.7
Madhya Pradesh	4.2	3.2	4.2	3.5	4.2	3.4
Maharashtra	5.9	8.0	9.2	13.3	7.5	11.8
Odisha	4.6	3.1	1.6	1.2	3.1	1.8
Punjab	2.0	2.3	2.7	2.8	2.3	2.7
Rajasthan	3.9	4.9	4.6	4.8	4.2	4.9
Tamil Nadu	4.9	6.4	10.9	10.4	7.8	9.2
Telangana	4.0	2.9	4.2	3.7	4.1	3.5
Uttar Pradesh	14.9	12.8	13.4	10.2	14.2	11.0
West Bengal	17.4	10.8	10.4	6.0	14.0	7.4
Sub total	98.7	98.4	98.3	97.8	98.5	98.0
All-India	100	100	100	100	100	100

Source : NSS 73rd Round, July 2015 - June 2016

Table 4.10 represents annual GVA per enterprise in different states. At an all-India level, annual GVA per enterprise in UNAEs was estimated at Rs. 181.9 thousand and that of Bihar was Rs. 149.7 thousand. For rural Bihar, annual GVA per enterprise was estimated at Rs 110.9 thousand, which was higher than the all-India average. It is worthy to mention that the GVA per enterprise for OAE in Bihar (both rural and urban) was significantly higher than the all-India

average. However, in case of Establishments, the scenario was the other way around. It implies that, in terms of scale, the Establishments in rural and urban Bihar were smaller than the all-India average, leaving scope for scaling up.

Table 4.10 : Annual GVA (Rs '000) per Enterprise by Sector and Enterprise Type for Different States

State	Rural	Urban	Rural and Urban
Andhra Pradesh	90.8	188.7	132.4
Assam	105.9	219.8	140.1
Bihar	110.9	239.0	149.7
Chhattisgarh	71.7	211.3	130.4
Gujarat	183.6	270.6	244.6
Haryana	197.2	392.4	315.4
Jharkhand	87.6	173.4	108.2
Karnataka	128.5	336.2	240.8
Kerala	217.4	324.6	276.4
Madhya Pradesh	81.9	215.0	147.2
Maharashtra	143.2	378.6	283.5
Odisha	72.5	190.8	102.1
Punjab	129.1	271.1	211.4
Rajasthan	132.7	276.5	208.1
Tamil Nadu	138.2	250.5	214.4
Telangana	77.4	231.7	154.4
Uttar Pradesh	90.8	199.2	140.8
West Bengal	65.8	151.4	96.7
All-India	106.1	261.6	181.9

Source : NSS 73rd Round, July 2015 - June 2016

An important indicator of labour productivity is GVA per worker (Table 4.11). In Bihar, annual GVA per worker was Rs 97.2 thousand, compared to Rs 103.7 thousand at all-India level. The gap between GVA per worker in Bihar and at all-India level was very narrow. A closer look will suggest that GVA per worker in rural Bihar was significantly higher at Rs. 80.5 thousand per worker compared to Rs. 69.2 thousand per worker at all-India level.

If we consider annual emoluments per hired worker and estimated number of hired workers (Table 4.11), it is observed that emolument per hired worker in Bihar was Rs 63.7 thousand, compared to Rs 87.5 thousand at all-India level. It is also important to report that the unincorporated enterprises provided employment to 874.1 thousand workers in 2015-16. Given the low scale of production and limited market opportunities, the workers engaged in the

production process were earning around Rs 5000 per month, enabling the workers to stay above the poverty line.

Table 4.11 : Annual GVA per Worker and Annual Emoluments (Rs.'000) per Hired Worker, and Estimated Number of Hired Workers for Different States

State	Estimated number of hired worker ('000)	Annual GVA per worker			Emoluments per hired worker
		Rural	Urban	All	
Andhra Pradesh	1358	60.2	101.6	79.9	79
Assam	463	77.4	122.7	93.7	54
Bihar	874	80.5	124.9	97.2	64
Chhattisgarh	364	38.9	96.5	65.5	62
Gujarat	1934	112.9	140.0	132.9	108
Haryana	728	113.9	184.6	160.1	125
Jharkhand	423	57.8	98.0	69.6	69
Karnataka	2260	85.5	155.2	129.4	104
Kerala	1624	127.3	161.0	147.2	126
Madhya Pradesh	1244	50.3	104.3	80.0	77
Maharashtra	2924	95.1	173.8	148.7	110
Odisha	561	45.6	98.7	60.9	63
Punjab	729	95.9	139.7	125.0	79
Rajasthan	1265	85.9	145.7	120.3	94
Tamil Nadu	3277	80.6	121.0	109.6	92
Telangana	930	64.7	122.1	99.9	95
Uttar Pradesh	3645	53.0	100.8	76.8	59
West Bengal	2497	45.6	90.1	63.3	59
All-India	29436	69.2	131.8	103.7	88

Source : NSS 73rd Round, July 2015 - June 2016

The unincorporated non-agricultural enterprises are often not considered to be agents of growth. However, the above analysis clearly underlines that these enterprises add immensely to GSDP, create employment for unskilled, semi-skilled workers locally, and ultimately strengthen the local economy. It can also be argued that the size and scale of operation of unincorporated enterprises in Bihar was not as small as that of factories in Bihar (as discussed previously).

4.2 Agro-based Industries

As mentioned in previous section, agro-based industries can be an important driver of economic growth in Bihar. Cultivation of fibre, oilseeds, fruits and vegetables, sugarcane along with food

grains give Bihar enormous opportunity to establish agro-based industries across the state to harness economic growth. Moreover, the large population of animal resources add to the prospect of agro-based industries here.

Food Processing Industry

Given the types of crops grown in Bihar, the state can draw great comparative advantage in agro-food processing sector. The Bihar Industrial Policy 2016 has acknowledged this fact and placed this sector among the top priority sectors. It is important to reiterate that production of perishable fruits and vegetables provides the opportunity to add value to the commodities to make farm business income more remunerative for farmers. The expansion of markets and better utilisation of capacity would translate into economic growth in the state.

Sugar Industries

Sugar is one of the leading industries in Bihar. Sugarcane cultivation and sugar production features prominently in Agricultural Road Map of Bihar as well. From sugarcane cultivation to sugar production, value addition at various levels has strong bearing on employment generation. In Bihar, 11 sugar mills are presently in operation, of which nine are part of private sector and two of public sector. In 2017-18 crushing season, sugar mills crushed 747.89 lakh quintals of sugarcane, 176.75 lakh quintals more than the previous year. Total sugar production was 71.54 lakh quintal in 2017-18, increasing from 52.48 lakh quintals in 2016-17. There has been marginal increase in sugar recovery rate as well in 2017-18, compared to the previous year. The sugar recovery rate was 9.57 percent in 2017-18, 0.40 percentage point more than in the previous year. It is also important to mention that, on an average, sugar mills were in operation for 125 days a year, entailing better utilisation of installed capacity.

To increase productivity and recovery percentage of sugar, a three-tier seed replacement programme has been implemented under Mukhya Mantri Ganna Vikas Yojana for the 2017-18 financial year. The major steps of this programme are as follows:

- (i) The farmers are given a subsidy of Rs 160 per quintal (Rs. 200 per quintal for SC/ST farmers) on purchase of certified sugarcane seeds of 16 selected varieties. This scheme is meant for sugarcane growers with a maximum of 2.5 acres under sugar cultivation. Moreover, the state government has made provision for training of farmers to use selected improved variety seeds in a scientific manner.
- (ii) Sugar mills are receiving a subsidy of Rs 25,000 per hectare for growing foundation seeds. An incentive structure has also been developed for growing breeder seed through research

stations – Indian Institute of Sugarcane Research (Lucknow) and Sugarcane Research Institute (PUSA).

- (iii) The sugarcane farmers are given a subsidy on Plant Protection Chemicals at the rate of 50 percent of the total cost or a maximum of Rs. 2000 per hectare.
- (iv) An incentive structure is in place for inter-cropping with sugarcane under National Food Security Mission (NFSM).
- (v) Subsidy has been provided to the farmers on purchase of Trencher under Rashtriya Krishi Vikas Yojana (RKVY).
- (vi) Arrangement for technical publicity and supervision of extension/work has also been ensured.
- (vii) In sugarcane crushing season of 2017-18, to relieve economic hardship of sugar mills, the state government revoked the Purchase Tax on sugarcane, and reduced the commission charged by the Zonal Development Council from 1.8 percent on the price of sugarcane to 0.2 percent.

Table 4.12 : Performance of Sugar Mills

Name of Sugar Mill	Sugarcane Crushed (lakh qntl.)	Sugar Produced (lakh qntl.)	Recovery (Percentage)	Sugarcane Crushed (lakh qntl.)	Sugar Produced (lakh qntl.)	Recovery (Percentage)	Sugarcane Crushed (lakh qntl.)	Sugar Produced (lakh qntl.)	Recovery (Percentage)
	2015-16			2016-17			2017-18		
Bagaha	74.91	7.44	9.97	82.60	7.33	8.88	113.75	10.36	9.11
Harinagar	115.1	11.51	9.95	126.44	11.60	9.23	175.55	17.67	10.04
Narkatiaganj	75.84	7.58	10.00	88.06	8.54	9.70	118.08	12.17	10.31
Manjhaulia	42.2	4.03	9.65	49.93	4.50	9.03	60.51	5.46	9.00
Sasamusa	12.8	1.16	9.29	16.15	1.32	8.42	4.88	0.31	6.35
Gopalganj	33.03	3.30	9.93	38.81	3.55	9.20	55.11	5.19	9.45
Sidhwalia	45.84	4.30	9.37	47.69	4.37	9.18	58.24	5.38	9.24
Riga	36.45	3.40	9.38	32.70	2.86	8.72	46.90	4.08	8.77
Hasanpur	31.13	3.19	10.18	29.00	2.88	9.94	38.97	4.08	10.47
Lauriya	27.22	2.58	9.46	32.63	2.96	9.08	40.10	3.65	9.13
Sugauli	20.73	1.84	8.95	27.13	2.57	9.47	35.80	3.19	9.03
Total	515.2	50.33	9.77	571.14	52.48	9.17	747.89	71.54	9.57

Source : Department of Sugarcane, GOB

Dairy Industry

Animal resources have always been an integral part of household economy in rural areas, especially in Bihar. The income from animal resources is considered to act as a shock absorber in the fluctuations of income from crop production. An independent study estimated that animal

resources contributed as high as one-third of total household income for small and marginal land holders. To protect the rural households from income vulnerability, state-run Bihar State Milk Cooperative Federation (COMFED) initiated a three-tier cooperative structure in Bihar — milk producers’ cooperative society at the village level, milk union at the district level and milk federation at the state level.

Under COMFED, nine dairy cooperative societies are presently functioning, and 21,002 milk cooperative societies were organised till 2017-18. The number of functional cooperative societies increased from 14,785 in 2016-17 to 15,203 in 2017-18, registering an annual growth rate of 2.8 percent over the year. Though total milk procurement per functional dairy cooperative society has marginally declined, it has registered increase in 4 out of 10 locations of the project.

COMFED performs diversified activities, ranging from collection of milk, marketing of dairy products, and provision of services to ensure welfare of the animals. Marketing of dairy products by COMFED has improved immensely in last few years. The number of retail outlets increased from 15,857 in 2016-17 to 17,726 in 2017-18, implying a growth rate of 11.8 percent. The sale of milk, ghee, lassi, paneer, dahi, ice-cream have registered a significant increase between 2016-17 and 2017-18. This essentially implies COMFED’s ability to add value to the dairy industry.

Table 4.13 : Number of Dairy Cooperative Societies under Different Milk Union/Projects

(In Number)

Location of Union/Project	2016-17			2017-18		
	Organised Societies	Working Societies	Registered Societies	Organised Societies	Working Societies	Registered Societies
Vaishal Patliputra Milk Union, Patna	4179	2554	1301	4383	2726	1311
Deshratna Dr. Rajendra Prasad Milk Union, Barauni	2197	2036	1097	2272	2132	1122
Mithila Milk Union, Samastipur	2434	1948	1115	2529	2030	1172
Tirhut Milk Union, Muzaffarpur	3329	1941	1003	3521	2032	1003
Shahabad Milk Union, Ara	3327	2301	1256	3533	2368	1262
Vikramshila Milk Union, Bhagalpur	1724	1160	300	1828	1355	346
Magadh Dairy Project, Gaya	1890	1606	193	2048	1784	247
Kosi Dairy Project, Purnea	704	569	36	828	726	39
Ranchi Dairy Project, Ranchi	907	670	71	60	50	12
Total	20691	14785	6372	21002	15203	6514

Source : COMFED, GOB

Table 4.14 : Daily Milk Collection by Different Projects

(in 000 kgs)

Union/Project	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Growth Rate
Vaishal Patliputra Milk Union, Patna	224.85	282.09	318.91	307.73	273.66	263.3	3.2
Deshratna Dr. Rajendra Prasad Milk Union, Barauni	343.80	375.20	409.72	457.52	427.53	454.86	5.8
Mithila Milk Union, Samastipur	282.99	340.57	354.51	353.67	354.26	349.65	4.3
Tirhut Milk Union, Muzaffarpur	133.53	181.87	196.87	191.55	205.73	196.35	8.0
Shahabad Milk Union, Ara	176.17	206.24	257.57	258.29	199.55	189.65	1.5
Vikramshila Milk Union, Bhagalpur	48.34	54.88	70.13	72.94	60.34	72.71	8.5
Magadh Dairy Project, Gaya	13.19	22.55	39.53	39.82	35.36	40.54	25.2
Kosi Milk Union, Supaul					21.85	18.64	--
Kosi Dairy Project, Purnea	15.55	20.98	29.24	41.48	16.22	17.75	2.7
Ranchi/Bokaro/Jamshedpur Dairy	6.48	10.50	13.84	17.43	17.84	23.8	29.7
Total	1244.90	1495.88	1690.32	1740.43	1612.34	1627.25	5.5

Source : COMFED, GOB

Table 4.15 : Milk Procurement per Functional Dairy Cooperative Society

(Kl. per day)

Location of Union/Project	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Patna	97.37	122.17	108.88	123.58	107.15	96.59
Barauni	210.4	229.62	206.2	232.24	209.99	213.35
Samastipur	202.28	243.44	177.17	192.1	181.86	172.24
Muzaffarpur	87.91	119.73	100.24	100.6	105.99	96.63
Ara	90.02	105.39	108.49	106.2	86.72	80.09
Bhagalpur	74.83	84.95	86.26	71.02	52.02	53.66
Gaya	23.64	40.41	35.08	30.19	22.02	22.72
Supaul	NA	NA	NA	NA	32.61	25.75
Purnea	34.02	45.9	30.78	42.03	28.51	24.46
Ranchi Dairy	140.89	213.55	277.64	347.17	312.98	371.16
All Dairies	118.29	141.96	120.59	124.18	108.67	102.11

Source : COMFED, GOB

Table 4.16 : Activities by COMFED

Indicators	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Cooperative Societies						
Organised	13691	16675	18385	19543	20769	22018
Operational	10524	12654	14189	14016	14842	15936
Registered	4943	5420	5754	6042	6384	6643
No. of Members (lakh)	7.59	8.73	9.42	10.04	10.86	11.4
Collection of Milk						
Collection of Milk (lakh kg/day)	12.45	14.95	16.9	17.4	16.13	16.27
Marketing of Products						
No. of Retail Outlet	9558	10944	12299	13099	15857	17726
Milk (lakh litres/day)	9.2	10.76	11.52	12.18	13.45	14.55
Ghee (Tonnes)	1717	2043	1669	1643	1342	1513
Lassi (tonnes)	6426	6747	4385	4103	4975	6387
Peda (tonnes)	1242	1638	1173	1190	1314.42	1236
Paneer (tonnes)	3022	3542	3385	3946	4300	4523
Dahi (tonnes)	3132	8595	7498	8088	9110	10290
Gulab Jamun (tonnes)	1105	1331	1152	1220	1365	1360
Ice-Cream (tonnes)	1083	1248	1702	1743	1375	1577
Services						
No. of Artificial Insemination Centres	2329	2897	3117	3275	3436	3852
Artificial Insemination (lakh)	15.66	18.44	20.3	21.37	20.41	21.62
Vaccination (lakh)	17.73	22.81	15.53	18.05	17.01	12.31
De-worming (lakh)	12.92	11.67	12.92	16.46	14.3	14.49
Seed Distribution (tonnes)	757.14	885.61	930.93	1016.79	1279.53	1554.23
Cattle Feed Distribution (tonnes)	61273	54707	56143	62130	53810	46889

Source : COMFED, GOB

4.3 Non-Agro Based Industry

Handloom

Given the dominance of powerloom and automated looms producing cloths in Bihar, the survival and prosperity of handloom lies in strategic production and marketing decisions. It is observed that handloom-produced cloths are demanded by the elite segment of the population, both within India and abroad. The harnessing of handloom for such niche market add to the state GSDP and the sector could perform at its optimum. It is also important to devise policies to increase the income and wellbeing of the handloom enterprises and a large number of workers engaged in

this sector. If one looks at the locational concentration of handlooms in Bihar, it is found that at least 15 districts are involved in different kinds of production.

Table 4.17 : Handloom Concentrated Districts in Bihar

District	Products
Bhagalpur	Silk, Cotton, Furnishing cloth, Staple chadar, Exportable Silk and cotton cloth.
Banka	Tasar Silk, Exportable Silk Cloth
Gaya	Cotton and Silk Cloth
Nalanda	Ornamental Curtain, Bed Cover, Interior decoration material and ornamented cloth
Nawada	Tasar Silk and ladies dress material
Darbhanga, Madhubani, Sitamarhi	Fine Cotton long cloth, dhoti, shirting
Aurangabad, Rohtas	Woolen Blanket, Woolen Carpet and Sari
Kaimur	Woolen Carpet, Banarasi Sari
Patna, Siwan	Cotton cloth and Furnishing Cloth
Purnea, Katihar	Jute bags, Jute-blended material, Interior decorative material

Source : Department of Industries, Handloom, GOB

The Mega Handloom Cluster in Bhagalpur was sanctioned by the central government. Under this project, Bhagalpur and Banka districts will have 10 large clusters, two dye house and one designer studio and product development centres. The Ministry of Textile has already sanctioned Rs 1715.15 lakh to implementing agencies for construction of these 10 clusters. Moreover, in the above-mentioned 10 clusters, special training programmes were organised to improve the worker's skill in weaving, dyeing, and designing. The Table 4.18 gives details of the progress made in imparting training in 2017-18. Apart from that, there is ongoing training programme for weavers to improve their skills. These training programmes are organised in 8 government-run institutions. The target and achievement of the training programme during the last five years is presented in Table 4.19.

Table 4.18 : Details of Training Programmes for Skill Development

Training items	Target	Achievement
Weaving	12	4
Dyeing	10	10
Designing	8	8

Source : Department of Industries, Handloom, GOB

Table 4.19 : Target and Achievement of Training Programme

	(In number)					
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Target	204	204	204	204	204	204
Achievement	163	160	167	169	156	138
Achievement (%)	79.9	78.4	81.9	82.8	76.4	67.6

Source : Department of Industries, Handloom, GOB

Under the Bhagalpur Mega Handloom Cluster project, technological upgradation was undertaken. The National Handloom Development Cooperation sanctioned Rs 123.642 lakh to provide new handlooms, jacquard, bobbin machine, take-up motion, let-off motion and reed etc. to improve efficiency in production.

Sericulture

Sericulture has been one of the important agro-based industries to feed the silk-based industries. In Bihar, three types of silk are cultivated — mulberry, tasar, and eri. Under the Mukhyamantri Kosi Mulberry Scheme, seven districts in Koshi region were selected for promotion of mulberry production. To increase the production of mulberry in Saharsa, Supaul, Madhepura, Araria, Kishanganj, Katihar and Purnea, the state government provided pumpset to 1975 farmers, worm rearing tools to 2447 farmers, and 642 farmers received assistance for construction of rearing house allotted. The state government allotted Rs. 1415.10 lakh to Jeevika to provide above-mentioned facilities to the farmers. The state government has also allotted to provide Rs. 800 lakh to 100 producer groups for mulberry cultivation. Jeevika has been given the full responsibility to implement the Mulberry Project, and Jeevika is being supported by the Department of Industries. In 2017-18, the state government provided Rs. 3262.31 lakh to Jeevika exclusively for the Mulberry Project. The efforts of the state government have started delivering positive results, as area under mulberry plantation has increased upto 845 hectare till date.

Next, Mukhyamantri Tasar Development Project (2012-17) has been implemented in six districts — Banka, Munger, Nawada, Kaimur, Jamui and Rohtas. Further, some waterlogged areas in north Bihar were also found suitable for tasar development. Under this project, 2094 beneficiaries were identified from Banka, Jamui, and Nawada districts, and the state government spent Rs 62.82 lakh to train the beneficiaries to rear the tasar worm. Further, Rs 11.16 lakh was sanctioned for tasar reeling training in Buniyaad.

Eri silk rearing is confined to Begusarai district. Jeevika, along with Director of Industries (Silk) Muzaffarpur, has been given the responsibility to implement Rs. 312.542 lakh worth of Eri Development Project.

Table 4.20 : Achievements of Sericulture Sector (2013-14 to 2018-19)

Year	Type of Silk	Plantation (ha)	DFLs Rearing (lakh)	Total Cocoon Production	Raw Silk (Tonnes)
2013-14	Mulberry	117	5.07	122.73 (tonne)	15.08
	Tasar	608	7.10	386.94 (lakh)	37.89
	Castor	575	0.81	6.50 (tonne)	5.2
2014-15	Mulberry	184	5.04	162.16 (tonne)	19.5
	Tasar	5198	7.48	293.88 (lakh)	32.95
	Castor	232	1.19	10.20 (tonne)	8.16
2015-16	Mulberry	136	5.78	202.56 (tonne)	22.55
	Tasar	2325	9.21	466.00 (lakh)	42
	Castor	161	1.19	9.50 (tonne)	7.6
2016-17	Mulberry	340	5.69	191.69 (tonne)	23.49
	Tasar	1218	8.62	482.20 (lakh)	43.51
	Castor	232	1.27	12.43 (tonne)	9.94
2017-18	Mulberry	362	4.54	138.74 (tonne)	17.17
	Tasar	-	8.64	426.73 (lakh)	36.00
	Castor	276	1.31	12.1 (tonne)	9.68
2018-19	Mulberry	58	0.48	7.59 (tonne)	0.80
	Tasar	-	0.34	4.28 (lakh)	-
	Castor	175	0.10	0.58 (tonne)	0.47

Source : Department of Industries, Sericulture, GOB

Khadi and Village Industries

The Khadi and Village Industries Commission (KVIC) has the responsibility of promoting rural industries, including Khadi producing units. The KVIC functions through its central Directorate and KVI Boards at the state level. Its promotional activities include — development of newer skills, transfer of technology, research and development. The Commission helps the state-level units to market their products through its national marketing policy and advertising. The KVIC is also responsible for Scheme of Fund for Regeneration of Traditional Industries (SFRTI) and Prime Minister's Employment Generation Programme (PMEGP), which started in 2008. This programme is implemented by the KVIC, KVI Board at the state level and the District Industries Centre (DIC) of the state government. The programme aims generating employment opportunities by providing bank credit to enterprises, especially traditional artisans.

The information on performance of PMEGP in Bihar during 2015-16 to 2017-18 is presented in Table 4.21. It emerges from the table that the three implementing agencies have nearly equal role

to play for the scheme. As regard the target and achievements, both recorded an increase in 2016-17 over 2015-16. However, in 2017-18, there was a decline. The total number of beneficiaries in 2017-18 was 2255 artisan units which together received a margin money amounting to Rs. 6407.64 lakh.

In Bihar, the number of khadi organisations is 84, of which 65 are currently functional. To reactivate the idle units to generate employment for the weaker section and women, and to stop the migration of weavers, several schemes were undertaken by the state government in 2017-18.

- (a) About 2000 new charkhas have been ordered, of which 500 is to be distributed to khadi organisations.
- (b) The state government provided subsidy to 29 organisations to purchase 176 looms at 50 percent subsidy. Most of the looms have already been procured and the remaining 40 percent of the amount will soon be made available to them.
- (c) For silk clothes manufacturers in and around Bhagalpur, 600 new *katiya* charkhas were given to 17 organisations. The state government will also procure 300 more *katiya* charkhas soon.
- (d) To purchase Tripurari Model charkha, 29 organisations have been given Rs. 4.31 crore to fulfil the need of fixed capital.
- (e) Khadi organisations have been given a working capital of Rs. 2.05 crore to purchase cocoons and other raw materials and releasing payments to weavers.
- (f) National Institute of Fashion Technology (NIFT) has provided 100 market prevalent designs of khadi clothes to Khadi organisations. Of these, 50 designs have already been weaved on 2000 clothes and sold in markets on trial basis.
- (g) To promote khadi products, in the Champaran Satyagrah Centenary year, khadi fair was organised in Ara, Rajgir, Muzaffarpur and Bhagalpur.
- (h) For promotion of khadi products, a 10 percent discount was made available to the khadi organisations.
- (i) The Bihar State Khadi Gramodyog Board office in Patna will be renovated using a sum of Rs. 16.94 crore and the erstwhile khadi showrooms will also be renovated at a cost of Rs. 7.40 crore.

Table 4.21 : Performance of PMEGP

Agencies		KVIC	KVI Board	DIC	Total
2015-16					
Target/Margin Money	Physical (Nos.)	909 (30.0)	909 (30.0)	1211 (40.0)	3029 (100.0)
	Financial (Rs. lakh)	1817.16 (30.0)	1817.16 (30.0)	2422.88 (40.0)	6057.20 (100.0)
Margin Money disbursed by Nodal banks	Physical (Nos.)	189 (7.8)	195 (8.0)	2046 (84.2)	2430 (100.0)
	Financial (Rs. lakh)	544.60 (8.3)	543.00 (8.2)	5500.95 (83.49)	6588.55 (100.0)
2016-17					
Target/Margin Money	Physical (Nos.)	1122 (29.9)	1122 (29.9)	1506 (40.2)	3750 (100.0)
	Financial (Rs. lakh)	2244 (29.4)	2248 (30.0)	3008 (40.1)	7500 (100.0)
Margin Money disbursed by Nodal banks	Physical (Nos.)	532 (16.5)	313 (9.7)	2389 (73.9)	3234 (100.0)
	Financial (Rs. lakh)	810.33 (9.7)	995.34 (11.9)	6530.83 (78.3)	8336.5 (100.0)
2017-18					
Target/Margin Money	Physical (Nos.)	855 (30)	855 (30)	1140 (40)	2850 (100)
	Financial (Rs. Lakh)	1695.93 (30)	1695.93 (30)	2261.24 (40)	5653.1 (100)
Margin Money disbursed by Nodal banks	Physical (Nos.)	324 (14.3)	223 (9.9)	1708 (75.7)	2255 (100)
	Financial (Rs. Lakh)	622.58 (9.7)	689.58 (10.8)	5095.33 (79.5)	6407.64 (100)

Note : The Figures in the parenthesis denote percent share to total

Source : Department of Industry, GOB

Small Scale Industries

Towards the development of small scale industries, under Chief Minister's Micro and Small Industries Cluster Development Programme, Common Facility Centres were developed. The Common Facility Centre in Kanhayaganj, Nalanda received Rs 51.33 lakh, Silao Khaja Cluster received Rs 51.33 lakh, Lakhisarai Rice Mill received Rs 82.34 lakh, Ship Button Cluster, Monmahasi received 147.85 lakh, Ship Button Cluster, Bathna received Rs 145.63 lakh. Apart from that, Brass Bronze Utensil Cluster, Kasera Toli and others were sanctioned Rs. 1004.55 lakh.

4.4 Support Institutions

Udyog Mitra

Udyog Mitra was established to help the enterprises by providing consultation in developing project profile, solving problems during implementation of projects and other services. Since 2011-12, about 5419 entrepreneurs benefitted from the consultancy services provided by the Udyog Mitra. During the three years, the number of cases handled by Udyog Mitra was substantial. In 2017-18, Udyog Mitra was allotted Rs 140.00 lakh and it could spend the entire

allocated fund, which might be considered as an indicator of its better performance. Important works done by Udyog Mitra in 2017-18 are:

- (i) A total of 819 entrepreneurs were assisted in setting up new enterprises.
- (ii) Between January and October 2018, a total of 16,267 calls were received at the Udyog Mitra call center and entrepreneurs were helped according to their need.
- (iii) A training was organised in May 2017 for all the General Managers of District Industrial Centers, all the zonal and central officers of BIADA, and executives on Industrial Promotion Policy 2016, Bihar Start-up Policy 2017, SIPB online filling process and goods and services tax.
- (iv) In collaboration with the Confederation of Indian Industries (CII), an apparel meet was organized in Ludhiana in November 2017 and a road show was organized in Mumbai in June 2017.

Table 4.22 : Physical and Financial Achievements of Udyog Mitra

Year	Amount Allotted (Rs. lakh)	Amount Spent (Rs. lakh)	Amount Spent (Percentage)	No. of Entrepreneurs benefitted
2011-12	100.00	67.48	67.5	753
2012-13	104.00	78.73	75.7	596
2013-14	120.00	101.13	84.3	583
2014-15	98.60	88.94	90.2	664
2015-16	110.30	92.37	83.8	906
2016-17	110.00	110.29	100.0	1098
2017-18	140.00	140.00	100.00	819

Source : Udyog Mitra, GOB

District Industries Centre

To promote uniform growth of industries across districts, the state government has established District Industries Centres (DIC) in all 38 districts of the state. The major task of the DICs is to facilitate the progress of Prime Minister's Employment Generation Programme and Prime Minister's Mudra Yojana. The DICs have emerged as an important nodal agency to promote micro, small and medium enterprises.

Bihar Industrial Area Development Authority (BIADA)

Under the aegis of the Bihar Area Development Act, 1974, BIADA was established to develop infrastructure for industries. Among its various tasks, BIADA performed key role in acquiring land for different industrial projects. In Bihar, given the paucity of land, BIADA's role to allot land to industrial units assumes great importance. Presently, BIADA has four regional offices (Patna, Darbhanga, Bhagalpur, and Muzaffarpur) which together cover 50 industrial areas or development centres and mega industrial park. Table 4.23 shows land acquisition and other activities of BIADA till October 2018. From the table, it is evident that, out of 5185.24 acres of acquired land, 1048.42 acres of land is under litigation. A matter of concern here is that, between September 2017 and October 2018, the extent of land under litigation has increased, though marginally, from 1028.56 acres to 1048.42 acres.

Table 4.23 : Details of BIADA Land and Activities (October 2018)

Regional Office	Total Acquired Land & Sheds		Land Reserved for Infrastructure, Administrative Blocks, Roads etc. (acres)	Total Allotted land & Sheds		Litigated land (acres)	Total Vacant land & Sheds (Allotable)	
	Land (acres)	Constructed Sheds (Nos.)		Land (acres)	Constructed Sheds (Nos.)		Land (acres)	Constructed Sheds (Nos.)
Patna	2700.38	230	270.39	2303.60	207	81.38	44.87	23
Bhagalpur	1347.29	148	75.36	391.33	145	851.37	29.23	3
Darbhanga	725.61	158	157.43	273.07	131	54.53	28.20	13
Muzaffarpur	411.96	144	56.16	449.68	142	61.14	20.11	16
Total	5185.24	680	559.34	3417.82	625	1048.42	122.41	55

Source : BIADA, GOB

In the recent past, several steps have been taken by the state government for development of industrial areas and industrial clusters in the state. First, the Bihar Industrial Investment Promotion Act, 2016 has been amended to streamline the decision-making process for industries. The investment decisions below Rs 5 crore will be taken by Industrial Development Commissioner, between Rs. 5-15 crore will be decided by the Minister of Industries Department, between Rs 15-30 crore will be decided upon jointly by the Minister, Industries Department, Finance Department, and investment proposals above Rs 30 crore will be decided upon by the state government.

Second, the Act has also eased the process of industrial investment in the state. Accordingly, at present investors can use a common application form to apply online and obtain Stage-I clearance within 30 days from the State Investment Promotion Board (SIPB). In case the actual clearance is not obtained in 30 days, applicants are given deemed clearance by the SIPB Secretariat. The Act also incorporates the provision for punishment in case clearances are not given by the concerned department/authority.

Third, to ease industrial investment in Bihar, from 2016-17, the following steps have been undertaken — availability of information using a 5-seated call center, labour law reforms, institutional reform, environmental law enforcement, all forms of clearance to start production, and single-window clearance portal for financial approval.

Fourth, the Bihar Industrial Investment Promotion Policy (BIIPP-2016) gives priority to industries like food-processing, tourism, small-scale industries, information technology, information-related industrial services (like electrical and electronics hardware), textiles, plastic and rubber, renewable energy, health care, leather and technical education. Accordingly, stamp duty registration fees, land-related fees will be 100 percent refundable for these industries. Further, a grant of interest subvention on term loan up to Rs 10 crore will be reimbursed. Till date, 1081 investment proposals have been received and 920 proposals of them have received Stage-1 clearance, worth Rs 12427.48 crore. Of these, 447 proposals are related to food processing worth Rs. 2363.35 crore. Another 212 units have obtained financial approval worth Rs. 1896.07 crore. The eligible units are granted subsidy through RTGS/NEFT.

Lastly, for ease of doing business and obtaining information, ‘Industrial Samvad Portal’ has started functioning. In 2016, 2389 units were also distributed land. The number of production units have increased to 1647 in 2017 from 1624 in 2016. Presently, 285 more units are under construction.

4.5 Bihar Start-up Policy 2017

Bihar Start-up Policy 2017 is a landmark initiative to provide space for innovation-driven entrepreneurship in Bihar. In the process of providing physical infrastructure, the state government has co-opted institutes located in Bihar, like Indian Institute of Technology, Patna, National Institute of Technology Patna, Indian Council of Agricultural Research, National Institute of Fashion Technology, and Central Institute of Plastic Engineering and Technology. These institutes will host incubators and also provide other incentives to the incubators. Under this policy, 4025 applications were scrutinised till date, and 905 applications were shortlisted up to February, 2016. To host these 905 applicants, 19 incubators were contacted and 856 applicants were allotted to the incubators. After going through the selection process, 27 start-ups have received a sum of Rs 65.60 lakh from the Bihar Start-up Fund Trust.

4.6 Ease of Doing Business

Ease of doing business is an index developed by the World Bank, where distance to frontier score on all indicators is computed and all the scores are aggregated. The state of Bihar has made tremendous progress in projecting itself as a favourable destination for business. The state government has adopted a series of measures to improve its ranking in the ease of doing business. The result of these measures by the state government is reflected in the index of ease of

doing business in 2018. In March 2018, the state's achievement level increased to 87.47 percent from 75.82 in the previous year. It clearly argues for the business environment in the state and makes Bihar one of the preferred destinations to do business.

4.7 Mining and Quarrying

After Jharkhand received separate statehood, the mining and quarrying activities in Bihar have declined significantly, so is the revenue potential therefrom. Given the limited scope, the state government's diligent efforts have been manifested in increase in revenue over the years. In 2016-17, the state government aimed to raise Rs 1100 crore revenue from the mining sector, while the realised revenue was Rs 994 crore (90.4 percent). Similarly, in 2017-18, the mining sector contributed Rs 1030 crore to the state exchequer, as against the target of Rs 1350 crore (76.3 percent). In 2018-19, the state government projected the target of Rs 1600 crore, and Rs 524 crore has already been realised by September 2018.

Over the years, the state government has adopted information technology-based solutions and e-governance methods to stop illegal mining. For instance, for efficient management of the revenue collection from brick-kilns, the department has developed a mobile-app by using Geo-mapping application. It is also noteworthy that the state government has developed Sustainable Sand and Stone Mining Policy to balance mining activities and environment.

Table 4.24 : Revenues from Minerals in Bihar

(Rs. lakh)

Sources	2014-15	2015-16	2016-17	2017-18
1. Major Minerals	107.3	99.1	57.5	152.85
2. Minor Minerals				
(i) bricks	2659.1	4295.6	3639.9	3934.47
(ii) sand	50542.1	42806.3	45765.2	41066.77
(iii) stone + crusher	7516.9	11097.9	11140.6	12784.91
(iv) morum	0.5	56.4	0.0	0
(v) soil	270.3	271.4	833.4	485.42
(vi) Works Deptt.	24074.5	36413.5	35999.8	41893.12
(vii) Transit Pass	42.4	40.7	25.2	1039.12
(viii) Others	278.7	626.2	1564.9	1636.48
3. Arrears	443.3	1392.9	383.7	172.82
Total	85935.0	97100.0	99410.2	108265.96

Source : Department of Mines and Geology, GOB

4.8 Tourism

Bihar is among few states in India which are rich in historical and religious heritage. This richness of archaeological and religious places attracts thousands of tourists every year to Bihar. To make Bihar more attractive for global and domestic tourists, the Department of Tourism, along with the Union Ministry of Tourism, has made provision for amenities and tourist-friendly infrastructure at various tourist sites.

To harness the potential of tourism in a systematic manner, the Department of Tourism has identified eight tourism circuits in Bihar, such as Buddhist Circuit, Jain Circuit, Ramayana Circuit, Shiv Shakti Circuit, Sufi Circuit, Sikh Circuit, Gandhi Circuit, and Nature/Wildlife Circuit. Table 4.25 presents the levels of approved budget and actual expenditure on tourism. Two conclusions can be drawn from the table — first, quantum of budget has increased to 91.02 crore in 2017-18 from 30.4 crore in 2011-12 (an increase of nearly 300 percent) and second, the budget utilisation has always been remarkably high. This clearly shows the seriousness of the state government to place Bihar on the tourism map of India.

Table 4.25 : Expenditure of Department of Tourism

Year	Approved Budget (Rs. Crore)	Expenditure (Rs. Crore)	Expenditure as percentage of Budget
2011-12	30.4	29.9	98.4
2012-13	100.1	99.3	99.2
2013-14	65.5	59.4	90.7
2014-15	118.1	87.4	74.0
2015-16	66.0	65.4	99.0
2016-17	94.5	86.4	91.5
2017-18	91.0	76.7	84.3

Source : Budget Document, GOB

Finally, Table 4.26 presents the tourist footfall in Bihar in the recent years. It indicates that the arrival of tourists has increased exponentially. Between 2016 and 2017, there has been a growth of 13.4 percent in the arrival of tourists. More encouragingly, the growth rate of foreign tourists' arrival was 7.1 percent between 2016 and 2017. If the current trend continues, the services sector in the tourist circuits will prosper and give major impetus to job creation in such places.

Table 4.26 : Tourist Arrivals in Bihar

Year	Number of trusts (lakh)		
	Domestic	Foreign	Total
2011	183.9	9.7	193.6
2012	214.5	11.0	225.4
2013	215.9	7.7	223.6
2014	225.4	8.3	233.7
2015	280.3	9.2	289.5
2016	285.2	10.1	295.3
2017	324.1	10.8	334.9
Till September 2018	187.2	7.7	194.9

Source : Department of Tourism, GOB

CHAPTER - V

SKILL DEVELOPMENT

In a labour endowed economy such as Bihar, skill development holds the key for upward economic and social mobility of the population. The socio-economic status of a person is closely related to the kind of work or profession one is associated with. The work that one does is based on required skill sets of the person to accomplish that task. Therefore, skill is the gateway to venture into an occupation that is sufficiently gainful to sustain life. Further, given the rapidly changing technical skills necessary to carry out jobs, skill development of the appropriate type is of paramount importance. Broadly, skills can be of the following types, fundamental skills, vocational skills or entrepreneurial skills. Fundamental skills include numeracy, literacy, communication, digital literacy etc. These are vital for performing our day-to-day activities. Next, vocational skill or technical know-how pertains to the occupation that a person is engaged with. Finally, entrepreneurial skills are the ones that help a person in venturing into the avenues of self-employment. It includes financial management skills, business development skills and other related skills.

Skill development or enhancement, as mentioned above, is necessary to cater to the demands of the diversified domains of career development opportunities. With technical advancements and innovation, the work horizon is expanded to cause a paradigm shift. The youth need to synergize their energy with the skills to utilise the emerging opportunities. The readiness to accept and adapt to the changes in the ecosystem would give the young population an upper hand while placing them at a comfortable position.

5.1 National Context

The skill development ecosystem in India is large, diverse and complex, providing varied levels of skills for an extremely heterogeneous population. Skill development in India can be broadly segmented into two parts — Education and Vocational Training. The major focus is generally on conventional education that is often construed as a passport to a successful and progressive career path. But, unfortunately, quite often, the workforce prepared through this channel has little or no job skills. As a result, India is witnessing lack of skilled manpower, despite availability of jobs in multiple sectors.

Skill development is critical for economic growth and social development. Today, India is one of the youngest nations in the world with more than 62 percent of its population in the working age group (15-59 years), and more than 54 percent of its total population below 25 years of age. The demographic transition of India makes it imperative to ensure employment opportunities for more than 12 million youths annually entering its workforce. To enable this workforce to be ready for employment, the youth need to be equipped with necessary education and skills. To reap this demographic dividend, which is expected to last for the next 25 years, India needs to equip its workforce with employable skills and knowledge so that they can contribute substantively to the economic growth of the country. Apart from meeting its own demand, India has the potential to provide skilled workforce to fill the expected shortfall of skilled workers in many countries, facing shortage of local workforce. This can be partially achieved through focus on advancement of skills that are relevant to the emerging economic environment across the world. The challenge pertains not only to a huge quantitative expansion of the facilities for skill training, it also includes the important task of raising their quality.

National Policy for Skill Development and Entrepreneurship, 2015

The National Policy for Skill Development and Entrepreneurship 2015 supersedes the earlier policy of 2009. The primary objective of this new policy is to meet the challenge of skilling at a scale which includes — speed, standard and sustainability. It aims to provide an umbrella framework to all skilling activities being carried out within the country, to align them to common standards, and finally, link skilling with demand patterns. In addition to laying down the objectives and expected outcomes, the policy also identifies the overall institutional framework to reach those objectives and outcomes. Skill development is the shared responsibility of the key stakeholders — government (both state and central), industry and trade organisations, and other stakeholders. The policy links skill development to improved employability and productivity in paving the way for an inclusive growth process in the country. This skill development strategy is also complemented by specific efforts to promote entrepreneurial skill which could create more employment opportunities.

National Skill Development Mission (NSDM)

Within the above policy, the National Skill Development Mission (NSDM) has been established to create convergence across sectors and states in terms of skill training activities. Further, to achieve the vision of ‘Skilled India’, the NSDM would not only consolidate and coordinate skilling efforts, but also expedite decision making across sectors to achieve skilling at a desirable

scale. It will be implemented through a streamlined institutional mechanism, driven by Ministry of Skill Development and Entrepreneurship (MSDE). The key institutional mechanisms for achieving the objectives of the Mission have been divided into two tiers — Governing Council for policy guidance at apex level, and a Steering Committee and a Mission Directorate as the executive arm of the Mission. The Mission Directorate will be supported by three other institutions — National Skill Development Agency (NSDA), National Skill Development Corporation (NSDC), and Directorate General of Training (DGT). All these institutions will have horizontal linkages with the Mission Directorate to facilitate smooth functioning of the Mission. Presently, seven sub-missions have also been proposed to act as building blocks for achieving overall objectives of the Mission.

The National Skills Qualifications Framework (NSQF) is a competency-based framework that specifies all qualifications, according to different levels of knowledge, skills and aptitude. These levels, graded from one to ten, are defined in terms of learning outcomes for the learners, which they obtain either through formal, or non-formal or informal learning. NSQF in India was notified in December 2013. All other frameworks, including the National Vocational Educational Qualification Framework (NVEQF), earlier released by the Ministry of HRD, stand superseded by the NSQF. Under NSQF, the learner can acquire the certification for any competency, needed at any level through formal, non-formal or informal learning. In this sense, the NSQF is a quality assurance framework.

The NSQF is anchored at the National Skill Development Agency (NSDA) and is being implemented through the National Skills Qualifications Committee (NSQC). Among others, the functioning of NSQC includes approvals for various accreditation norms, prescribing guidelines to address the needs of disadvantaged sections, reviewing inter-agency disputes, and alignment of NSQF with international qualification frameworks.

Under this Mission, the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) is the flagship scheme of the Ministry of Skill Development & Entrepreneurship (MSDE). The objective of this ‘Skill Certification Scheme’ is to enable youths to obtain industry-relevant skill training that will help them in securing a better livelihood. Individuals with prior learning experience or skills will also be assessed and certified under Recognition of Prior Learning (RPL). Under this scheme, both Training and Assessment fees are fully paid by the government.

5.2 Skill Development Scenario in Bihar

Bihar is the third largest state by population (10.41 crore as per 2011 Census). About 58 percent of the population is below the age of 25, the highest in India in this age group. The literacy rate in Bihar is 63.8 percent, with male literacy at 73.4 percent and female literacy at 53.3 percent. In the recent past, the economy has experienced a double-digit growthrate. This spectacular performance is not only much higher than what was achieved in previous period, but one of the highest among all the Indian states.

According to the 2011 Census, about 31 percent of total population of Bihar is in the age group of less than 15 years and 61 percent of them falls in the working age group of 15-59 years. The working age group population is sizeable and needs to get involved in the state's workforce, where wage employment is the source of livelihood for most of the people. A well-nurtured and productive labour force contributes towards a dynamic economy and equitable society.

In Bihar, as per the 2011 Census, the share of workers in total working age population was around 33 percent. The proportion of female workers was substantially lower at around 19 percent, compared to 46 percent for men. The share of marginal workers among all workers was as high as 38.5 percent. It is also observed that about 53 percent of the workers were agricultural labourers and about 74 percent of the workers in Bihar are engaged exclusively in agriculture.

Bihar Skill Development Mission (BSDM)

The BSDM was constituted in 2010 with the vision to increase the capacity of the system to deliver quality skill training and professional knowledge to the youth to enhance their employability. Through skill training, BSDM also tries to bridge the skill deficit with a view to meet the growing demand for skilled manpower. Bihar Skill Development Mission (BSDM) is a Society registered on June 23, 2010 under the Societies Registration Act 1860. The specific objectives of BSDM are as follows :

- (a) To facilitate generation of adequate employment opportunities through a policy framework.
- (b) To encourage and facilitate skill training for youth of Bihar.
- (c) To monitor generation of employment in different sectors.
- (d) To facilitate launching of training programmes for both uneducated and educated unemployed persons for upgradation of their skills.

- (e) To formulate area and trade-specific strategies for maximizing employment opportunities on a sustainable basis in the state supported by the private sector.
- (f) To facilitate a coordinated approach in achieving the above objectives for maximizing the benefits over time and space and in reaching to the neediest sections of the population.

Taking into account the various challenges, identified by the various aspects of the skill development ecosystem have been streamlined by BSDM. These include :

- (a) **Bringing in Central Funds** : BSDM has started facilitating the process of identifying central schemes and corresponding ministries / departments through which those schemes can be rolled out in the state.
- (b) **Pool of Training Centres** : Apart from Kaushal Yuva Programme (KYP) centres, for domain and other skilling project, the Skill Development Centres (SDC) must get themselves empanelled with BSDM through its portal. Thereafter, the SDCs can run training programmes under any department of the state government.
- (c) **Process and Operational Guidelines** : BSDM has created a process and operation guideline to govern all the schemes that are under the purview of BSDM or other schemes that do not have scheme-specific guidelines. The respective departments must run such schemes as per the guidelines set out by BSDM.
- (d) **Creation of an Ecosystem for Employment** : BSDM has started interactions with industry partners to facilitate wage employment and self-employment and increase employability of the youth. Exclusive Job Fairs and recruitment camps are being organized to support wage employment.
- (e) **Finalization of Course/Sector Offering** : BSDM, in consultation with different stakeholders, has finalized courses that have substantial potential to enhance employability of the youth. GTP courses and domain skilling courses that are aligned to National Skills Qualifications Framework (NSQF) levels are such examples.
- (f) **Monitoring and Evaluation Framework** : BSDM has prescribed a robust and exhaustive mechanism for monitoring all skill development programmes being implemented in the state.
- (g) **Mobilization and Registration of Candidates** : BSDM has also organised a penetrative communication and mobilization campaign to ensure registration of an adequate number of target candidates in the training programmes.

- (h) **Target Setting** : BSDM sets annual physical targets for each of the departments in line with the overall physical target of training of 1 crore youth, as decided by the state government.
- (i) **Integration of Efforts** : BSDM aims to create a skill policy and roadmap for Bihar to guide the skill development efforts in a coordinated manner.
- (j) **Common Cost Norms** : BSDM provides standardized cost norms in compliance with the common guidelines to cater to the central schemes.

Strategic Interventions

The BSDM has undertaken several initiatives in the recent past towards its objective. Some of them are :

- (a) **IT-enablement of the Skill Development Value Chain** : The entire skill development value chain has been made IT-enabled by BSDM to ensure online real-time monitoring, collated reporting, effective and efficient decision-making, and reduced turnaround time for various processes. These processes include Candidate Management, Training Centre Management, Training Calendar, Learning Assignments, Assessment and Certification, Placement and Post-Placement tracking, Financial Management and Management Information System.
- (b) **Ensuring Social Inclusion** : BSDM has conceptualised flagship schemes to address specific target groups such as women, transgender, jail inmates, etc.
- (c) **Ensuring Quality and Shortening of Training Life Cycle Duration** : BSDM has ensured use of audio-visual contents, conducting training of trainers, and automation of assessment request process, in association with Skill Development Management System (SDMS), for courses at National Open School (NOS) and Quality Pack (QP). Online results and certification updates are some of the sound steps ensured by the BSDM to maintain quality of training. Timely updates by BSDM also regularizes the training calendar.

Skill Development Programmes by BSDM

The Kushal Yuva Program (KYP) is part of one of the ‘Saat Nishchay’ (seven resolves) of the state government — ‘Aarthik Hal, Yuvaon ko Bal’. This programme is targeted at all aspirants in the age group of 15-28 years, with age limit relaxed for SC/ST (33 years), OBC (31 years), Persons with disability (33 years). The educational requirement is at least 10th Class pass. Through this programme, BSDM intends to enhance the employability of the youth of Bihar. The

course curriculum for KYP includes three components — Life Skills, Communication Skills (English and Hindi) and Basic Computer Literacy. The course duration covering all the three components would be 240 hours (Life Skills for 40 hours, Communication Skills for 80 hours and Basic Computer Literacy for 120 hours). Some of the unique features of KYP are :

- (a) Minimum of one Skill Development Centre (SDC) in each of the 534 blocks for imparting training in soft skills.
- (b) A strong pool of certified trainers has been developed through a mandatory Trainers Online Certification (OnCET) programme.
- (c) State-wise social mobilization campaign is being organised to increase awareness which, in-turn, will result in higher access and participation.
- (d) Life Skills, Communication Skills (English & Hindi) and Basic Computer Literacy will increase the employability of the youth.
- (e) Use of high-quality content and E-Learning mode.
- (f) Sequential mode of learning is provided for prohibiting any skipping of sessions.
- (g) Central monitoring of step-by-step progress of each candidate through the web portal.
- (h) Inbuilt and Integrated online Assessment and Certification process.

The achievements of KYP are presented in Table 5.1.

Table 5.1 : Achievements of KYP (Till November 2018)

Indicator	Number
Total districts covered	38
Total blocks covered	534
Total approved centres	1726
Total candidates enrolled	1,081,832
Total candidates confirmed	6,27,281
Total candidates completed training	5,45,106
Total candidates certified	4,20,439

Source : Labour Resource Department, GOB

Domain Skilling

The Domain Skilling is the training imparted to develop skill for the fresh workforce entrants without any prior skill development experience through domain-specific and demand-led skill training. This skilling programme is expected to lead to employment or any outcome-oriented

activity, after a participant acquires a skill, duly certified by an independent third party agency or an agency of national or state repute, approved by competent authority. It enables the aspirant to get wage/self-employment, leading to increased earnings and sustained livelihood. The candidates in the working age group of 15-59 years who fulfil the minimum qualification criteria of the course, and interested in getting domain skills, may apply for any course approved by — Quality Packs - National Open Schooling (QP-NOS) / Bihar Board of Open Schooling Examination (BBOSE) / National Institute of Open Schooling (NIOS) / Indira Gandhi National Open University (IGNOU) / any other course approved by BSDM.

The Skill Development Centers (SDC) who have requisite generic and course-specific infrastructure are empanelled through online registration process for the domain skilling to offer training to the youth in any of the domain-specific courses. All the schemes following BSDM guidelines will have to ensure a minimum of 50 percent placement, including self-employment. The breakup of placement percentage for wage employment and self-employment can be decided by the implementing department as per the nature of the course and their target group inclinations. The details about the Domain Skilling Programme in Bihar is presented in Table 5.2.

Table 5.2 : Status of Domain Skilling (Till November 2018)

Criteria	Number
Total number of approved centers	859
Total number of functional centers	488
Total number of QP NOS courses offered	131
Total skill sectors covered	26
Total GTP prescribed courses	48
Total admissions till date	39885
Total certified till date	7942

Source : Labour Resource Department, GOB

Recruit-Train-Deploy (RTD) Scheme

As a part of accentuating innovative schemes and inviting participation from industry and corporate sector having presence in India, BSDM has come forward with a scheme that can bypass some of the cardinal processes of skill development ecosystem. This scheme tries to address the issue of relevance of the existing skill development programmes from the perspective of the industries. This scheme is known as Recruit-Train-Deploy (RTD) scheme. The RTD model has been initiated by BSDM as an exception to cater to the requirements of industry and assist the youth of Bihar to get employment. RTD is an innovative initiative that is

aimed to address the overall objectives of BSDM. The achievements of RTD scheme in Bihar is presented in Table 5.3.

Table 5.3 : Status of RTD (Till November 2018)

Criteria	Number
No. of operational RTDs	13
Total Course offerings	7
Batches completed	56
Ongoing batches	0
Total candidates trained	1248
Total undergoing training	0
Total trained for India	781
Total deployed for India	253
Total trained for Overseas	467
Total deployed for Overseas	349
Cumulative Deployment	602

Source : Labour Resource Department, GOB

Recognition of Prior Learning (RPL) with Bridge Course

The Recognition of Prior Learning (RPL) is a unique and efficient approach to recognize and upgrade the existing skills of workforce in unorganized sector. Through the RPL scheme, the skills and knowledge gained by individuals outside the formal learning processes are assessed and granted formal recognition. The RPL certification would be equivalent to any skill development certification. This will also provide them with the opportunity to move both vertically and horizontally to acquire skills for a better and sustainable livelihood. RPL is undertaken by agencies and organizations approved by BSDM, as per the norms specified under its guidelines. The agencies and organizations implementing RPL may include agencies designated by MSDE, NSDC or other agencies and organizations approved by the state government, after proper evaluation.

Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

As of December 2018, the BSDM has invited a Request for Proposal for the third phase of the Empanelment of Training Providers with BSDM for running Skill Development Centres (SDC). These SDCs will implement Centrally Sponsored and State Managed (CSSM) component of PMKVY 2.0 for specified job roles in Bihar. The details of progress under PMKVY are presented in Table Nos. 5.4 and 5.5.

Table 5.4 : Status of PMKVY in Bihar

Category under PMKVY	Status
1	Empanelled Training Centres — 23
	SMART Approval done for Training Centres — 26
	Operation Training Centres — 3
2	Draft QP-NOS for makhana cultivation has been approved / Training partners have been finalised and registration of centres is under way.
3	Courses have been identified and information is being sought from NSDC on modalities.
4	Empanelled Training Centres — 19
	SMART Approval done for Training Centres — 15
	Operational Training Centres — 3

Source : Labour Resource Department, GOB

Table 5.5 : Status of Offered Courses and Ongoing Training Programmes

Operational centers	Offered courses and sectors	Ongoing training	Training completed
6	5 courses in 5 sectors	470	220

Source : Labour Resource Department, GOB

Bihar State - Certificate in Financial Accounting - Goods and Service Tax Training (BS-CFA- GST Training)

To create a workforce who understand how Goods and Service Tax (GST) is levied on the supply of goods and services and to help small and medium enterprises of Bihar for filing GST returns, BSDM is planning to start from March 2019, a 120 hour course to impart required skill training to the youths of Bihar. A special emphasis shall be given to those students who have passed Standard 12 examination. The proposed BS-CFA course will be offered to these youths at no cost by establishing new Skill Development Centres in all the 101 Sub-Divisions in Bihar. To maintain the quality of courses, they will utilise BSDM's e-Learning Management System. This e-content will run in a quasi-online mode on BSDM Learning Management System (LMS). The selection of the centres is under process.

Financial Aspects of Skill Development

The budget allocation in the last three financial years are presented in Table 5.6. Different departments have separate budget for implementing the skill development schemes in Bihar. In fact, apart from the BSDM, as many as fifteen departments are involved in skill development programmes. The BSDM facilitates the entire implementation process for the skill development

schemes for these departments. The departments have the liberty to allocate budget, determine the target group, the courses and the location to execute those schemes.

Table 5.6 : Department-wise Budget Allocation for Skill Development Schemes

(Rs. lakh)

Sl. No	Name of the department	Budget amount		
		2016-17	2017-18	2018-19
1	BSDM, Labour Resources Department	20687.48	30346.03	41922.82
2	Department of Health	--	100	436.02
3	Department of Home (Prisons and Correctional Services)	--	--	25.00
4	Department of Education	5096.00	4414.00	7845.00
5	Department of Animal and Fisheries Resources	--	--	1000.00
6	Backward and Extremely backward class welfare Department	--	--	600.00
7	Department of Industries	2067.84	2834.51	1990.00
8	Department of SC/ST welfare	605	1500.00	1700
9	Department of Agriculture	913.53	1200.00	1200.00
10	Department of Information Technology	2500.00	2000.00	300.00
11	Department of Urban Development and Housing Department	14261.0	7899	4445.80
12	Department of Tourism	--	100	1000
13	Department of Rural Development	3595	21576	30400.00
14	Department of Social Welfare	861	1000	1307
15	Department of Science and Technology	1000	1000	1500.0
16	Department of Minority Welfare	200	700	900.00

Source : Labour Resource Department, GOB

It is evident from the table that the project of imparting skill, management and use of financial resources for skilling of the new entrants in the workforce is enormous in its scope. However, there is also a huge requirement of upskilling or reskilling the workers. The state government also plans to encourage the market-led skill development programmes taken up by the private agencies. Needless to mention, if the skilling programme is effectively implemented, it would give the state the opportunity to derive substantial economic and social benefits for generations to come. In the Statistical Appendix (Table A 5.1), the details of the activities of BSDM in the recent past have been presented.

APPENDIX

Table A 5.1 : Events and Activities conducted by the Bihar Skill Development Mission-2017-18

Sl. No.	Name of Events	Location	Date
1	A 13-episode Tele Serial on KYP Program “Turning Point”	Patna	8 th May 2017
2	Orientation of KYP Centre Coordinators was organised	Patna	12 th June 2017
3	Orientation of Learning Facilitators for South Bihar was organised	Patna	13 th and 15 th June, 2017
4	Domain Skill Training Programme was launched in Bihar by Urban Development and Housing Department	Patna	1 st July 2017
5	World Youth Skill Day was celebrated, and laptops were distributed to the best KYP students	Patna	15 th July 2017
6	A Review Meeting was organised to discuss on Train-The-Trainer Programme, Assessment and Certification, SSC Course curriculum, content and availability of books and placement	Patna	20 th September 2018
7	A meeting with SSCs, publishers and NSDC was organised to discuss on course curriculum content and availability of books and training of trainer’s program	Patna	22 nd September 2018
8	Quarterly review meeting of BSDM MKCL was organised	Pune	6 th October 2017
9	First Recruit-Train-Deploy (RTD) Workshop was organised	Gurugram	18 th November 2017
10	Second RTD Workshop was organised to explore partnership with Industries from Automotive, Construction, Steel & Iron, BSFI, Pharma, Service Sector	Mumbai	9 th December 2017
11	BSDM has started training to enhance capacity of Learning Facilitators of KYP as per the revised course of KYP.	Patna	18 th -20 th December 2018
12	A three-day Rojgar Mela was organised	Patna	29 th , 30 th and 31 st January 2018
13	State-level Skills Competition was organised, 166 participants from 26 Skills participated in this completion.	Patna	20 th to 22 nd April 2018
14	Workshop on strengthening Vocational Education in Universities was organised	Patna	18 th May 2018
15	Third Recruit-Train-Deploy (RTD) Workshop was organised by the BSDM	Bangalore	22 nd June 2018
16	World Youth Skill Day 2018 was celebrated	Patna	15 th July 2018
17	Apprenticeship Mela was organised	Gaya	20 th July 2018
18	Job Camps was organised	Gaya, Chhapra, Patna and Darbhanga	17 th , 19 th , 20 th , 24 th 25 th August 2018
19	District Job-Camp-cum Professional Guidance Camp was organised in three districts in the month of September 2018	Jamui, Sheikhpura and Banka	Sep 1-2 in Jamui, Sep 8-9 in Sheikhpura and Sep 15-16, 2018 in Banka

20	Divisional-level Job-cum-Apprenticeship Camp was organised	Katihar, Supaul, Dehri-on-Sone, Gopalganj and Banka	3 rd , 5 th , 8 th , 10 th and 12 th October 2018
21	MOU was signed between Directorate Employment and Training, Labour Resources Department and Jaqar Foundation for providing training in Plumbing Sector to provide support to build Centre of Excellence	Patna	12 th October 2018
22	Kushal Yuva Programme Review meeting was organised	Pune	16 th October 2018
23	Job Camp was organised	Gaya	3 rd to 5 November 2018
24	BSDM has organised a one-day orientation of DSMs regarding survey of SC&ST families for Skill Training	Patna	16 th November 2018
25	Job Camp was organised	Patna	17 th November 2018
26	Job Camp was jointly organised by BSDM and NSDC	Patna	4 th to 6 th December 2018
27	Job-cum-Apprenticeship Camp jointly was organised by BSDM and NSDC	Bhagalpur	14 th , 15 th and 16 th December 2018
28	A workshop was organised on Scope and Need of Entrepreneurship in Bihar	Patna	20 th December 2018.
29	Divisional-level Job-cum-Apprenticeship Camp was organised	Lakhisarai, Begusarai and Kaimur	22 nd , 23 rd and 25 th December 2018

Source : Labour Resource Department, GOB

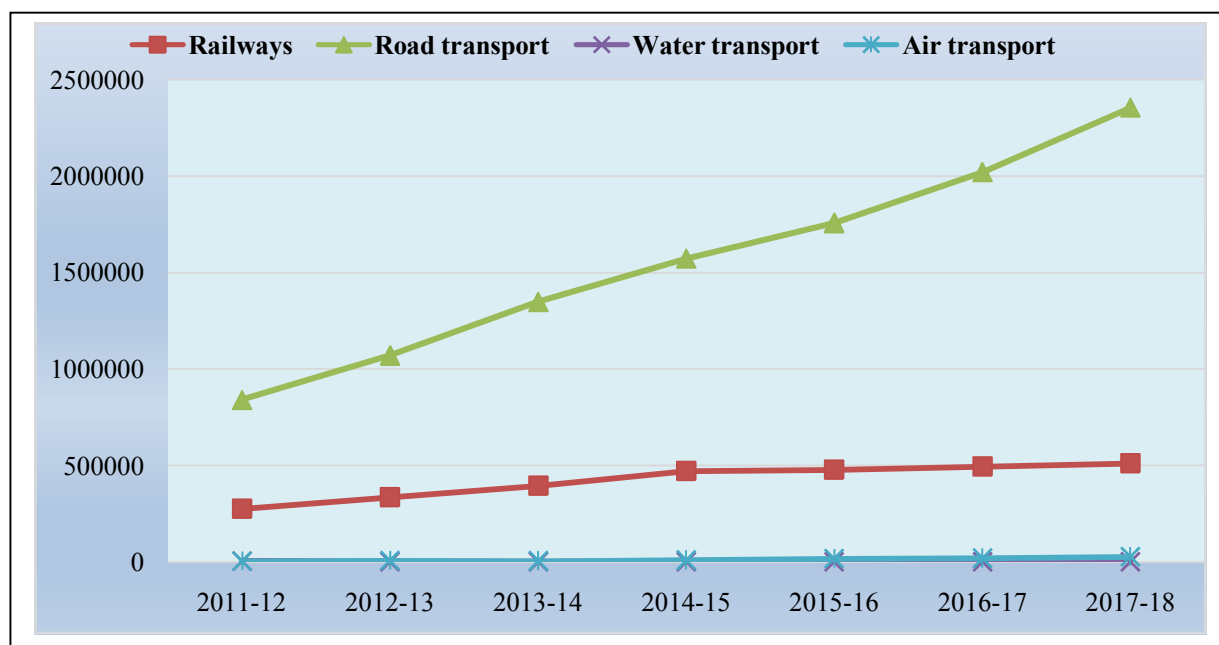
CHAPTER - VI

INFRASTRUCTURE

The availability of sound infrastructure has direct and indirect impact on the economy, as well as on the life of the people of any region. Better infrastructure leads to better service delivery, inclusiveness, wider market accessibility, and stronger backward and forward linkages for all the sectors — primary, secondary and tertiary. The development of infrastructure services is a joint responsibility of the central and state governments, apart from the private sector. The state government continues to attribute high priority to infrastructure development through several ongoing and proposed programmes. The physical infrastructure in Bihar has been strengthened considerably during the last decade. This chapter addresses the sectors like Road Network, Road Transportation, Railways, Civil Aviation, Irrigation Infrastructure, Telephone Network, Postal Network and Information Technology Infrastructure. Other aspects of infrastructure like Energy Sector and Urban Infrastructure are discussed separately in other Chapters of this report.

In the recent past, the state government has invested substantially in the infrastructure sector. This investment is prioritized for transport sectors, specially the road sector, because of its wide reach to the people. The contribution of different modes of transport to Gross State Value Added (GSVA) at constant (2011-12) prices of Bihar is presented in Chart 6.1. The contribution of road transport has grown annually by 12.9 percent, whereas the contribution from airways has grown at an even higher annual rate of 35.2 percent. For railways also, a double digit growth was registered. Finally, water transport registered a negative growth initially (2012-13 and 2013-14), but thereafter, it registered a 10.4 percent annual growth during the last four years. This has resulted in the share of road sector in GSVA increasing from 3.5 percent (2011-12) to 5.2 percent (2017-18). Similarly, the share of overall transport sectors in GSVA increased from 4.6 percent to 6.5 percent during the same period. These trends indicate the prosperity of the people of the state who are able to use more of the modern transport services.

Chart 6.1 : Contribution of Different Transport Sectors in GSV in Bihar (in Rs. lakh)



6.1 Roads Network

The road network is a critical component of the physical infrastructure of any region, particularly the underdeveloped regions like Bihar. The road network is essential for the economy helping in various activities, such as marketing of agricultural produce, industrialization and service delivery. Among the different modes of transportation systems, road transport carries more than 80 percent of the total goods and passenger traffic. Road construction and its maintenance also generate sizeable employment. In this backdrop, road network has been expanding throughout the state, ensuring smooth flow of goods as well as passengers. In view of the high potential of the agricultural sector, there has been substantial increase in rural road network. The state government has invested considerably in recent years on road development as well as its maintenance.

The state government has kept its focus on investing in infrastructure in every budget since 2005-06, which translated into a higher growth for the state's economy because of its multiplier effect. The public investment in the road sector has grown at the rate of 16.3 percent during the last seven years, showing an increase from Rs. 5988 crore (2012-13) to Rs. 17,585 crore (2018-19). This implies a threefold increase in the budget for the road sector in just 7 years. One of the seven resolves of the state government (*Ghar Tak Pakki Gali Naliyaan*) shows its commitment towards expansion of the rural road network. In this backdrop, a huge investment has been made in the rural roads (Table 6.1). On an average, the state government had spent nearly 10 percent of its construction of total budget for road and bridges. In 2017-18, the expenditure on roads

constituted 29.0 percent of the total expenditure in economic sectors, 11.6 percent of development expenditure, and 2.7 percent of the GSDP of the state.

Between 2004-05 and 2016-17, the National Highways (NH) has registered an increase of 1302 kms, State Highways (SH) 1871 kms, and other roads 1,29,477 kms (Table 6.2). During this period, the maximum of NH was built in Maharashtra (3259 kms), followed by Uttar Pradesh (2884 kms) and Karnataka (2660 kms). The highest length of SH was constructed in Karnataka (9988 kms), followed by Rajasthan (6776 kms) and Maharashtra (5763 kms). Bihar was at the sixth position in terms of construction of NH and SH, and at fifth position in the context of other roads.

Table 6.1 : Public Investment in Road and Bridges in Bihar

(Rs. crore)

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 BE	CAGR (2013-19)
Total Expenditure on Road and Bridges	5988	7392	9816	14125	14993	13158	17585	16.3
Revenue Expenditure on Road and Bridges	823	1375	991	1709	1776	1398	2312	11.1
Capital Expenditure on Road and Bridges	3291	4083	4177	4403	5326	5373	5473	7.1
Expenditure on Rural Road	1874	1934	4648	8013	7892	6388	9799	29.5
Expenditure on Economic Services	20246	24871	29173	37305	44943	45360	53520	16.5
Development Expenditure	47282	54691	64293	78077	90800	113067	128772	19.1
Total Budget	69207	80405	94698	112328	126302	160086	176990	17.5
GSDP	282368	317101	342951	369469	425888	487628	543627	11.4
Public Investment in Road and Bridges as percentage of:								
Economic Services	29.6	29.7	33.6	37.9	33.4	29.0	32.9	-
Development Expenditure	12.7	13.5	15.3	18.1	16.5	11.6	13.7	-
Total Budget	8.7	9.2	10.4	12.6	11.9	8.2	9.9	-
GSDP	2.1	2.3	2.9	3.8	3.5	2.7	3.2	-

Source : State Budget Documents, Government of Bihar

The public investment in road and bridges has increased significantly in the last decade. It is noteworthy that in terms of road density (per 100 square kilometer of area), Bihar was at the third position, after Kerala and West Bengal. As on March 2017, Bihar reported 219 kms of road length per hundred sq. kms of geographical area, much above the all-India figure of only 143 kms (Chart 6.2). The road density of Kerala and West Bengal was higher with 517 kms and 357 kms per 100 square kms of area respectively.

Table 6.2 : Road Network in Major States of India

State	National Highways			State Highways			Total Road Network		
	2004-05	2009-10	2016-17	2004-05	2009-10	2016-17	2004-05	2009-10	2016-17
Andhra Pradesh	4472	4537	5465	8349	10470	6485	206125	232280	174367
Bihar	3537	3642	4839	2382	3989	4253	73834	124363	206484
Chhattisgarh	2184	2184	3078	3213	3213	4462	73993	87733	95809
Gujarat	2871	3245	4971	19176	18460	17201	143660	153521	179144
Haryana	1468	1512	2622	2536	2523	1801	28673	36032	48482
Jharkhand	1805	1805	2654	-	1886	1296	11783	20772	66786
Karnataka	3843	4396	6503	9590	20905	19578	200112	274896	345515
Kerala	1440	1457	1812	3523	4341	4342	143276	200625	200808
Madhya Pradesh	5200	4670	5194	8099	10115	10934	165340	185898	289940
Maharashtra	4176	4176	7435	33237	32629	39000	272684	399416	613418
Odisha	3704	3704	4838	4957	3798	4187	213820	229132	288083
Punjab	1557	1557	2769	1515	1477	1133	45767	77912	108379
Rajasthan	5585	5585	7906	8412	11218	15188	144898	217543	254279
Tamil Nadu	4183	4832	4946	7226	9384	11752	170823	188037	261035
Uttar Pradesh	5599	6774	8483	9097	8739	7147	244442	329185	422412
West Bengal	2325	2578	2956	3337	4505	3612	89699	290170	316730
India	65569	70548	101011	133177	158497	176166	2669996	3571510	4703293

Source : Transport Research Wing, Ministry of Road Transport and Highways, GoI

Chart 6.2 : Road Density (km per 100 square km) in Indian States as on March 2017

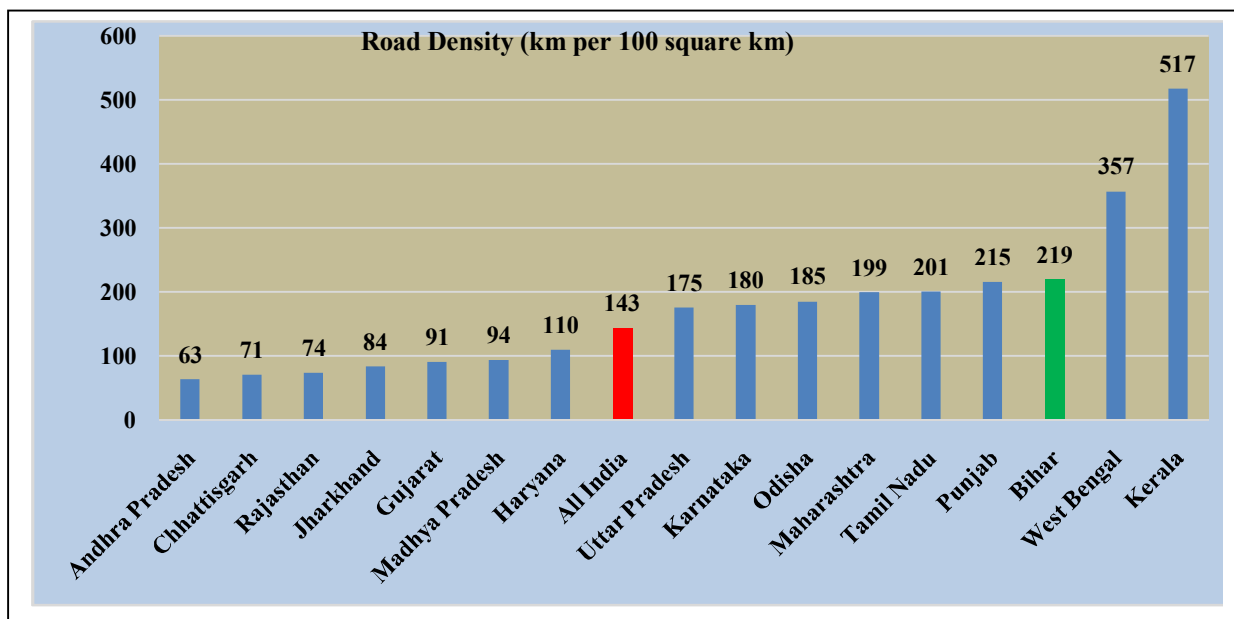


Table 6.3 gives the details of road length of National Highways, State Highways, Other Public Works Departments (OPWD) Roads, Rural Roads, Urban Roads and Project Roads in Bihar. This table shows the progress of road length under different categories during the last four years. The total length of NH comprises 2 percent of total road length and 4 percent of surfaced roads. The share of SH in all types of roads was almost the same as that of NH. Since Bihar is largely a rural state, about 80 percent of total road network comes under rural roads. Other PWD, urban road and project roads constituted about 10-12 percent of the total road network. The figures in Table 6.3 also shows that the expansion of rural roads has been faster than other roads and, secondly, the share of surfaced roads in the total rural length has also increased substantially.

Table 6.3 : Total and Surfaced Road Network by Authority in Bihar

(length in Kms.)

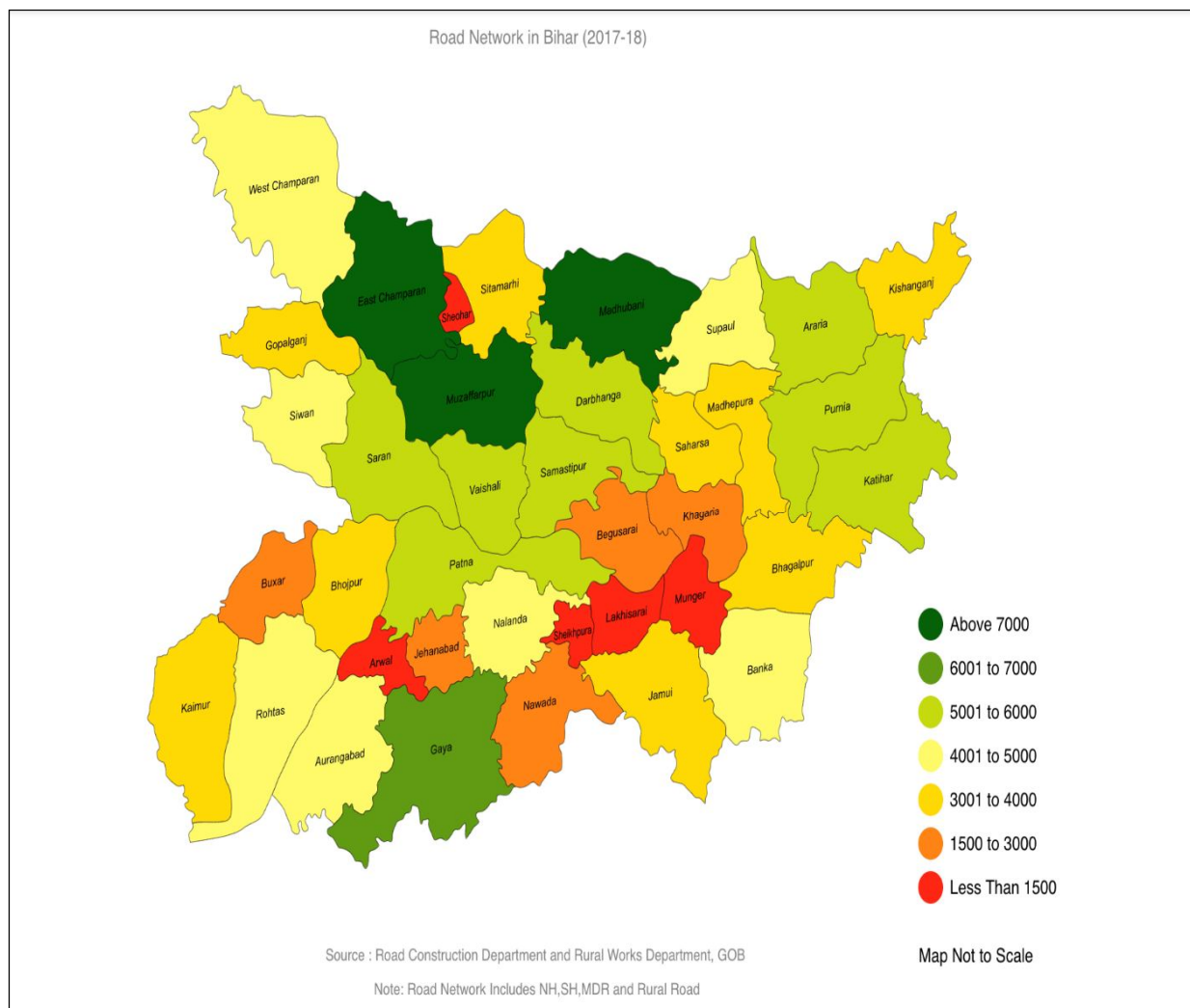
Type of road	2012		2013		2014		2015	
	Total	Surfaced	Total	Surfaced	Total	Surfaced	Total	Surfaced
National Highways	4105 (2.96)	4105 (6.28)	4168 (2.11)	4168 (3.56)	4467 (2.13)	4467 (4.31)	4701 (2.28)	4701 (4.34)
State Highways	4857 (3.51)	4857 (7.43)	4483 (2.27)	4483 (3.83)	4389 (2.09)	4389 (4.24)	4426 (2.15)	4426 (4.09)
Other PWD Roads	9030 (6.52)	9030 (13.82)	9401 (4.77)	9401 (8.04)	10128 (4.83)	10128 (9.77)	10128 (4.92)	10128 (9.36)
Rural Roads	108759 (78.52)	42747 (65.41)	167579 (84.96)	94421 (80.75)	179392 (85.52)	80431 (77.62)	175373 (85.13)	84794 (78.33)
Urban Roads	8918 (6.44)	3819 (5.84)	8760 (4.44)	3661 (3.13)	8823 (4.21)	3699 (3.57)	8823 (4.28)	3699 (3.42)
Project Roads	2848 (2.06)	797 (1.22)	2848 (1.44)	797 (0.68)	2559 (1.22)	508 (0.49)	2559 (1.24)	508 (0.47)
Total	138517 (100)	65355 (100)	197239 (100)	116931 (100)	209758 (100)	103622 (100)	206010 (100)	108256 (100)

Note : Figures in the parenthesis denote percent share to total.

Source : Transport Research Wing, Ministry of Road Transport and Highways, GoI

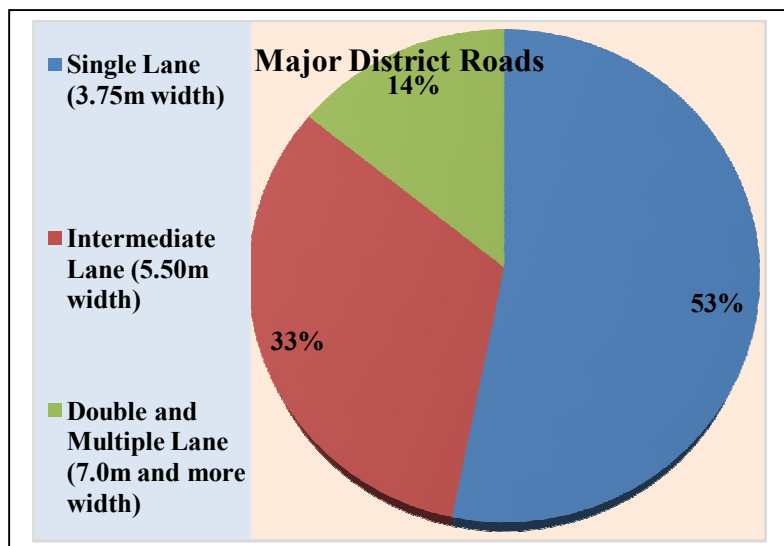
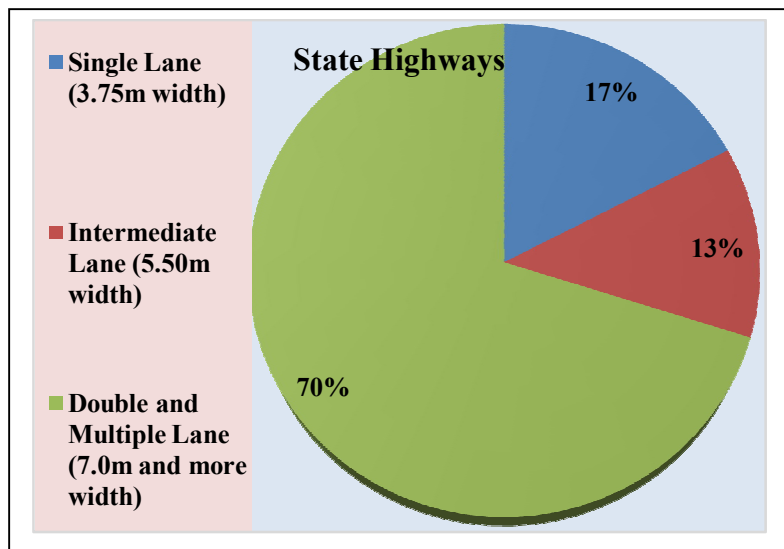
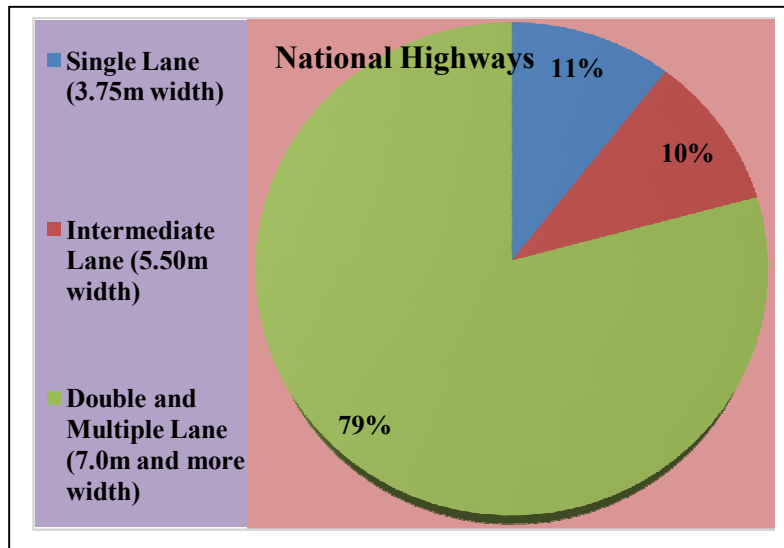
The trends of NH, SH, Major District Road (MDR) and Rural Road network across the districts of Bihar are given in Statistical Appendices (Table A6.1, Table A6.2, Table A6.3 and Table A6.4). These tables show the inter-district variation in four types of roads — NH, SH, MDR and rural road. Map 6.1 shows the total road networks across the districts of Bihar.

Map 6.1 : District-wise Road Network in Bihar-2018 (Range in km)



Bihar is a densely populated state where no less than 1106 people reside in a square km of geographical area (2011 census). Therefore, apart from road length, the width of roads also matters for smooth transportation. The road network has four categories according to their width — single lane (3.75 m.), intermediate lane (5.50 m.), double lane (7.00 m.) and multiple lanes (more than 7.00 m.). Chart 6.3 depicts the three types of road (NH, SH and MDR) by their width. Almost 80 percent of the NH and 70 percent of SH were in the category of double or multiple lanes, whereas only 13 percent of MDR come under double lane. A major chunk of the MDR belong to either single lane (53 percent) or intermediate lane (33 percent).

Chart 6.3 : Status of NH, SH and MDR Network by width in Bihar (as on September, 2018)



Source : Department of Road Construction, GOB

National Highways (NH)

The National Highways (NH) are the principal roads of the country for inter-state transportation of passengers as well as goods. It crisscrosses the length and breadth of the country, connecting the national and state capitals, major ports and rail junctions and also link up with border roads. The NHs promote the growth of trade and commerce between the states and with other countries. However, it constitutes only 2.3 percent of the road network in Bihar. It is the linking factor for all major and feeder roads of the state.

A total of 43 NHs, measuring 4917 kms, run through Bihar as on September, 2018, as compared to 35 NHs (4321 kms) in 2014. With the addition of 8 more NHs during these four years, the total length of NH has become 4917 kms. Table 6.4 shows the list of NHs passing through Bihar. A major share (79 percent) of the NHs is of double and multiple lane roads; and the rest 21 percent was single or intermediate lane roads (Chart 6.3). It is heartening to note that, with a combined efforts of the central and state governments, the length of multiple and double lane roads are increasing faster over the years in Bihar. The district-wise road length of NH is presented in Statistical Appendix (Table A6.1). As data shows, there was no increase in the length of NH in 19 districts during last 6 years. However, three districts, where expansion of NH was maximum are — Jamui (108 kms), Siwan (77.2 kms) and Banka (74 kms). As on September 2018, Patna (8.03 percent), Muzaffarpur (5.28 percent) and Madhubani (4.8 percent) were lead districts in terms of share of NH.

Table 6.4 : Number of National Highways and Length in Bihar (as on September, 2018)

(length in km)											
Sl. No.	NH No.	Length (Km)	Sl. No.	NH No.	Length (Km)	Sl. No.	NH No.	Length (Km)	Sl. No.	NH No.	Length (Km)
1	2	205.7	12	82	147.0	23	106	135.1	34	327A	25.1
2	19	93.0	13	83	125.0	24	107	180.0	35	122A	31.8
3	28	267.3	14	84	74.0	25	57A	13.0	36	333A	198.9
4	28A	66.7	15	85	92.0	26	28B	112.0	37	527A	28.2
5	30	230.0	16	98	152.0	27	110	90.0	38	219	46.8
6	30A	69.0	17	99	11.2	28	2C	105.0	39	333B	18.4
7	31	404.0	18	101	65.0	29	333	146.7	40	133B	7.5
8	57	310.0	19	102	75.0	30	527C	64.2	41	727A	4.5
9	77	139.0	20	103	59.0	31	327E	227.1	42	227A	147.0
10	80	190.0	21	104	214.0	32	131A	81.1	43	120	145.0
11	81	55.0	22	105	55.0	33	133	11.0	Total		4917.2

Source : Annual Report, Road Construction Department, GoB

The National Highways are developed as well as maintained by the central government. Table 6.5 presents the details of the expenditure for NH on development and maintenance in Bihar and India, during 2010-11 to 2015-16. The expenditure on development of NH in Bihar was Rs. 199 crore in 2010-11 and it constituted barely 1.29 percent of the all-India expenditure. In absolute terms, this increased to Rs. 708 crore in 2015-16 and the share also increased to 1.90 percent of all-India expenditure. Similarly, the share of expenditure on maintenance of the NH increased from 2.5 percent in 2010-11 to 4.2 percent in 2015-16. For total expenditure (development and maintenance), Bihar is getting only 1.9 percent. As regards the road length, the share of NH is not only less in Bihar, it has also decreased from 5.13 percent (2010-11) to 4.86 percent (2015-16).

Table 6.5 : Road Length and Expenditure on Development and Maintenance of National Highways

(Rs. crore)

Year	NH (in kms)		Expenditure on NH Development		Expenditure on NH Maintenance		Total Expenditure on NH		Share of Bihar In All India	
	Bihar	India	Bihar	India	Bihar	India	Bihar	India	NH Length	Exp. on NH
2010-11	3642	70934	199	16869	37	1488	236	18357	5.13	1.29
2011-12	4106	76818	232	25287	51	1082	283	26369	5.35	1.07
2012-13	4168	82246	129	16319	42	1460	171	17779	5.07	0.96
2013-14	4467	91287	271	20264	145	1803	417	22067	4.89	1.89
2014-15	4701	97991	277	23689	201	2524	477	26213	4.80	1.82
2015-16	4913	101009	708	40317	107	2525	815	42843	4.86	1.90

Source : Ministry of Road Transport & Highways, GoI

The National Highways Authority of India implements the National Highways Development Project (NHDP) which is India's largest ever Highways Project. NHDP had started in January, 2000 and, till date, four phases of the project have been completed. Bihar has benefitted by obtaining 2621 kms. of NH under NHDP. In addition to NHDP, other projects of NH are also under progress in Bihar. A total of 965 kms of NH is to be constructed under a World Bank Project, with an outlay of Rs. 5262 crore. Similarly, Japan International Cooperation Agency (JICA) is supporting a road project for upgradation of 92.9 kms. of NH-82 (Gaya-Hisua-Rajgir-Nalanda-Biharsharif Section) to 4-lane standard. The central government is implementing this project with an amount of Rs. 1408 crore (Table 6.6).

Table 6.6 : Status of Widening of National Highways

Project	Length (kms)	Remarks
National Highways Development Project (four / six lane)		
Golden Quadrilateral – I	206	206 km Completed
East-West Corridor – II	487	481 km Completed
NHD Project – III	1130	546 km Completed
NHD Project – IV	527	177 km Completed
NHD Project Bordering UP/ Jharkhand – V	206	51 km Completed
NHD Project – VII (Patna Ring Road)	-	In DPR phase
Total	2556	-
Under Budgetary Outlays of MoRT & H (2-lane)	453	Rs. 2055 crore
Project Work of NH (2017-18) phase-I	103	Rs. 368 crore
Additional Project Work of NH (2017-18) phase-I	93	Rs. 478 crore
Under World Bank Aided Scheme	512	Rs. 3207 crore
LWE Road Development Scheme (2-lane)	32	Work Completed (Bridge under progress)
Under Public-Private Partnership (4-lane)	190	Rs. 5840.5 crore
JICA (4-laning of NH-82) Gaya - Hisua - Rajgir - Nalanda - Biharsharif Section	93	Rs. 1408 crore

Source : Annual Report 2017-18, Road Construction Department, GoB.

Under Pradhan Mantri package, a total of 82 projects have been approved in Bihar involving an outlay of Rs. 54,700 crore for development of NH to provide connectivity to border, religious and backward areas. These projects are implemented through two agencies – National Highways Authority of India (24 projects) and Road Construction Department of the state government (58 projects). Further, Bharatmala Pariyojana, a new umbrella programme, has been introduced for the NH sector that focuses on optimizing efficiency of freight and passenger movement across the country by bridging critical infrastructural gaps. This project shall be implemented over a period of five years from 2017-18 to 2021-22. Bihar would be benefited by having 9 projects involving 949 kms of NH (Table 6.7).

Table 6.7 : Projects under Bharatmala Pariyojana in Bihar

(Length In Kms)

Sl. No.	NH No.	Project Name	Length	Sl. No.	NH No.	Project Name	Length
1		Aurangabad- Darbhanga	271	6		Muzaffarpur-Sahibganj	25
2		Sasaram-Patna	143	7	19	Chhapra- Patna	55
3		Patna-Hajipur-Muzaffarpur	48	8	30	Mohania-Ara	118
4	28	Muzaffarpur-Begusarai	117	9	31	Rajauli-Bakhtiyarpur	107
5		Patna-Sahibganj	65	Total			949

Source : Annual Report, Road Construction Department, GoB

State Highways Network

The State Highways (SH) connect major industrial establishments, district headquarters, block headquarters, places of commercial interest, tourist places, major agricultural produces' markets, state capital, and link up with the NH and adjacent SH. The total length of SH in Bihar was 4006 kms, which constituted 2.06 percent of the total road length in September 2018. The state government is continuously widening the SH and maintaining its quality. As a result, 70.1 percent of SH are multiple or double-lane roads, 12.5 percent intermediate lane roads, and 17.4 percent single lane roads (Chart 6.3). The total road length of SH was 2382 kms in 2004-05 which has been increasing over the years and reached to 4006 kms in September, 2018. The district-wise road length of SH is given in Statistical Appendix (Table A6.2). There are 25 districts which have benefited from upgradation of SH into NH. As on September 2018, Darbhanga (5.59 percent), Gaya (5.24 percent) and Patna (5.19 percent) were the leading districts in terms of share in total SH network.

The Asian Development Bank (ADB) has agreed to provide support for upgradation of all single and intermediate lane SH roads into two-lane roads, under the ambitious Bihar State Highways Project (BSHP). Under BHSP-I, a total 9 SHs of 825.42 kms with a cost of Rs. 2630 crore was completed. In Phase II of BSHP, road length of 388 kms of 5 SHs has been selected with a project cost of Rs. 2547 crore for upgradation into two-lane roads. The ADB has also sanctioned 4 additional SHs under the BSHP-II, for widening of single-lane road into double-lane road with an outlay of Rs. 1659 crore. About 45 percent of work has been completed with additional financing of BSHP-II. The ADB has also supported the construction of 6-lane Greenfield Bridge over the river Ganga from Kachi Dargah on NH-30 (Patna) to Bidupur on NH-103 (Vaishali). The total cost of the project is Rs. 4988 crore and the total project length is 22.76 kms. For this project, the ADB has given an assistance of Rs. 3000 crore and the rest amount of Rs. 1988 crore is to be provided by the state government. Under BSHP-III, 231.75 kms. of road under 5 SHs have been selected for upgradation into two-lane, costing Rs. 1859.58 crore, also supported by ADB. Further, 814.8 kms. of road under 14 SH projects are in the pipeline for upgradation into two-lane financed by ADB. Further, 8 SH projects are in the pipeline for upgradation into two-lane financed by ADB. The Union Ministry of Economic Affairs has agreed in principle for all these projects.

The rail-cum-road bridge on the Ganga river between Digha and Sonepur near Patna has minimized the distance and travel time for the movement of freight as well as passengers. It has also helped in reducing the traffic load of Mahatma Gandhi Setu over the Ganga river. The total

cost of the new bridge was Rs. 2921 crore. For this construction, the state share of Rs. 1240 crore was paid from the Backward Region Grant Fund (BRGF). Another project supported under BRGF is elevated/semi-elevated road corridor project, which starts from AIIMS in Patna (NH-98) and reaches up to Digha Ghat (11.90 kms). The total cost of the project is Rs. 1289.25 crore, and nearly 90 percent of this project is completed.

The cleanliness and beautification of the river Ganga is one of the priorities of the state government. Presently, the Ganga Pathway of 21.5 kms (Digha to Didarganj at Patna) is under construction, which includes 7.6 kms of elevated corridor having four lanes with divided carriageway. About 20 percent of the entire work has been completed and the work is expected to be over by 2019. The total cost of this project is Rs. 3160 crore, of which Rs. 2000 crore will come from Housing and Urban Development Corporation (HUDCO) as a loan.

The state government is also working on some projects under Public-Private-Partnership (PPP) mode. A Greenfield Bridge across the river Ganga, connecting Bakhtiyarpur Bypass of NH-31 and Tajpur on NH-28 is being constructed at a cost of Rs 1602.74 crore under PPP project. Under this project, a bridge of 5.5 kms with a total road length of 40.2 kms is covered. Till date, around 40 percent of the work has been completed.

Table 6.8 : Overview of Widening of State Highways

Agency-wise Road / Bridge	Length (kms)	Remarks
ADB (BSHP-I) upgradation of 2-lane of 9 SH	825.4	Cost of Rs. 2629.86 crore (work completed)
ADB (BSHP-II) upgradation of 2-lane of 5 SH	374.3	Cost of Rs. 2547.01 crore - work under progress
ADB (Additional Financing for BSHP-II) upgradation of 2-lane of 4 SH	254.5	Cost of Rs. 1658.69 crore - 45.23% completed. Rest work under progress
ADB (BSHP-III) upgradation of 2-lane of 5 SH	231.8	Cost of Rs. 1859.58 crore
ADB (Project in Pipeline) upgradation of 2-lane of 4 SH	814.8	Phase-I (303.2 kms) / Phase-II (511.6 kms)
ADB (6-lane Ganga Bridge and Road Project)	9.8 (Bridge) 13.0 (Road)	Cost of Rs. 4988.40 crore - work under progress
BRGF (Ganga Bridge) between Digha and Sonapur and approach road	Bridge on the Ganga River	Bridge complete and approach road in progress (cost of Rs. 2921 crore)
BRGF (AIIMS, Patna to Digha Ghat)	11.9	Cost of Rs. 1289.25 crore (88.59% work completed)
HUDCO (Road)	21.5 (Ganga Path) 7.6 (elev. cord.)	Cost of Rs. 3160.00 crore (21% work completed) - to be completed in 2019
PPP Mode (Greenfield Bridge on River Ganga - Bakhtiyarpur on NH-31 to Tajpur NH-28)	5.5 (Bridge) 40.2 (Road)	Cost of Rs. 1602.74 crore (40% work completed)

Source : Department of Road Construction, GOB

Major District Road Network

The Major District Roads (MDR) connect NH, SH, areas of production, markets and adjacent MDR. It serves as main roads for intra-district movements. The MDRs in the state are 12,356.85 kms in length, with varying width. However, in view of the inadequacy of width (less than 3.50 metres) of a majority (53.15 percent) of MDRs in the state and their incapacity to cope with the increasing traffic intensity, the state government is making endeavours to upgrade these roads to a minimum of intermediate lane standard (5.50 meters). Out of the total length of MDR, 1760 kms have been converted into double or multiple lane roads and 4030 kms of MDR into intermediate-lane roads (Chart 6.3). The MDR projects are executed under different schemes and financed through State-Plan, RIDF grants from NABARD, Central Road Fund, Road Connectivity Project Fund for Left Wing Extremism-Affected Area, Indo-Nepal Border Road Development Programme, Roads of Economic Importance, Roads of International Importance, and Finance Commission grants. Table A6.3 (Statistical Appendix) gives the district-wise road length of MDR in Bihar for the last five years. In terms of MDR network, Gaya (6.18 percent), Patna (5.42 percent) and Muzaffarpur (4.39 percent) accounted for the largest shares as on September 2018.

State Schemes

The state schemes are implemented through Major Road Scheme and Scheduled Caste Special Component Scheme. The Standard Bidding Document (SBD) is followed for the departmental construction work. The Engineering, Procurement and Construction (EPC) method has been adopted where the contractor is made responsible for all the activities including design, procurement, construction, commissioning and handover of the project to the state government. The state government has also adopted a policy of Road Assets Maintenance Contract System, which will be performance-based and for a longer period of five years. This Output and Performance Based Road Maintenance Contract (OPRMC) was adopted in 2013 and will expire in 2018-19. As this scheme has been successful, it will be extended for the next seven years. Currently, construction of 1712.24 kms of road at a cost of Rs. 3075.97 crore is under progress. In 2017-18, a total of 515.3 kms of MDR has either been widened or renovated. During 2018-19, a sum of Rs. 1000 crore was allotted under MDR sector, and a sum of Rs. 945 crore was allotted under Scheduled Caste component of State Plan.

Rural Infrastructure Development Fund (RIDF)

The rural roads in Bihar are also constructed through the finance provided by NABARD under RIDF. Altogether, 297 projects have been sanctioned under RIDF-XVI to RIDF-XXI, involving an amount of Rs. 9886.99 crore. Out of this, Rs. 914.05 crore has been approved for around 342.6 km of road length for widening and strengthening.

Left Wing Extremism-affected Area Road Development Scheme

Bihar is facing left-wing extremism in many districts. In this background, 5 extremism affected districts (Arwal, Aurangabad, Gaya, Jamui and Jehanabad) have been selected under Road Requirement Plan-I (RRP-I) for 41 road projects by the central government. The cost of these projects is Rs. 616.30 crore for building or upgrading of 674.3 kms of roads. This includes 71.8 kms of NH, 68.1 kms of SH and 534.4 kms of MDR. A sum of Rs. 515 crore has been allotted under LWE affected area road development scheme in 2018-19. There are 6 districts (Aurangabad, Gaya, Jamui, Nawada, Banka and Muzaffarpur) selected under RRP-II under Pradhan Mantri Gram Sadak Yojana for 60 road projects of 1052.3 kms road length.

Central Road Fund

As per Central Road Fund (CRF) Rule 2014, the direct payment procedure has been implemented for roads of economic importance and inter-state cooperation. Under this, 70 percent of fund is allotted in accordance with the geographical area of the state and the rest 30 percent is approved on the basis of total fuel consumption in the state. A workplan of Rs. 540.36 crore has been approved for widening and strengthening of 248.8 kms roads and Rs. 411.31 crore for fly-over bridge. A provision of Rs. 197.00 crore has been made under this fund for 2017-18.

Indo-Nepal Border Road Project

With a view to ensuring effective security along the international border between India and Nepal, the Indo-Nepal border road assumes greater significance. The central government has accepted the proposal of the state government for building of roads of double lane SH standard for 552 kms. of road in the border areas at a cost of Rs. 1656 crore. The state government is also contributing Rs. 2279 crore for land acquisition, environmental clearance and utility shifting. In addition to this, NABARD is providing Rs. 983.81 crore for building 121 major bridges in alignment with those border roads. The Indo-Nepal border road involves 127.3 kms of NH, 82.0 kms roads of Water Resource Department, and 211.0 kms of rural roads.

Rural Roads Network

The rural roads provide a network to connect villages and hamlets with the nearest towns, markets, NH, SH and MDR. The state government is continuously strengthening the rural economy by providing adequate infrastructure and services delivery. The rural roads help improving productivity in agriculture and allied sector and also in the off-farm sector by providing market linkages through efficient value-chain management. These roads also improve the standard of living of the rural population. In this background, the state government has taken a resolution to connect each and every household with concrete road and drainage. Indeed '*Ghar Tak Pakki Gali-Naliyaan*' is one of the components of '*Saat Nishchay*' of the state government. The public investment in rural roads has been growing by nearly 30 percent annually and, from Rs. 1874 crore in 2012-13, it has reached to Rs. 9799 crore in 2018-19. This increase is more than five times during a period of six years. As on September 2018, a total of 1,29,473 kms of rural roads exist in Bihar, of which around 53 percent was paved. This was only 35 percent till March, 2015 and thereafter grew at the annual rate of 15 percent. The length of paved rural roads reached 73,782.11 kms (as on September 2018) from 48,794.11 kms (2014-15). The details of progress of paved rural roads in Bihar over the last five years is given in Table A6.4 (Statistical Appendix). As rural connectivity is on the highest priority of the state government, the paved rural roads increased by 24,988 kms in last five years, with the highest increase in Rohtas (1405 kms), followed by Muzaffarpur (1254 kms) and Aurangabad (1234 kms). The top three districts in terms of share in total length of rural roads are — Muzaffarpur (5.02 percent), East Champaran (4.96 percent) and Madhubani (4.36 percent) as on September 2018.

The Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched in December, 2000 by the central government to provide connectivity to unconnected habitations, as a strategy for poverty alleviation. PMGSY-II was launched in 2013 with the objectives of consolidating the existing rural road network. Earlier, this was a fully funded Central Government Scheme; however, the sharing pattern has been changed since 2015-16 and now the state government has to contribute 40 percent of the cost. The central government has identified 11 districts as left-wing extremism-affected and named them as Integrated Action Plan (IAP) districts. These districts are eligible for all-weather rural road connectivity for all habitations with a population of 250 and above. Other than these IAP districts, the PMGSY plans to cover all habitations with a population of at least 500 with all-weather roads. As on September 2018, a total of 48,299 kms of rural roads were constructed at a cost of Rs. 22,646 crore under PMGSY. It accounted for 65.5 percent of total rural roads. Except for 47 identified Left Wing Extremism affected blocks, where PMGSY

covers 1444 habitations with population of 100 and above, the PMGSY does not have any provision for road connectivity to the habitations with population less than 250 in the IAP and 500 in other districts. To fill this gap, the state government has initiated two ambitious programmes of Mukhya Mantri Gram Sampark Yojana (MMGSY) and Gramin Tola Sampark Nishchay Yojana (GTSNY) to provide connectivity to unconnected habitations up to household level in the state. Under MMGSY, 8607 kms of rural roads were built at a cost of Rs. 6144 crore, and 674 kms rural roads were constructed at a cost of Rs. 533 crore through GTSNY. Under different schemes, 630 high flood level bridges have also been constructed.

Table 6.9 : Programme-wise Length of Rural Roads Constructed (As on September, 2018)

Name of Scheme	Road Constructed (kms)	Bridge Constructed (Nos.)	Expenditure (Rs. crore)
Gramin Tola Sampark Nishchay Yojana (GTSNY)	672.53		533.22
Mukhya Mantri Gram Sampark Yojana (MMGSY)	8607.02		6143.70
Pradhan Mantri Gram Sadak Yojana (PMGSY)	48299.01	260	22645.72
State Scheme	2907.64	331	3018.84
Other State Plan Schemes	13295.91	39	5933.90
Total	73782.11	630	38275.38

Source : Department of Rural Works, GOB

Bihar State Road Development Corporation Limited (BSRDCL)

The Bihar State Road Development Corporation Limited (BSRDCL) was established in 2009 under the Company Act, 1956 with the objective of construction, repair and maintenance of road, bridge, tunnel and other physical infrastructure within or outside the state. It is an ISO 9001:2008 certified Corporation. The BSRDCL has taken up 14 SH projects for double-lanning and a 6-lane bridge over river Ganga under ADB supported project. A road length of 95 kms of Gaya-Manpur-Hisua-Rajgir-Nalanda-Biharsharif section has been sanctioned under JICA project for Rs. 1408.85 crore. There are two projects under PPP mode from Karja Village on NH-31 to Tajpur on NH-28 for four-lanning. In addition to these projects, Digha-Didarganj 4-lane Loknayak Ganga Pathways, AIIMS-Digha 4-lane alleviated corridor of 12.27 kms, and approach road from Digha to AIIMS have also been sanctioned under Engineering, Procurement and Construction (EPC) mode. Table 6.10 presents the financial overview of BSRDCL over the years. It is heartening to note that the Corporation has been generating profit since its inception. The turnover of the BSRDC increased nearly four times in the last 7 years.

Table 6.10 : Overview of Financial Management of BSRDC Ltd.

Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Turn Over (Rs. crore)	426.31	915.06	956.89	730.1	879.27	1221.22	1624.3	1339.3
Profit + Tax (Rs. crore)	37.12	94.63	66.45	46.69	56.5	88.5	119.69	101.54
Profit (Rs. crore)	23.99	75.25	53.12	37.35	44.7	69.42	93.87	79.59
BSHP-I								
Target (Million USD)	66.2	110	132.4	50.77	-	-	-	-
Achievement (Million USD)	60.64	114.84	125.27	50.77	-	-	-	-
Achievement (percent)	91.6	104.4	94.61	100	-	-	-	-
BSHP-II								
Target (Million USD)		44.4	25.5	40	28	41.6	46.5	40
Achievement (Million USD)	-	26.44	16.86	31.2	27.63	38.6	44.076	33.4
Achievement (percent)	-	62.51	66.12	78	98.68	92.78	94.78	83.5
Additional Financing under BSHP-II								
Target (Million USD)	-	-	-	23	42	43.4	26.5	17.8
Achievement (Million USD)	-	-	-	21.6	37.09	43.4	23.803	12.452
Achievement (percent)	-	-	-	93.91	88.31	100	89.82	69.95
Contribution to Mukhya Mantri Relief Fund (Rs. crore)	5.00	5.00	8.00	3.50	2.00	3.00	3.00	7.00

Source : Annual Report – 2017-18, Road Construction Department, GoB

Achievement of BSRDC Limited

BSRDC has been contributing to the Mukhya Mantri Relief Fund since its inception. In addition to this, the Corporation has achieved many Corporate Social Responsibility (CSR), tasks along with other new initiatives and measures, which are listed below:

Under CSR, the Corporation has donated 35 stretcher and 60 three-seater chair to IGIMS, Patna.

A total of 250 traffic trollies have been provided for smooth and efficient traffic system on Mahatma Gandhi Bridge. The cost of these trollies were Rs. 30 lakh. In addition to this, a total of 150 trollies were given to District Magistrate, Vaishali to provide uninterrupted traffic on NH-19 at a cost of Rs 18 lakh.

The Corporation has supported 6 girls of Nishant Girl's Stay Home and provided Rs. 47,132 for their study in 2016-17. Earlier, it had also supported 11 girls with Rs. 1.97 lakh in 2011-12. A multi-purpose hall was built at a cost of 26.36 lakh for Mahadalit Girl's School, Danapur. A Tata Winger was donated to the Ashadeep Institute of mentally and physically challenged children costing Rs. 6.25 lakh.

The Corporation has taken the financial responsibility for beautification and renovation around Raj Bhavan to Secretariat. The cost of this project is around Rs. 800 lakh. It also maintains the Shatabdi Smarak of Saguna More. In addition, the Corporation renovated and beautified the historical Mangal Talab of Patna Sahib.

The Corporation has supported the fourth All India Football Tournament for Bihar Cup through sponsorship of Rs. 50,000.

6.2 Bridge Sector

Bihar is a densely populated state and several rivers criss-cross the state. In this backdrop, the state government has been building bridges over rivers for reducing the distance between habitations and easing the transportation of goods and passengers. The river Ganga flows east to west in Bihar. There were only four bridges on river Ganga at Buxar, Patna, Mokama and Bhagalpur till 2005. It is noteworthy that 2 more bridges (Ara–Chhapra and Jai Prakash Bridge) have been completed and 4 more bridges are under construction. These four bridges are Kachchi Dargah-Bidupur (6 lane bridge), Bakhtiyarpur-Tajpur Bridge, Munger Bridge and Sultanganj Aguanighat (Sultanganj) Bridge. The Sultanganj Ghat bridge has unique features. As this bridge is located in the Dolphin Sanctuary Area, Dolphin glass observatory hanging from the bridge will be constructed. This bridge also has a combination of cable stayed and extra dose spans. The longest span will be of 270 m. length. The bridge also has Intelligence Traffic System (ITS) facility.

The state government has taken the decision for construction of 5 more bridges over the Ganga parallel to Buxar Bridge, Jai Prakash Bridge, Mahatma Gandhi Bridge, Rajendra Bridge, Vikramshila Bridge for better connectivity between north and south Bihar. The state government has also built bridges over other major rivers. For example, 4 bridges have been taken up over Gandak river, of which two (Dhanha-Ratwal and Gopalganj-Bettiah) have already been completed and other two (Satar Ghat and Bangra Ghat) are under progress and likely to be completed by June and August, 2019. On river Kosi, 3 bridges (Kosi Mahasetu, Baluaha Ghat bridge and Vijay Ghat bridge) are ready, while renovation work on Dumri Ghat bridge has been completed. In addition, two more bridges at Bheja Ghat and Fulaut Ghat have been proposed. Till 2005, only two bridges were there on the Sone river. The state government has now built Arwal-Sahar bridge and it is operational. In addition to these, two more bridges (Daudnagar-Nasriganj and a six-lane bridge parallel to Koilwar bridge) are in progress. Presently, 8 new bridges are operational on river Bagmati. There was only one bridge on the Falgu river till 2005. However, the state government has sanctioned six more bridges, four of which are completed and two are under construction. There are more than 30 bridges on river Budhi Gandak. As on September 2018, a total of 6233 major, minor bridges and culverts projects have been completed since March 2006 under Mukhyamantri Setu Nirman Yojana (MMSNY). Under other schemes, the state government has also built 704 major and minor bridges during the same period.

Apart from state government schemes, NABARD has also supported the construction of mega bridges in Bihar through loans under RIDF (Rural Infrastructure Development Fund). These

mega bridges are — (i) high level bridge at Chakia-Kesaria-Sattar Ghat on river Gandak (East Champaran), (ii) bridge at Bangra Ghat on river Gandak (Muzaffarpur and Saran), (iii) bridge between Balua Ghat and Gandaal on river Kosi, (iv) 4-lane high level bridge between Daudnagar (Aurangabad) and Nasriganj (Rohtas) on river Sone, (v) bridge between Aguani Ghat (Khagaria) and Sultanganj (Bhagalpur) on river Ganga, (vi) bridge between Dhanha-Ratwal over river Gandak, (vii) bridge between Gopalganj-Bettiah over river Gandak, (viii) bridge at Vijayghat over Kosi river. NABARD has accorded approval for a loan of Rs. 7652.54 crore for 253 projects in different districts of Bihar. Out of these, 196 projects have been completed.

Flyover on Bailey Road, Raja Bazar between Jagdeo Path and J.D. Women's College and Flyover between GPO round about to Chirayatand (via station road) bridge and extension of Chirayatand bridge towards Gandhi Maidan have been completed from State Plan. In addition, there are many projects which are being implemented through state plan. These projects include – flyover connecting Mithapur-Chidaiyatar, flyover via Karbigahiya in Patna town, flyover connecting Mithapur flyover-Bhikhari Thakur flyover via R-Block junction, multi-sectional interchange based 'Lohia Path Chakra' between Lalit Bhawan and Vidyt Bhawan at Bailey Road, and double decker flyover over Gandhi Chowk to Nagarpalika Chowk in Chhapra (CRF scheme). The work is in progress for all these projects.

Under Floor Damage Relief (FDR) head, 69 bridges amounting to Rs. 525 crore is under construction. Most of these will be completed by June, 2019.

Under World Bank funded schemes, construction of bridges have also been taken up in two phases. Under Phase-I, 69 bridges have been completed amounting Rs. 164 crore. Under Phase-II, 58 bridges will be constructed amounting Rs. 540 crore. Out of these, 8 bridges have been completed in Phase-II.

The state government has planned to connect rural areas with all-weather roads and is implementing the Mukhya Mantri Setu Nirman Yojana (MMSNY). The Bihar Rajya Pul Nirman Nigam (BRPNN) is authorised to undertake projects costing more than Rs. 25 lakh, while the District Administration has been given autonomy for construction of bridges costing up to Rs 25 lakh. During 2016-17, a total of 60 bridges at an estimated cost of Rs. 183 crore and during 2017-18, a total of 33 bridges at an estimated cost of Rs. 114 crore have been completed. Further, 9 more bridges costing Rs. 290 crore have been completed during 2018-19 till September, 2018.

Table 6.11 : Bridge Constructed under Mukhyamantri Setu Nirman Yojana (2017-18)

Division	No. of Projects	Cost (Rs. crore)	Division	No. of Projects	Cost (Rs. crore)
Patna	7	16.29	Munger	0	0.00
Bhagalpur	4	19.41	Purnea	6	24.57
Darbhangha	4	12.88	Saran	2	3.10
Kosi	1	4.94	Tirhut	3	10.31
Magadh	6	22.88	Total	33	114.38

Source : Bihar Rajya Pul Nirman Nigam Limited, GOB

The Rail Over Bridges (ROB) are being constructed on cost-sharing basis as per the tripartite agreement, 2005. Out of 22 railway overbridges, 14 were taken up by IRCON International and the remaining 8 projects jointly by IRCON and BRPNN. The IRCON takes care of railways part and BRPNN is responsible for approach road. As per tripartite agreement, 2010, a total of 11 projects of railway overbridges have been taken up by IRCON on a cost-sharing basis, of which 8 have been completed. At the request of Railways, 47 projects of ROB have been finalized for construction on 50-50 cost sharing basis between Road Construction Department and Railways. The Detailed Project Report (DPR) is being processed by Railways. A total amount of Rs. 375 crore has been allotted for the bridge sector in 2018-19.

Bihar Rajya Pul Nirman Nigam Limited (BRPNNL)

The BRPNNL was established on June, 1975 as a public limited company. The objective of the Nigam is to construct bridges. The Nigam has been making more than Rs. 100 crore of gross profit in the recent years. However, due to less number of projects undertaken, the profit was only of Rs 78 crore in 2017-18. BRPNNL has constructed a total of 661 bridges at a cost of Rs. 6545 crore in the last five years (2013-14 to 2017-18). It has prudently managed its finances, resulting in continuous generation of profit. The total turnover was at the peak of Rs. 1840 crore in 2016-17, while total revenue was the highest at Rs. 183 crore in 2014-15 (Table 6.12).

Table 6.12 : Overview of Bihar Rajya Pul Nirman Nigam Limited

Year	No. of Bridges	Expenditure (Rs. crore)	Turnover (Work Execution) (Rs. crore)	Total Revenue (Rs. crore)	Administrative Expenditure (Rs. crore)	Gross Profit (Rs. crore)	Net Profit (Rs. crore)
2012-13	136	788	1273	142	35	107.0	63.8
2013-14	119	1152	1481	159	39	120.1	72.5
2014-15	179	730	1739	183	44	139.1	80.9
2015-16	176	2839	1699	151	43	107.7	70.3
2016-17	103	1188	1840	147	39	108.2	68.8
2017-18	84	638	1501	118	40	78.09	37.99

Source : Bihar Rajya Pul Nirman Nigam Limited, GOB

6.3 Road Transport

The road transport is the lubricant for the economy which accelerates the pace of development of any region. It facilitates economic growth as well as the prosperity of the people. Table 6.13 shows the details of state-wise motor vehicles registered in major states of India in 2015-16. The total registered vehicle was the highest in Maharashtra, which accounted for 12.1 percent of all-India total, followed by Tamil Nadu (10.5 percent) and Uttar Pradesh (10.4 percent). Bihar was having 54.82 lakh registered vehicles which accounted for 2.4 percent of the all-India total and was ahead of only Jharkhand and Chhattisgarh. As on March 2016, a total of 5.0 lakh registered transport vehicles and 49.8 lakh registered non-transport vehicles were operating in Bihar.

Table 6.13 : Registered Motor Vehicles in Major States of India (2015-16)

(Figures in '000)

State	Transport				Non-Transport				Grand Total (Transport + Non Transport)
	Buses	Taxis	Light Motor Vehicles (Passengers)	Goods Carrier Vehicles	Two-Wheeler	Cars	Jeeps	Miscellaneous	
Andhra Pradesh	41 (3.0)	78 (3.3)	444 (7.0)	342 (3.3)	6824 (4.0)	500 (2.0)	10 (0.5)	278 (2.3)	8728 (3.8)
Bihar	31 (2.2)	91 (3.9)	236 (3.7)	141 (1.3)	4039 (2.4)	267 (1.0)	125 (5.5)	552 (4.6)	5482 (2.4)
Chhattisgarh	58 (4.2)	22 (1.0)	37 (0.6)	205 (1.9)	3879 (2.3)	255 (1.0)	21 (0.9)	334 (2.8)	4810 (2.1)
Gujarat	83 (6.0)	115 (4.9)	718 (11.2)	1009 (9.6)	14919 (8.8)	2260 (8.8)	184 (8.1)	1073 (8.9)	20361 (8.9)
Haryana	53 (3.9)	53 (2.3)	164 (2.6)	551 (5.2)	5454 (3.2)	1712 (6.7)	--	643 (5.3)	8633 (3.8)
Jharkhand	72 (5.2)	22 (1.0)	99 (1.5)	159 (1.5)	1644 (1.0)	252 (1.0)	58 (2.5)	171 (1.4)	2477 (1.1)
Karnataka	87 (6.2)	246 (10.5)	415 (6.5)	658 (6.3)	11769 (7.0)	1916 (7.5)	46 (2.0)	894 (7.4)	16292 (7.1)
Kerala	112 (8.1)	108 (4.6)	610 (9.5)	557 (5.3)	6472 (3.8)	2071 (8.1)	--	288 (2.4)	10172 (4.4)
Madhya Pradesh	47 (3.4)	59 (2.5)	125 (2.0)	375 (3.6)	8701 (5.1)	820 (3.2)	47 (2.1)	847 (7.0)	11141 (4.8)
Maharashtra	131 (9.5)	237 (10.1)	703 (11.0)	1397 (13.3)	20356 (12.0)	3407 (13.3)	517 (22.8)	1223 (10.2)	27870 (12.1)
Odisha	26 (1.9)	103 (4.4)	122 (1.9)	324 (3.1)	4629 (2.7)	310 (1.2)	48 (2.1)	269 (2.2)	5833 (2.5)
Punjab	42 (3.0)	8 (0.3)	1034 (16.2)	352 (3.4)	6863 (4.1)	--	--	769 (6.4)	9064 (3.9)
Rajasthan	103 (7.4)	132 (5.6)	180 (2.8)	617 (5.9)	10258 (6.1)	899 (3.5)	397 (17.5)	1046 (8.7)	13632 (5.9)
Tamil Nadu	179 (12.9)	374 (16.0)	381 (6.0)	973 (9.2)	19507 (11.5)	2132 (8.3)	60 (2.7)	597 (5.0)	24203 (10.5)
Uttar Pradesh	58 (4.2)	105 (4.5)	275 (4.3)	563 (5.3)	19259 (11.4)	1746 (6.8)	584 (25.8)	1347 (11.2)	23936 (10.4)
West Bengal	45 (3.2)	127 (5.4)	77 (1.2)	407 (3.9)	4797 (2.8)	878 (3.4)	--	157 (1.3)	6488 (2.8)
All-India	1385 (100)	2341 (100)	6392 (100)	10516 (100)	168975 (100)	25635 (100)	2265 (100)	12048 (100)	230031 (100)

Note : Figures in the parenthesis denote state share in All-India

Source : Ministry of Road Transport and Highways, GoI

The Department of Transport of the state government registers new vehicles and thereby generates revenue under the Motor Vehicle Act. Table 6.14 presents the number of different vehicles registered over the period 2011-12 to 2017-18. The major growth drivers of registered vehicles were truck (20.8 percent), two-wheeler (19.8 percent), car (19.0 percent) and trailer (17.5 percent). The number of new motor vehicles registered has increased annually by 17.6 percent. During 2017-18, a total of 11.18 lakh vehicles were registered, compared to only 4.39 lakh in 2011-12. The revenue collected through tax collection under Motor Vehicles Act in the state has increased substantially from Rs. 558 crore in 2011-12 to Rs. 1625 crore in 2017-18. It grew annually at the rate of 17.2 percent during the last five years. The district-wise number of registered vehicles are presented for fiscal year 2017-18 in Statistical Appendix (Table A6.5). Patna, being the state capital, is the most prosperous district, which is reflected through the highest ownership (45 percent) of luxurious vehicles like cars and jeeps in the district. East Champaran was the leading district in terms of ownership of tractors. Similarly, Muzaffarpur was ahead in the ownership of trucks.

Table 6.14 : Number of Registered Vehicles and Revenue Collection

Vehicle Type	Number of Vehicles ('000)							CAGR (2013-18)
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	
Truck	10	10	11	13	14	20	23	20.8
Bus	1	2	2	2	2	3	3	11.4
Car	23	24	23	28	31	34	50	19.0
Taxi	9	14	12	7	6	5	6	-15.7
Jeep	9	10	9	9	12	9	13	7.1
Auto	21	30	35	31	37	42	37	4.3
Two-Wheeler	331	362	420	477	549	593	929	19.8
Tractor	23	30	31	34	35	38	33	2.2
Trailer	11	11	8	12	18	20	14	17.5
Others	1	2	2	2	2	1	11	32.2
Total	439	496	553	615	704	764	1118	17.6
Revenue Collection (Rs. crore)	558	669	835	967	1071	1250	1625	17.2

Source : Department of Transport, GOB

In order to deliver good governance in the state, the Department of Transport has been assigned the responsibility to stop illegal transportation and overloading. The state government has strengthened the enforcement system and prepared a plan for establishment of 'weigh-bridge' on check-posts in the state and other main points. In addition, high security number plates have been installed to control the entry of illegal vehicles in the state. A number of Common Facility Centres (CFC) are being established in every district of the state to strengthen district transport offices. A total of 5 districts CFCs are under construction and land has been allotted in 4 more districts for construction of CFC building. Under e-governance, all types of license, vehicle registration and permit fee is paid online using e-payment on a specified portal. The online-payment facility is operational throughout the state and it is helping to increase the revenue of the transport department. This e-payment is executed through the O-Gras portal of the Finance Department. To promote the ownership of commercial vehicles by women for their self-reliance, the state government has given them hundred percent concession in registration fee. These concessions are applicable for three-wheelers, motor cabs and maxi-cabs. E-rickshaw is also promoted by the state government to control the noise and air pollution in the state.

The Department of Transport has adopted a number of measures to strengthen the road transport in the state. Some of these measures are mentioned below.

Mukhyamantri Gram Parivahan Yojana (MMGPY) : Development of a strong and efficient transportation system for the rural hinterlands is of prime significance for the socio-economic development of Bihar. MMGPY makes a strong case for addressing the gaps in the passenger transportation system prevalent in the state. The scheme aims to empower the rural youth and the marginalized sections of society so that they too can be a part of the mainstream. MMGPY envisions providing self-employment opportunities to unemployed population of the state.

Inspection & Certification Centre (I&C) in Bihta, Patna : The existing vehicle inspection system is inefficient and has several weaknesses. To eliminate the subjectivity in the existing practice and bring in more objective practice, Inspection & Certification (I&C) programme has been implemented which includes a combination of both Visual(having pre-defined guidelines) and Automated tests for Brakes, Suspension, Speedometer, Emissions, etc. The I&C centers will be set up in Bihta on 3 acres provided by the state government at an estimated project cost of Rs 16.50 crore and the same is being sanctioned by MORTH.

The Institutes of Driving & Traffic Research (IDTR), Aurangabad : It is a joint venture between the Department of Transport and Maruti Suzuki India Ltd. The IDTR was inaugurated by the Chief Minister on May 3, 2018. IDTR has adopted world-class systems and quality standards. The Institute, spread over an area of more than 25 acres, has scientifically engineered training and testing tracks of international standards. The total cost of the project is Rs 25.15 crore.

Shared Mobility : The more people use shared modes the more likely they are to use public transport, own fewer cars, and spend less on transportation, overall. Shared modes complement public transport, enhancing urban mobility. Shared modes will continue to grow in significance and public entities should identify opportunities to engage with them to ensure that benefits are widely and equitably shared. Bihar Taxi Aggregator Policy 2019 has been notified and has become effective from January 4, 2019, which facilitates passenger travel by taxi or motorcycle. Bike Taxi operators are also allowed to ply. Rent-a-Cab Policy has also been notified, effective from January 4, 2019, and under this policy, citizens will be able to rent a vehicle having tourist permits as per their ease and requirement.

DigiLocker and m-Parivahan : Legal acceptance of Driving License and Registration Certification presented through DigiLocker Platform is at par with original document. Targeted at the idea of paperless governance, DigiLocker is a platform for issuance and verification of documents and certificates in a digital way, thus eliminating the use of physical documents. The Department has implemented m-Parivahan app to provide a comprehensive digital solution for enforcement of traffic rules. These applications will provide access to various services and information, and enable citizens to report any traffic violation or road accident and also payment of tax.

e-Challan via Hand-held Device and CCTV : Adoption of e-challan through CCTV and Hand-Held Device/Terminal for management of traffic violations in near real-time, data maintenance, generation of prosecution reports and to prosecute repeat violators for appropriate punishment as provided in the Motor Vehicle Act. The e-Challan system is to ensure that all traffic violations are recorded in real time and stolen vehicles are tracked and legally prosecuted accordingly. Presently CCTV-based e-Challan and the same through hand-held device are being implemented in Patna and the Department plans to rollout the facility in all other parts of the state shortly.

Implementation of Vahan 4.0 and Sarathi 4.0 software : All 38 Districts have been upgraded to Vahan 4.0 and Sarathi 4.0 software. This has resulted in more transparency in the working of the Department and it also ensures that registration of all vehicles in Bihar is also recorded in the National e-register. In addition, the facility of registration of vehicles at the dealer point has been provided to get rid of inconvenience caused to the buyers of vehicles. The waiting time for RC/DL has been reduced to minimum.

E-governance : Information and Communication Technology (ICT) plays a stellar role as transparency, responsiveness and accountability are required by the citizens in the services and by the Department in administration and services, both. It's helpful to overcome the problem of coordination due to manually operated services in the regional offices as well as headquarters. Online payment facility of motor vehicle tax and fees, driving license, vehicle registration, online permit services and online license services are being provided.

Road Safety : Road safety is emerging as a major social concern in the country. While new roads are being built, faster and faster automobiles are being invented in high numbers making road safety a crucial question. The Road Safety Policy 2015 has been adopted by the state government for minimizing road accidents and making road transport safer. Subsequently, the Bihar Road Safety Action Plan and Road Safety Fund have been created. The Road Safety Council Rules 2018 has been framed and adopted. The State Road Safety Council and District Road Safety Committee have been made more effective through strict monitoring system. The road safety has been incorporated in the curriculum of Class VI to VII and awareness programmes have been organized for the common people of the state on a regular basis. A School Vehicle Management Policy is being prepared to ensure safe transportation of students. Speed-Limiting Device and reflective tapes have been made mandatory for all types of vehicles to reduce accidents. Black Spot Policy along with good Samaritans has been created. There are 44 advance life support ambulances (Toll-free no. 1099) and 749 basic life support ambulances (Toll-free no. 102) for all districts of Bihar. These ambulance services are provided by the state government free of cost.

Every year, during the first week of February, Road Safety Week is observed. To mark the occasion, various awareness programmes/activities such as exhibition, audio-video shows, slide shows and displaying banners are being adopted. On the occasion, bus drivers/conductors are made aware of accidents and the precautions to be taken to avoid repetition. Posters, appeals, instructions, etc. are issued by citing major/fatal accidents and their causes. The Department has formulated a scheme of providing free-of-cost HMV License training to 2000 applicants at IDTR in Aurangabad.

City Bus Services : Buses play a crucial role in the mobility transition in the big and medium-range cities. Cities need well-managed and well-organized modern buses that deliver efficient public transport services at affordable rates. The Chief Minister on May 3, 2018 has inaugurated City Bus Service. In a short span of time, approximately 50,000 passengers are travelling on a daily basis and presently, 11 routes have been covered with 117 buses in the city of Patna. Special Concession and Bus Passes have been made available to Students/Elderly/Physically Challenged, with 65 percent seat reserved for women.

Bihar State Road Transport Corporation (BSRTC)

The Bihar State Road Transport Corporation (BSRTC) was established in 1959 under the Road Transport Corporation Act, 1950. It is a state government owned Corporation. The state government is continuously trying to provide smooth transport services to the people through this Corporation. The revenue collection by the Corporation has been growing remarkably and it collected Rs. 124.8 crore during 2017-18, more than double the amount collected in the previous year (Rs. 61.4 crore). The revenue has increased annually by 58 percent during the last five years. The number of passengers carried by the Corporation has been growing annually at 12.4 percent. In 2017-18, it had carried 212.0 lakh passengers, compared to 146.6 lakh passengers in 2012-13.

Table 6.15 : Revenue Collection and Number of Passengers Carried by BSRTC

Particular	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	CAGR (2013-18)
Revenue Collection (Rs. crore)	26.0	21.1	21.6	24.9	61.4	124.8	58.4
No. of Passengers Carried (lakh)	146.6	152.3	110.6	126.6	184.5	212.0	12.4

Source : Bihar State Road Transport Corporation, GOB

Bihar State Road Transport Corporation

In order to provide safe, clean and comfortable services to passengers and to strengthen the public transportation in the state, currently 410 buses are plying in rural and urban areas, provided by the Corporation. In addition, 231 buses are running under Public-Private Partnership (PPP) mode. In the light of increasing population of Patna, 107 buses have been provided for easy and speedy travel in Patna and nearby. BSRTC has taken a number of measures for the benefit of its passengers, some of which are described below :

For Jai Prakash Senani, the state government has decided to honour them with a free pass to travel in the public transport.

It is noteworthy that the state government has taken women's safety as one of its priorities and provided special buses for women only, and reserved 65 percent of seats for women in common buses.

The Corporation provides 50 percent concession to the differently-abled people, up to the limit of 50 kms journey, and has also reserved two seats in every bus.

The Ministry of Housing and Urban Affairs, Government of India, has given Commendable Initiative Award to the BSRTC for 'Best City Bus Services' under the category of 'From Zero to Century Up'.

The Corporation had provided 120 free bus services to the 2.32 lakh devotees on the celebration of 350th Birth Anniversary of Sri Guru Govind Singh Ji Maharaj.

BSRTC had also provided 220 buses to freedom fighters and other participants to attend the centenary celebration of Champaran Satyagrah.

A mutual agreement has been signed to provide 3 bus services for easy, comfortable and frequent travel between Bihar and West Bengal. Similarly, for travel between Bihar and Uttar Pradesh, 13 buses have been provided.

Bihar shares international border with Nepal, and the people of both Bihar and Nepal travel very frequently into each other's territory for economic, social, cultural and religious reasons. In this background, through a mutual agreement, BSRTC has provided two buses for Bodh Gaya – Patna – Kathmandu and four Buses for Patna-Janakpur for daily transport services.

6.4 Railway Network

The Union Ministry of Railways had established the new zone of East Central Railway in 1996 which is functional since 2002. In order to improve connectivity and services of railways in Bihar, the development of railway infrastructure through new lines, gauge conversion, electrification, Road Over Bridge and maintenance of existing railway infrastructure are under process. The railway network has always played a key role in social and economic development. It is an affordable means of transportation for millions of passengers and also for bulk freight. As on March, 2016, there was a total of 6870 kms of rail track and 3731 kms of rail route in Bihar. The share of rail route in Bihar was 5.6 percent of the national figure. The density of rail route in Bihar was 39.6 kms per 1000 sq. km of area. However, Bihar had only 4.9 kms of rail route available for per lakh of population.

New initiatives of Railways in Bihar

Since 2014, the Railways has constructed 151 km of new lines, doubled 108 kms of track, converted 163 kms into wider gauge, electrified 478 kms of rail route and constructed 15 ROBs in Bihar. In order to facilitate the passengers of the state, a total of 36 pairs of new trains were introduced and additional stoppage for 81 pairs of trains were provided at different places. Other achievements of Railways in Bihar are given below:

Manufacturing Unit : Two Greenfield Locomotive Factories are being set up in the state. The Locomotive factory in Madhepura has already started functioning and the Diesel Locomotive Factory will also be functioning shortly in Marhaura.

Safety : All unmanned level crossings on important routes are to be closed very soon. Presently, Gate Mitra is deployed on all unmanned level crossings. The Integrated Security System (ISS) has been installed under which there are 117 CCTV cameras at Patna Junction and 52 CCTV cameras at Rajendra Nagar Terminal. The installation at four other stations (Muzaffarpur, Samastipur, Raxaul and Chhapra) is under progress.

Dedicated Freight Corridor : The Railways is developing two dedicated freight corridors to improve freight services. The 1840 kms long Eastern Dedicated Freight Corridor passes through four districts (Kaimur, Rohtas, Aurangabad and Gaya) of Bihar. The total stretch of this corridor is about 240 kms in Bihar and is built at an estimated cost of Rs. 6900 crore. About 60 percent of the stretch has been completed in the Kaimur and Aurangabad districts.

Passenger Services : Recently, 32 foot overbridges, 10 escalators, 905 platform sheds, 161 water vending machines, and toilets for differently abled people have been installed at 27 major stations. In addition, at 68 stations in Bihar, the platforms have been either expanded or raised.

6.5 Civil Aviation

Air transport is an indicator of business activity and prosperity of the region. Air transport has registered a high annual growth of 35.2 percent since 2011-12. The GSVA of air transport has increased six fold to Rs. 192 crore in 2017-18, as compared to only Rs. 31 crore in 2011-12 at constant (2011-12) prices. This growth can be related to the phenomenal increase registered in air transport activities, as presented in Table 6.16. Air passenger traffic in Bihar, taking into account both domestic and international passengers, witnessed more than 50 percent growth in the year 2017-18, compared to the previous year. As many as 31.11 lakh passengers availed of air travel during 2017-18, compared to 21.12 lakh passengers in 2016-17. The domestic passenger traffic registered a growth rate of 37.07 percent during the period 2014-15 to 2017-18, while the aircraft movements increased by 28.27 percent annually during the same period. The freight movement also increased by more than six times, from 1.035 tonnes in 2004-05 to 6.318 tonnes in 2017-18.

Table 6.16 : Domestic Aircraft Movements, Number of Passengers and Freights at Patna Airport

Year	No. of Aircraft Movements	Passengers (in lakh)	Freight (in tonnes)
2004-05	3844	1.76	1.035
2009-10	10734	5.53	2.532
2014-15	11060	11.97	5.198
2015-16	13947	15.84	4.414
2016-17	15508	21.12	6.591
2017-18	24479	31.11	6.318
2018-19 (up to Sept. 18)	16557	20.59	5.722
CAGR (2014-18)	28.27	37.07	10.37

Source : Airport Authority of India, Patna

Ude Desh Ka Aam Naagrik (UDAN)

The Regional Connectivity Scheme (RCS) in India was introduced in October, 2016, as part of the National Civil Aviation Policy. This scheme is popularly known as UDAN (Ude Desh ka Aam Nagarik). The central and state governments provide the subsidy for UDAN at the ratio of 80:20 for the general category states. Under UDAN-I, no town was selected in Bihar for air connectivity. However, it is heartening to note that now Darbhanga has been included under UDAN-II and work is in progress for construction at the airport. The work is expected to be completed by mid-2019. One private airline has planned to start operation of three flights from Darbhanga to Delhi, Mumbai and Bangalore after the airport is ready.

6.6 Building Construction

The state government has been endeavouring to provide better infrastructure to promote economic development. In this background, one of the activities of the state government is to

construct new buildings for — health services, educational institutes, administrative structure, community halls, museums, and other utilities like warehouses, kisan bhavans, etc. In recent years, a number of construction projects were undertaken by the state government and they have all been completed within the stipulated time. It is noteworthy that the state government has won the tenth Vishwakarma Award in 2018, given by the construction Industry Development Council (CIDC), for the excellent Construction of Samrat Ashok Convention Centre in Patna. The expenditure by the state government on various construction work was Rs. 218 crore in 2008-09, which increased to Rs. 1771 crore in 2016-17. The budget estimate for 2018-19 is still higher at Rs. 3960 crore, of which about 80 percent is capital expenditure. Chart 6.4 shows the trend of public expenditure on construction. These investments not only create quality infrastructure, they also provide employment opportunity. Table 6.17 presents the details of major projects under building construction department.

Chart 6.4 : Expenditure of Building Construction Department (Rs. crore)

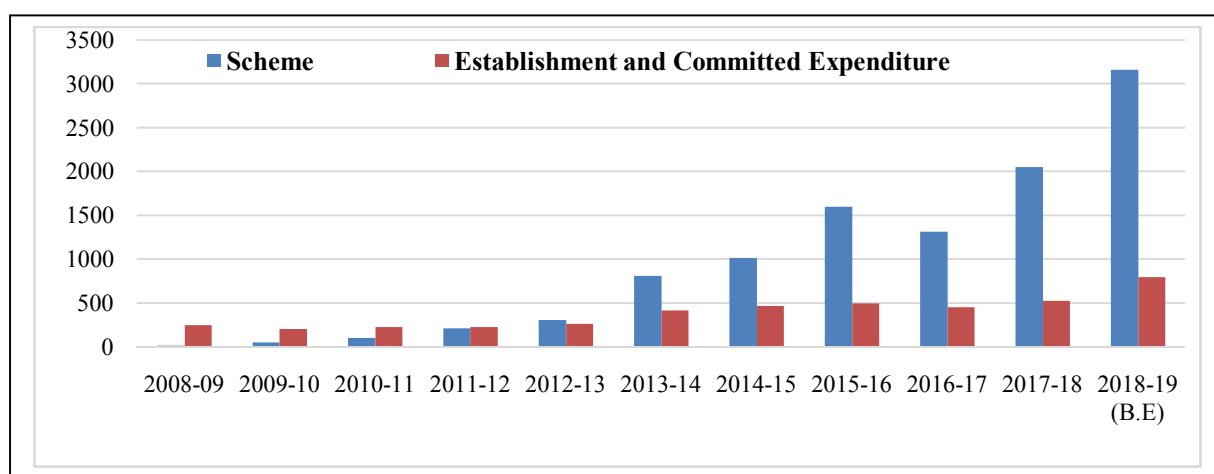


Table 6.17 : Major projects of Building Construction

(Rs. crore)

Department	Administrative Approved Amount	Agreement Amount	Expenditure till date
Building Construction	2760.29	1064.35	883.94
Co-operative	35.22	0.00	0.00
General Administration	431.14	24.03	88.02
Health	359.91	31.57	26.21
Home	388.22	335.01	268.40
Law	339.00	105.90	82.49
Science & Technology	2714.41	1272.13	618.88
Tourism	193.14	54.17	0.00
Youth, Art & Culture	1451.74	442.86	390.21
Total	8673.06	3330.02	2358.17

Source : Building Construction Department, Government of Bihar

Major Achievements of Building Construction Department

The Department of Building Construction has successfully completed many ambitious projects of the state government. Some of their achievements are :

Mega Projects : The state government had envisioned a museum to preserve Bihar's historical heritage and underline the archeological places for the future generation. In this background, a world-class Bihar Museum has been constructed in Patna at a cost of Rs. 517.34 crore. A convention centre Bapu Sabhagar, has been built with a capacity of 5000 seats and Gyan Bhavan with 800 seats at a cost of Rs. 490 crore. A high density earthquake resistant building for police headquarter has been constructed at a cost of Rs. 388 crore. It is equipped with helipad, as it is a high security zone. Sabhyata Dwar, built in the state, is taller than the Gateway of India, Mumbai.

Awards : The Bihar Museum has bagged two international awards (International Forum Design Award 2018 and Curious Design Blue Elephant Award 2018) for its design. It has also won one national award for supreme safety construction from the National Safety Council. In addition, tenth Vishwakarma Award - 2018 was given to Samrat Ashoka Convention Centre by Construction Industry Development Council (CIDC) under the NITI Aayog.

E-Awas Yojana : It provides accessibility, transparency and accountability in allotment of government quarters through online application. Through the system, applicants can monitor the status anytime.

Quality Control : The state government has taken a decision to establish a full-fledged laboratory for quality control. In the absence of this laboratory, officers had to test the quality of building construction materials in laboratories outside the state, which was expensive and difficult.

Monitoring and Evaluation : An online monitoring system has been developed to monitor projects through Project Monitoring Information System. A Project Management Unit has also been set up to supervise the execution of projects in a time-bound manner for all important projects.

Bihar State Building Construction Corporation Limited

The Corporation was established in 2008 and it has executed a total of 1647 projects till date. The total cost of these projects is estimated to be Rs. 5076.57 crore. The Corporation has

experienced considerable growth in recent years. It is now planning for further technological growth and an online project monitoring system is being upgraded and implemented. The Corporation has been generating profit since its inception. In 2013-14, the net profit was Rs. 9.43 crore and it increased continuously to reach Rs. 18.63 crore in 2016-17. In 2017-18, however, it decreased to Rs. 14.95 crore. Table 6.18 gives the summary of financial management of the Corporation and their expenditure on different projects. It should also be noted that the Corporation spends a substantial amount for its CSR (Corporate Social Responsibility) initiative each year. In 2017-18, the amount was Rs. 40.14 lakh.

Table 6.18 : Summary of Financial Management and Expenditure on Projects of BSBCCCL

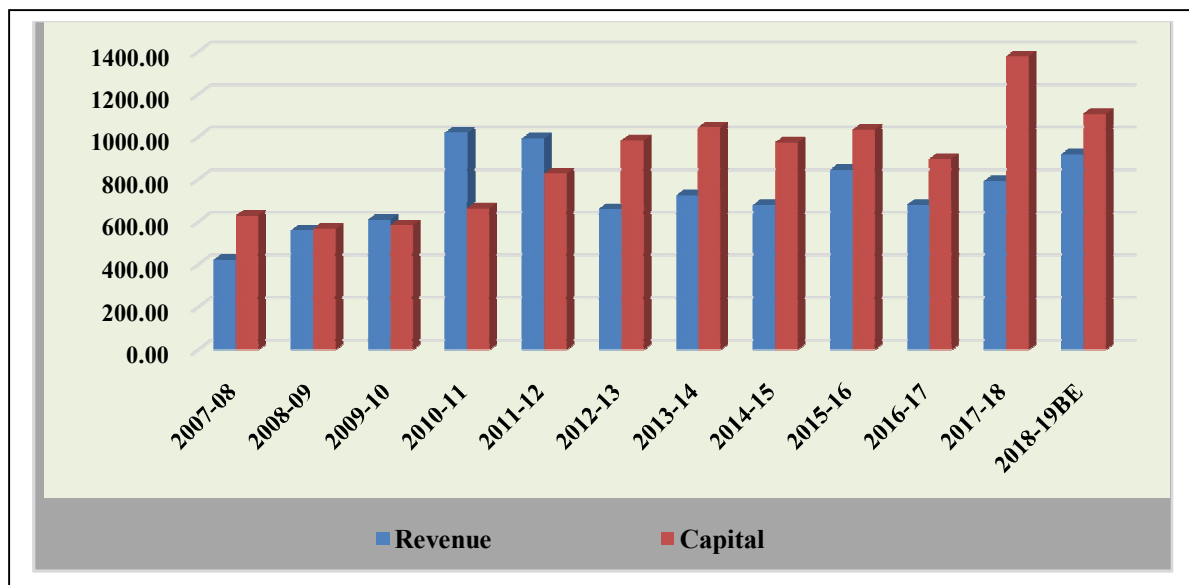
Year	No. of Projects	Expenditure (Rs. crore)	Turnover (Rs. crore)	Total Revenue (Rs. crore)	Administrative Expenditure (Rs. crore)	Gross Profit (Rs. crore)	Net Profit (Rs. crore)	CSR Reserve (Rs. lakh)
2013-14	747	300.50	28.76	41.27	14.12	14.59	9.43	19.89
2014-15	128	637.49	58.18	72.51	17.24	41.21	26.78	25.55
2015-16	87	445.82	27.34	38.82	18.47	8.30	5.51	64.10
2016-17	400	568.76	39.26	57.47	14.02	28.59	18.63	52.06
2017-18	254	602.16	40.93	67.39	20.12	23.32	14.95	40.14

Source : Bihar State Building Construction Corporation Limited.

6.7 Irrigation Infrastructure

Bihar is an agro-based economy and agriculture and allied sector is a major contributor to the economy of the state. The irrigation infrastructure plays a crucial role in agriculture and rural development by improving agricultural productivity, cropping intensity and crop diversification. The productivity of cereals in Bihar increased from 1344 kg per hectare in 2005-06 to 2839 kg per hectare in 2017-18. Similarly, cropping intensity has also increased from 1.31 in 2005-06 to 1.45 in 2017-18, though varying across the regions. The cereals and pulses account for more than 90 percent of the gross sown area. Agriculture also engages a major part of the workforce, particularly the female workforce. The state government has set a prime agenda for developing irrigation infrastructure and has prepared the Agricultural Road Map-III for 2017-22. In this background, the public investment in major, medium and minor irrigation has been increasing over the years. As shown in Chart 6.5, the construction of irrigation infrastructure has increased during the period 2007-08 to 2018-19. It is noteworthy that the capital expenditure on irrigation has been more than the revenue expenditure since 2012-13.

Chart 6.5 : Trends of Public Investment of Irrigation Sector in Bihar (Rs. crore)



Ultimate Irrigation Potential (UIP)

Agriculture is still heavily dependent on rainfall in Bihar. For reasons of some climate change in the recent past, the average annual rainfall is around 1000 mm, varying across the region. In this background, the extent of irrigation facilities is very crucial for agricultural economy of the state. The irrigation system is broadly categorised under three heads — (i) major irrigation covers scheme of Culturable Command Area (CCA) of more than 10,000 ha.; (ii) medium irrigation covers scheme of CCA between 2000 and 10,000 ha.; and (iii) minor irrigation scheme takes care of upto 2000 ha. of CCA. Table 6.19 shows the details of ultimate irrigation potential and current utilisation in Bihar for the last two years. A total of 117.54 lakh hectare has been estimated as ultimate irrigation potential in the state under all three schemes. The state government has created 55,000 ha. of additional irrigation potential during 2017-18, because of which the created potential reached 71.03 lakh hectare in 2017-18 from 70.48 lakh ha. in 2016-17. Along with the creation of new irrigation potential, it is also necessary to ensure that the already created irrigation potential is fully utilised. Due to heavy sedimentation and breach in the irrigation canal system, the created irrigation potential is sometimes not fully utilised. During 2017-18, utilisation of created potential was 80 percent for major irrigation and this figure was 90 percent for minor irrigation.

Table 6.19 : Ultimate, Created and Utilised Irrigation Potential in Bihar (As on end of March)

(Area in lakh ha.)

Type of Irrigation Potential	Ultimate Potential	2017		2018	
		Created Potential	Utilised Potential	Created Potential	Utilised Potential
(a) Major and Medium Irrigation	53.53	29.69	26.72	29.91	23.8
(b) Minor Irrigation	64.01	40.79	36.7	41.12	36.99
(i) Surface Irrigation	15.44	8.14	7.32	8.35	7.50
(ii) Ground Water	48.57	32.65	29.38	32.77	29.49
Total	117.54	70.48	63.42	71.03	60.79

Source : Department of Minor Water Resources and Department of Water Resources, GOB

Under 8 major and medium irrigation schemes (Table 6.20) together, a total of 21.90 thousand ha. of irrigation potential has been created in 2017-18. Thus, created potential under major and medium irrigation projects reached to 29.91 lakh ha. as against the ultimate potential of 53.53 lakh ha. The target of 1.88 lakh ha. of additional irrigation potential to be created in 2018-19 will be achieved through many schemes, including Chanken Irrigation Scheme (7700 ha.), Dhandhar Diversion Scheme (5868 ha.), and other schemes.

Table 6.20 : Creation of Irrigation Potential under Major and Medium Irrigation (2017-18)

Name of Scheme	Created Irrigation Potential (in ha.)	Name of Scheme	Created Irrigation Potential (in ha.)
Eastern Gandak Canal phase	2000	Irrigation Scheme based on falls and sources from hills of Munger district.	3733
Western Kosi Canal Scheme	600	Installation of 5 tube wells in Shankund block of Bhagalpur district.	200
Dhadhar Diversion Scheme	5868	Siwan Weir Scheme	360
Chackan Irrigation Scheme	7700		
Bateshwar Asthan Pump Canal Scheme	1438	Total	21899

Source : Department of Water Resources, GOB

Major and Medium Irrigation Scheme

Because of varying rainfall in different years and other technological factors, the actual utilisation of irrigation facility varies over the years. Under such circumstances, the irrigation utilisation is measured by proportion of created irrigation potential actually used. Table 6.21 presents this proportion for major and medium irrigation schemes for the years 2012-13 to 2017-18. From the table, one can easily observe that the created potential is increasing slowly but steadily over the years. However, the extent of utilisation has varied considerably over the year. The irrigation utilisation has varied from 60.4 percent (2012-13) to 90.0 percent (2016-17).

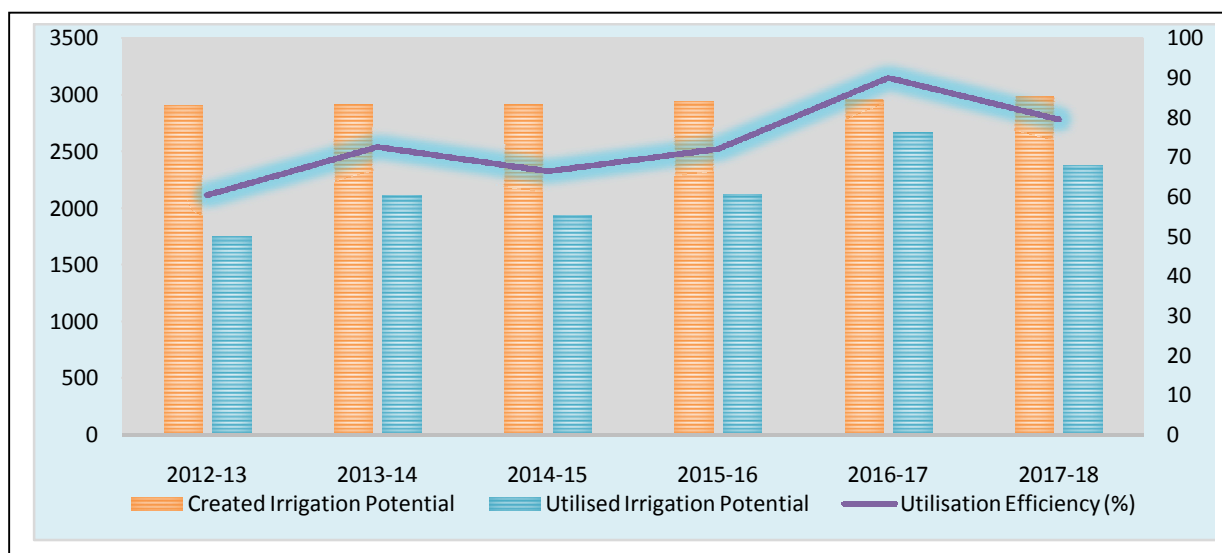
Table 6.21 : Water Utilisation of Major and Medium Irrigation Schemes

(Figures in '000 ha)

Year	Created Irrigation Potential	Kharif		Rabi		Hot Weather		Total Utilised Irrigation Potential	Utilisation Efficiency (%)
		Target	Irrigation	Target	Irrigation	Target	Irrigation		
2012-13	2913	1491	1394	439	366	0	0	1760	60.4
2013-14	2921	1865	1614	567	491	15	15	2120	72.6
2014-15	2925	1865	1628	373	314	0	0	1942	66.4
2015-16	2946	1918	1718	485	382	28	26	2125	72.1
2016-17	2969	1982	1931	802	714	29	28	2672	90.0
2017-18	2991	2227	1954	430	399	29	28	2380	79.6

Source : Department of Water Resources, GOB

Chart 6.6 : Pattern of Water Utilisation of Major and Medium Irrigation



In the recent past, the state government has initiated a number of programmes to strengthen the irrigation infrastructure of the state. Some of these initiatives are :

International Project : To overcome the flood problem of Bihar, a dam and reservoir is always advised by the experts for a long term solution. The Saptakosi high dam project has been proposed to provide the benefit of irrigation, flood management, hydel power and water transport for both India and Nepal. A total of 9.76 lakh ha. of land will be irrigated through this project in India and 5.46 lakh ha. of area in Nepal. The potential of this dam for hydel power is estimated to be 3000-5500 MW through Saptakosi and 61 MW through Sun Kosi Diversion projects.

Inter-state Project : *Indrapuri Jalashaya Yojana* is being formulated in Bihar to ensure timely availability of water and full utilisation of irrigation potential of Sone Irrigation System. Along with this, there is also a plan for hydel power generation of 400 MW. It also shares 80 kms of the Sone river with Uttar Pradesh and Jharkhand. *Bansagar Jalashaya Yojana* is under Sone valley in Madhya Pradesh, in cooperation with Uttar Pradesh and Bihar with an agreement of sharing cost-benefit in ratio of 2:1:1. The state government has spent Rs. 441.05 crore till December, 2018, for this project. Under a Bihar-West Bengal agreement in 1978, two projects proposed. One of them was Tilaiya-Dhandhar diversion scheme, which will provide benefit to Bihar and Jharkhand. Bihar will be getting the benefit of irrigation for 31.70 thousand ha. Another project, Upper Mahananda Irrigation Project, is pending with the Central Water Commission, under which 67.00 thousand acres land is proposed to be provided with the irrigation facility through Phulwari Barrage in West Bengal on river Mahananda. Other common Projects of Bihar and Jharkhand are — (i) *Uttar Koyal Jalashaya Yojana*, (ii) *Batane Jalashaya Yojana*, (iii) *Bateshwarsthan Ganga Pump Nahar Yojana*, (iv) *Chandan Jalashaya Yojana*, (v) *Upper Sakari Jalashaya Yojana* and (vi) *Barnar Jalashaya Yojana*.

Participatory Irrigation Management : The state government has continuously strengthened people’s participation in development programmes. For efficient utilisation of irrigation potential, it is a necessary condition that farmers and cultivators participate in irrigation management, because they are end users. The objective of the programme was to create a sense of ownership of water resources and the irrigation system among the users, thereby promoting economy in water use and preservation of the system. Out of 81 registered societies in the state which have already given their consent, the management of irrigation system has been transferred to 54 societies and the process of transfer is going-on for remaining 27 societies. The status of other farmers’ societies is presented in Table 6.22.

Table 6.22 : Status of Farmers’ Societies (As on March 2018)

Status	Management of irrigation System Transferred	Societies Ready for Transfer of System	Applied for Registration	Under the Process of Motivation	Total
Number	54	27	30	511	622

Source : Department of Water Resources, GOB

Revenue Collection : For irrigation schemes, revenue is collected as user’s charge for water use. During 2017-18, a total of Rs. 38 crore was collected and Rs. 50 crore is estimated for 2018-19.

Minor Irrigation Scheme

The ultimate irrigation potential in the state was estimated to be 45 percent through major and medium irrigation schemes and the rest 55 percent through minor irrigation schemes. The major share of irrigation potential was created under minor irrigation and, presently, minor irrigation accounts for about 67 percent of the total potential created as well as the potential utilized. The major contributor to the minor irrigation is ground water, accounting for more than 75 percent of minor irrigation. Regarding underground water, about 80 percent of potential was created and utilized under minor irrigation. Out of 64.01 lakh ha. potential, 41.51 lakh ha. (65 percent) has already been created, of which 8.54 lakh ha. is under surface irrigation and 32.97 lakh ha. underground water irrigation as on September 2018 (Table 6.23). The source-wise area under minor irrigation is given in Table 6.24 which shows a variation from 0.38 lakh ha. in 2014-15 to 2.82 lakh ha. in 2012-13.

Table 6.23 : Status of Minor Water Resources in Bihar

(Potential in lakh ha.)

Type of Irrigation Potential	Ultimate Potential	As on March 2017		As on March 2018		As on September 2018	
		Created Potential	Utilised Potential	Created Potential	Utilised Potential	Created Potential	Utilised Potential
Minor Irrigation	64.01	40.79	36.70	41.12	36.99	41.51	37.35
(i) Surface Irrigation	15.44	8.14	7.32	8.35	7.50	8.54	7.68
(ii) Ground Water	48.57	32.65	29.38	32.77	29.49	32.97	29.67
Total	64.01	40.79	36.70	41.12	36.99	41.51	37.35

Source : Department of Minor Water Resources, GOB

Table 6.24 : Area Brought under Irrigation through Minor Irrigation Sources

(Area in ha.)

Source	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Surface Canal	36315	26086	9310	-	2600	5500
Tanks (including Ahars and Pynes)	59407	41591	10934	28631	20500	15830
Tubewells (Private and State)	161962	64251	15610	38440	86200	24000
Other Sources (Lift Irrigation) and Barge Lift Irrigation	24220	9627	2564	5055	18000	10160
Total	281904	141555	38418	72126	127300	55490

Source : Department of Minor Water Resources, GOB

The Department of Minor Irrigation has taken up several programmes to extend the reach of minor irrigation. Under Agricultural Road Map III (2017-22), the state government plans to create additional irrigation potential of 8.25 lakh ha. — Ahar-Pyne (5.56 lakh ha.), weir scheme (1.82 lakh ha.), lift irrigation scheme (0.88 lakh ha) and other schemes (0.99 lakh ha.).

Surface Irrigation Scheme : Minor Irrigation Schemes like traditional Ahar Pyne Irrigation System, Weirs and Irrigation Ponds are Renovated under three different sources:-

1. These schemes are functioning under three different sources of funding for renovation of traditional Ahar-Pyne irrigation system.
 - (i) **State Plan** : Under this, 37 out of 58 schemes have been completed, which will create 28.23 thousand hectares of irrigation potential and 90 Lift Irrigation schemes out of 129 has also been completed. Total irrigation potential of 10.32 thousand hectares will be created after the completion of Lift Irrigation schemes.
 - (ii) **RIDF of NABARD** : A total of 42 Ahar Pyne schemes are executed under RIDF out of which 13 have been completed. After completion of all these Ahar Pyne schemes, 22.79 thousand hectares irrigation potential will be created. In addition to this, 2560 hectares irrigation potential will be created through Lift Irrigation.
 - (iii) **Pradhan Mantri Krishi Sinchai Yojana (PMKSY)** : As on date, 47 Ahar Pyne schemes in the districts of Nawada, Rohtas, Kaimur and Sitamarhi are being implemented out of which 12 schemes have been completed. After completion of all schemes, irrigation potential 21.08 thousand hectares irrigation potential will be created.

Underground Water Irrigation Scheme : The state tubewells scheme has restored 2.86 lakh ha. of irrigation potential through 4877 functioning tubewells, out of 10,242.

Bihar Shatabdi Nalkup Yojana : Till date, 14,202 private tubewells have been established by farmers under Bihar Shatabdi Niji Nalkup scheme. The state government provides grants upto a maximum of Rs. 15,000 for 70 meter deep and Rs. 35,000 for 100 meter deep tubewell to farmers under this scheme. In addition, 50 percent of the cost of motor pumpset is also provided under this scheme, subject to a maximum of Rs. 10,000. All the grants are transferred through the Direct Benefit Transfer (DBT) scheme.

Telemetry Scheme (Automatic Digital Water Level Recorder) : In this scheme, telemetry instrument is to be installed in all the blocks and district headquarters of the state. Till date, 486 automatic telemetry instruments have been installed out of 571 at an estimated cost of Rs. 24.06 crore.

Tubewell Ownership : The state government has taken a decision to handover the state tubewells to farmers/associations/ JEEVIKA groups/ Panchayats etc. for their proper functioning and maintenance.

Fifth Minor Irrigation Census of Bihar (2013-14)

This Census has been done in 45,188 revenue villages under 534 blocks from all 38 districts of Bihar. For the first time, data has been collected for medium deep tubewells (35-70 meter deep) and for irrigation schemes using more than one source of energy.

A total of 6.50 lakh irrigation schemes existed in 2013-14 (5th Census), of which 6.43 lakh were underground water schemes and 6495 were surface water schemes. In 2006-07 (4th Census), there were a total of 6.63 lakh minor irrigation schemes, of which 6.51 lakh were underground water schemes and 12,127 were surface water schemes.

While comparing 4th and 5th censuses, it is found that there is an increase in Cultivated Command Area (CCA) from 24.26 lakh ha. in 4th census to 38.35 lakh ha. in 5th census. There is also an increase in created irrigation potential from 24.26 lakh ha. in 4th census to 44.85 lakh ha. in 5th census. It should also be noted that there is a remarkable increase in the irrigation potential utilised from 7.22 lakh ha. to 34.80 lakh ha. during the same period.

As on 2013-14, a total of 6.44 lakh irrigation schemes were functional, and 5875 of them were non-functional. Out of total functional schemes, major contributor was lesser deep tubewell (56.16 percent), followed by medium deep tubewell (38.40 percent), very deep tubewells (1.97 percent), and remaining wells (3.47 percent).

A major proportion (6.37 lakh) of schemes were in private ownership, whereas 12,702 schemes were public. A major proportion of the schemes (88.95 percent) were established by individuals through self-finances and the remaining 11.05 percent schemes were established through different sources of the finance (bank loan, government financing, local money lenders, etc.). In terms of the social background of owners, a total of 3.11 lakh schemes were under the ownership of Extremely Backward Castes, and 63,512 were in the hands of Scheduled Tribes, 43,743 under Scheduled Castes and the rest 2.14 lakh schemes were owned by others.

According to 5th census, 80.0 percent of minor irrigation schemes were operated on diesel, while 15.5 percent were operated on electricity. There were 18,034 schemes which were not owned individually.

6.8 Telephone Network

The telecom sector is one of the fastest growing sectors in Bihar. The contribution of communication sector in GSVA of the state has increased from 2.2 percent in 2011-12 to 2.9 percent in 2017-18. This contribution has grown by 10.7 percent during 2011-12 to 2016-17, and

in 2017-18 it grew by 16.6 percent. The state-wise telephone network per hundred of population is given in Table 6.25. Tele-density refers to the number of telephone per 100 in the population. It has been gradually increasing over the years, both in Bihar as well as other states. Bihar witnessed an increase in its tele-density from 54 in 2016 to 63 in 2018. In case of rural tele-density, Bihar is at second lowest position among major states of India, with 44 connections per 100 people. However, Bihar appears at second from top in terms of urban tele-density, after Kerala. The national average in 2018 is 93 connections, and Tamil Nadu with 136 connections is at the top in terms of overall tele-density.

Table 6.25 : Tele-density of Major Indian States

State	2016			2017			2018		
	Rural	Urban	All	Rural	Urban	All	Rural	Urban	All
Andhra Pradesh	51	177	86	60	192	97	61	189	53
Bihar	36	166	54	41	187	61	44	221	63
Gujarat	67	145	100	76	166	114	76	161	112
Haryana	65	123	86	65	136	91	69	211	121
Karnataka	53	179	102	59	198	113	62	182	109
Kerala	62	220	102	70	248	115	75	260	122
Madhya Pradesh	42	124	64	44	129	67	44	124	67
Maharashtra	65	135	99	70	151	110	74	144	108
Odisha	50	160	69	58	184	81	62	164	80
Punjab	72	150	106	81	166	118	81	180	123
Rajasthan	58	162	83	62	187	92	60	171	87
Tamil Nadu	85	140	118	94	151	128	105	155	136
Uttar Pradesh	42	145	66	46	168	74	46	164	73
West Bengal	53	145	80	62	169	93	63	159	91
All-India	51	154	83	57	172	93	59	166	93

Source : Telecom Regulatory Authority of India (TRAI)

The Bharat Sanchar Nigam Limited (BSNL) is fully owned by the central government providing telecom services across the country. Rural connectivity is one of the core agendas of BSNL, including tribal and left-wing extremism affected areas. A total of 44.9 thousand villages have been covered and 35 new wi-fi hotspot have been setup in the state. The total coverage is 66 percent in terms of area, 85 percent in terms of population, and 100 percent in terms of NH, SH and Rail Route. A total of 68.5 percent of total villages in Bihar have been covered by the BSNL (Table 6.26). Table 6.27 gives the detail of BSNL infrastructure in the state.

Table 6.26 : Telecom Demography of BSNL

Item	Total	Coverage (percent)
Area (sq. km)	94613	66.01
Population (crore)	10.41	84.68
Revenue District (nos.)	38	100.00
Revenue Sub-Division (nos.)	102	100.00
Block HQ (nos.)	534	100.00
Total Villages (nos.)	44874	68.49
National Highway (km)	3734	100.00
State Highway (km)	4857	100.00
Total Railway Route (km)	3515	100.00

Source : BSNL, Patna

Table 6.27 : Overview of expansion of BSNL Network

Particulars	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19*
No. of Wireline Exchanges	1193	1196	1196	1196	1196	1118
No. of Wireline NGN Exchanges	0	0	0	5	16	17
Total Wireline connections (in Lakh)	2.08	1.95	1.66	1.56	1.37	1.25
No. of DSLAM Exchanges for Wireline Broadband	1146	1160	1111	896	896	896
No. of Wireline Internet/Broadband Connections (in Lakh)	0.57	0.59	0.59	0.59	0.52	0.50
No. Of Mobile Base Transceiver Stations (BTSs)	2834	3256	3734	3875	4562	4714
Wireless Internet Connections (in Lakh)	22.51	21.50	23.48	28.76	31.27	35.37
No. of Wi-fi Hotspots	0	0	0	6	10	20
WINGS (Wi-fi Internet Telephony) (nos.)	Launched w.e.f. July-2018					91

Source : BSNL, Patna

The Ministry of Telecommunication of the central government has taken several steps to strengthen the telecom infrastructure at the national level. Bihar is also a beneficiary of these steps.

Mobile Segment : A total of 3170 2G BTS (Base Transceiver Station) and 1544 node B (3G) are working till date. There is a tentative plan to install 4G-323 BTSs and 3G-22 BTSs to strengthen mobile network in Bihar under Phase VIII-4.

Landline and Broadband Segment : Till date, 1118 landline exchanges and 896 Digital Subscriber Line Access Multiplexers (DSLAM) for broadband services are working in Bihar. These are being upgraded with NGN (Next Generation Network) switches for world-class

service. A total of 17 NGN exchanges have already been commissioned and a capacity of 95K lines are further planned for replacement with NGN switches. In addition, 407-CDOT exchanges are planned for upgradation into MAX Next Generation switches by 2018-19. So far, 47 such switches have been upgraded.

Wi-fi Hotspots Segment : A total of 11 wi-fi hotspots are already working and 99 more wi-fi hotspots are planned at tourist and pilgrimage locations.

Fiber to Home (FTH) : The state government has initiated high-speed FTH broadband connection project in collaboration with BSNL for Community Service Centre (CSC) and e-Governance. Initially, it will cover 2000 Gram Panchayats across Bihar under Phase-I, and the remaining 3200 Gram Panchayats will be covered under Phase-II of the project.

Rural Wi-fi Hotspots under USOF Project : A total of 895 rural telephone exchanges are planned under Universal Service Obligation (USO) project. Out of this, 9 have already been commissioned and 380 more will be provided with Wi-fi services by 2018-19.

Bharat NET Project : The BSNL is the sole executing agency for implementation of Bharat Net Project. A total of 6043 Gram Panchayats are to be connected with Optical Fiber Cable (OFC) for high-speed Broadband connectivity under this project. Under Phase-I, 5886 Gram Panchayats have already been made service-ready. Additionally, 110 Gram Panchayats have been provided with Wi-fi Choupal services.

Left Wing Extremists Area (LWE) Mobile Project : Through BSNL, a total of 1836 LWE sites are planned for providing mobile services. The sites have been identified by the Ministry of Home Affairs. Further, the central government has decided to provide additional 156 mobile towers in LWE-affected areas with subsidy support to the maximum of Rs 275 crore from USOF. For Bihar, 250 LWE BTSs have already been commissioned under LWE project.

Crime and Criminal Tracking Network and Systems (CCTNS) Project : Connectivity under CCTNS project is being provided over RF (Radio Frequency) to 980 Police Stations in different districts of Bihar.

6.9 Postal Network

The Indian postal network has been the backbone of communication in the country and played a major role in its socio-economic development. It touches our lives through mail, banking, insurance, money transfer and retail services. A total of 9047 post offices were in existence in

Bihar in March, 2017, 8590 (95 percent) in rural areas and 457 (5 percent) in urban. In terms of share in the all-India postal network, the share of Bihar at 5.8 percent is low, since Bihar accounts for 8.6 percent of country's population. In terms of letter boxes, the top five states are Uttar Pradesh, Maharashtra, Tamil Nadu, Madhya Pradesh and Karnataka; accounting for 45 percent of the letter boxes. Bihar accounted for 4.6 percent of all-India total of letter boxes (Table 6.28).

Table 6.28 : Spread of Postal Network in Major States of India (As on March 31, 2017)

(In number)

States	Post Offices			Letter Box		
	Rural	Urban	Total	Rural	Urban	Total
Andhra Pradesh	9602 (92.5)	774 (7.5)	10376 (6.7)	4331 (14.7)	25179 (85.3)	29510 (6.1)
Bihar	8590 (94.9)	457 (5.1)	9047 (5.8)	3011 (13.4)	19422 (86.6)	22433 (4.6)
Chhattisgarh	2890 (91.3)	274 (8.7)	3164 (2.0)	2717 (18.1)	12271 (81.9)	14988 (3.1)
Gujarat	8199 (91.3)	785 (8.7)	8984 (5.8)	4426 (18.2)	19951 (81.8)	24377 (5.0)
Haryana	2314 (86.1)	374 (13.9)	2688 (1.7)	1245 (18.7)	5403 (81.3)	6648 (1.4)
Jharkhand	2846 (91.3)	272 (8.7)	3118 (2.0)	1277 (9.4)	12361 (90.6)	13638 (2.8)
Karnataka	8620 (89.2)	1046 (10.8)	9666 (6.2)	5894 (19.6)	24247 (80.4)	30141 (6.2)
Kerala	4179 (82.6)	882 (17.4)	5061 (3.3)	3535 (22.9)	11889 (77.1)	15424 (3.2)
Madhya Pradesh	7469 (90.2)	810 (9.8)	8279 (5.3)	4274 (11.1)	34121 (88.9)	38395 (7.9)
Maharashtra	11569 (90.0)	1290 (10.0)	12859 (8.3)	7834 (17.1)	37982 (82.9)	45816 (9.4)
Odisha	7578 (92.7)	597 (7.3)	8175 (5.3)	2595 (12.4)	18266 (87.6)	20861 (4.3)
Punjab	3410 (88.3)	454 (11.7)	3864 (2.5)	2705 (18.3)	12045 (81.7)	14750 (3.0)
Rajasthan	9675 (93.8)	636 (6.2)	10311 (6.7)	3636 (13.3)	23785 (86.7)	27421 (5.6)
Tamil Nadu	10280 (84.7)	1859 (15.3)	12139 (7.8)	9723 (23.5)	31652 (76.5)	41375 (8.5)
Uttar Pradesh	15735 (89.0)	1935 (11.0)	17670 (11.4)	7300 (12.9)	49290 (87.1)	56590 (11.7)
West Bengal	7779 (85.7)	1294 (14.3)	9073 (5.9)	4416 (16.3)	22615 (83.7)	27031 (5.6)
All States	139067 (89.7)	15898 (10.3)	154965 (100)	78188 (16.1)	407250 (83.9)	485438 (100)

Note : Figure in parenthesis for rural and urban, represents share from total and state-wise from all-India

Source : Annual Report 2017-18, Department of Posts, India

The Postal Department provides many services to the citizen including money remittance, banking and insurance. Many social benefit payments, such as MGNREGA and social security pension schemes are also being provided through postal financial services. Table 6.29 presents the details of different types of accounts and their outstanding balances for major states of India. Post Office Bank (POB) has 254 lakh account holders in Bihar, which constituted 7.1 percent of all-India. In terms of total outstanding balance, Bihar accounts for Rs. 25,549 crore, constituting 4.7 percent of all-India postal finances.

Table 6.29 : Number of Accounts and Outstanding Balances in Post Offices (As on March 31, 2017)

State	No. of Accounts (lakh)					Outstanding Balance (Rs. in crore)				
	Deposits	Investment	MIS	Sukanya/ Mahila Samridhi Account	Total	Deposits	Investment	MIS	Sukanya Samridhi Account	Total
Andhra Pradesh	462	1	8	9	480	12530	1904	9413	1458	25306
Bihar	236	1	14	4	254	15777	2077	7369	326	25549
Chhattisgarh	39	0	1	2	42	4616	721	1724	151	7211
Gujarat	170	2	15	3	190	18200	7076	14154	358	39788
Haryana	54	1	3	4	62	9345	2560	3116	603	15624
Jharkhand	111	0	4	5	121	3559	180	5286	287	9312
Karnataka	155	1	4	10	170	13502	3613	5469	1874	24457
Kerala	124	0	4	3	131	10865	677	2198	573	14312
Madhya Pradesh	230	1	5	4	240	11813	1389	3681	378	17261
Maharashtra	283	6	15	8	311	18637	9463	25870	1235	55206
Orissa	126	0	4	3	134	8452	444	3318	419	12632
Punjab	63	2	4	3	71	15752	6699	5846	437	28734
Rajasthan	179	2	5	4	191	12243	4326	5100	452	22121
Tamil Nadu	247	2	5	14	268	16507	3776	9490	2005	31778
Uttar Pradesh	326	2	14	14	356	34293	4915	16129	1413	56751
West Bengal	212	2	50	6	270	35148	3540	45210	547	84445
Total	3269	28	167	104	3567	278766	66619	180064	13827	539276

Note : Deposits includes saving accounts, recurring deposits, term deposits and Senior citizen's deposits and Investment includes Public Provident Fund and National Savings Scheme

Source : Annual Report 2017-18, Department of Posts, India

The postal department has declared GPO-Patna, HO-Bhagalpur and PTC-Darbhanga as departmental heritage building. The Department is running 34 postal dispensaries in 13 circles in various parts of the country. Bihar circle is one of them, in which Chhapra, Darbhanga, Gaya and Muzaffarpur have been selected for postal dispensary. In order to address the problems related to LWE-area, 35 districts have been selected from seven states (Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Maharashtra, Odisha and Telangana). It ensures availability of postal counter service facilities as well as delivery of benefits under the central and state governments' schemes through post office branches. The postal department has also introduced electronic IPO service in October 2017 on a pilot basis in Bihar, Delhi and Karnataka circles. It will soon be extended across the country on the basis of pilot outcomes.

6.10 Information Technology (IT) Infrastructure

The present government has two core priorities — good governance and development with justice. The state government has strengthened the government machinery with many IT initiatives for delivering good governance. IT is a basic necessity for e-governance. It provides platform to execute e-governance in a smooth and time bound manner. The E-governance is basically a mode of governance through Information and Communication Technology (ICT). ICT facilitates by speeding up governmental process, taking decisions expeditiously and judiciously, increasing transparency and enforcing accountability. It escalates the reach of government, geographically and demographically. Nearly every department provides its e-services through several e-governance projects. In order to promote the e-governance programme, development of IT infrastructure through State Data Centre (SDC), State Wide Area Network (SWAN), Common Service Centres (CSC) and middleware gateways are being provided. These gateways include State e-Governance Service Delivery Gateway (SSDG), National e-Governance Service Delivery Gateway (NSDG) and Mobile e-Governance Service Delivery Gateway (MSDG).

Information and Communication Technology (ICT) is a prime sector in Bihar. During 2011-12 to 2016-17, it has been growing annually by 10.7 percent; in 2017-18, it grew at a even faster rate of 16.6 percent. The contribution of communication sector was nearly 3 percent in the GSVA (Gross State Value Added) during 2017-18, up from 2.2 percent in 2011-12. Presently, working-from-home, distance learning, e-banking, and e-governance are possible with an internet connection. As per a resolution of the state government, under ‘Saat Nishchay’, free Wi-Fi services are being provided in all state-run university and colleges with an objective of good governance. Under this scheme, various government educational institutions such as Universities (16), Constituent Colleges (273), Engineering Colleges (3), Medical Colleges (9), Agriculture Colleges (8), other educational institutes (10) and newly created institutes in recent years are being covered through Wi-Fi Hotspots. The total cost of this project is Rs. 245.53 crore.

Infrastructure is being created in the state for smooth IT services and several projects are in progress. Bihar State Wide Area Network (BSWAN) has been established with an objective of providing data, voice and video communication for government machineries to save time, money and effort. It will also aid decision making through video conferencing. It connects all offices, right from the block headquarters to the state headquarters, through 534 Points of Presence (PoP) in all block headquarters, 101 in sub-divisional headquarters, 38 in all the districts and one for the State headquarter at Patna. In addition, the state government is in process of providing a complete solution to optimize time and resources by doing away with the requirement for all under trial prisoners, to travel to the court and be a part of the proceedings through video conferencing (VC). There are 403 VC points at different courts, 226 in jail, and one for High

Court planned in the state. The State Data Centre (SDC) augmentation and SDC cloud are being installed with an objective of reducing the SDC cost. A three-tier data centre is being planned to be operational by 2020 for high level security of data centres. A total of 2500 National Optical Fiber Network Bharat Network (NOFN) PoPs are ready for use. The Citizen Service Centre (CSC) and Village Level Entrepreneur (VLE) have been planned in each and every Panchayat to create Wi-Fi hotspots, and ensure the maintenance of the Wi-Fi equipment. Further, IT has been used for greater transparency, accountability and easier accessibility of information from various government departments and agencies, The Secretariat Local Area Network (Sec-LAN) is designed for improved service delivery and quick access to information and data. The coverage of the Sec-LAN includes e-office, court case module, file tracking system, and use of internet in all secretarial building. Such infrastructure helps the state government by providing e-services for e-governance. The state government is dedicated to providing e-governance, through which the government-citizen interface becomes faceless, paperless and cashless. In this backdrop, the technology is playing a pivotal role in enhancing the efficiency, accountability and transparency of government services. The state government is also working towards making Bihar an Information Technology (IT) Hub. Towards that objective, a decision has been taken to build an IT city in Rajgir (Nalanda) on 111.17 acres of land. An IT tower is also being established with seamless internet connectivity and uninterrupted availability of quality power in the state capital of Patna.

APPENDIX

Table A 6.1 : District-wise National Highway Network in Bihar (in km)

District	2013	2014	2015	2016	2017	2018	CAGR (2013-18)	Percent Share (2018)
Patna	395	395	395	395	395	395	0.0	8.03
Nalanda	177	177	177	177	177	177	0.0	3.60
Bhojpur	85	85	85	85	85	85	0.0	1.73
Buxar	55	55	55	55	81	81	8.0	1.65
Rohtas	145	145	145	145	183	183	4.7	3.72
Kaimur	52	52	99	99	99	99	21.2	2.01
Gaya	120	120	120	120	155	155	5.3	3.15
Jehanabad								
Arwal	134	134	134	134	134	134	0.0	2.73
Nawada	84	84	84	84	84	84	0.0	1.71
Aurangabad	137	137	137	137	186	186	6.3	3.79
Saran	181	181	181	181	227	227	4.7	4.62
Siwan	54	54	54	54	131	131	19.4	2.67
Gopalganj	96	96	96	96	96	96	0.0	1.96
W. Champaran	112	112	112	112	112	112	0.0	2.28
E. Champaran	94	94	94	94	126	126	6.0	2.56
Muzaffarpur	258	259	259	259	259	259	0.1	5.28
Sitamarhi	136	168	168	168	168	168	4.3	3.41
Sheohar	22	22	22	22	22	22	0.0	0.45
Vaishali	128	128	128	128	128	128	0.0	2.60
Darbhanga	50	50	50	50	50	50	0.0	1.01
Madhubani	208	208	236	236	236	236	3.9	4.80
Samastipur	66	66	66	66	66	66	0.0	1.33
Begusarai	96	96	96	102	102	102	1.8	2.07
Munger	97	73	73	85	85	85	-1.0	1.74
Sheikhpura	12	12	46	46	46	46	49.4	0.93
Lakhisarai	45	45	51	51	51	51	3.5	1.03
Jamui	88	112	197	197	197	197	24.2	4.01
Khagaria	92	92	92	92	92	92	0.0	1.88
Bhagalpur	146	146	146	146	146	146	0.0	2.97
Banka	-	11	86	86	86	86	85.4	1.74
Saharsa	79	93	93	93	93	93	3.4	1.89
Supaul	205	216	216	216	216	216	1.0	4.38
Madhepura	109	109	109	109	109	109	0.0	2.22
Purnea	120	116	116	116	116	116	-0.8	2.35
Kishanganj	68	68	68	68	68	68	0.0	1.38
Araria	154	154	154	154	154	154	0.0	3.12
Katihar	102	158	158	165	158	158	9.7	3.21
Bihar	4201	4321	4595	4621	4917	4917	3.9	100.00

Source : Road Construction Department, GoB

Table A 6.2 : District-wise State Highway Network in Bihar (in km)

District	2013	2014	2015	2016	2017	2018	CAGR (2013-18)	Percent Share (2018)
Patna	162	199	204	208	208	208	5.5	5.19
Nalanda	172	172	186	192	192	192	3.4	4.80
Bhojpur	153	153	177	167	167	167	2.7	4.17
Buxar	79	79	78	78	52	52	-8.0	1.30
Rohtas	235	235	231	231	193	193	-4.1	4.81
Kaimur	99	99	91	85	85	85	-4.7	2.11
Gaya	219	219	247	240	210	210	0.1	5.24
Jehanabad			33	33	33	33	0.0	0.83
Arwal			33	39	39	39	9.3	0.98
Nawada	170	170	185	212	186	186	4.0	4.64
Aurangabad	151	151	157	158	124	124	-3.4	3.08
Saran	202	202	196	202	166	166	-3.8	4.15
Siwan	159	159	157	156	86	86	-11.9	2.14
Gopalganj	82	53	56	53	53	53	-8.4	1.31
W. Champaran	102	102	115	115	115	115	3.8	2.87
E. Champaran	144	144	131	131	128	128	-3.2	3.20
Muzaffarpur	70	70	76	76	76	76	2.3	1.90
Sitamarhi	49	49	94	94	94	94	21.4	2.35
Sheohar	14	14	12	12	12	12	-4.4	0.29
Vaishali	151	151	113	113	113	113	-8.3	2.83
Darbhanga	198	198	224	224	224	224	3.8	5.59
Madhubani	132	132	99	98	98	98	-8.5	2.45
Samastipur	222	222	194	194	194	194	-3.9	4.85
Begusarai	42	42	43	43	43	43	0.4	1.06
Munger	11	35	34	34	34	34	24.8	0.85
Sheikhpura	53	53	22	22	22	22	-23.0	0.55
Lakhisarai	59	59	49	49	49	49	-5.1	1.23
Jamui	133	109	63	63	63	63	-18.6	1.57
Khagaria	15	15	18	16	21	21	7.8	0.54
Bhagalpur	81	81	72	72	72	72	-3.5	1.80
Banka	215	204	169	169	169	169	-6.4	4.23
Saharsa	135	121	97	81	91	91	-11.3	2.26
Supaul	150	139	133	134	134	134	-2.6	3.35
Madhepura	99	99	100	99	99	99	-0.3	2.46
Purnea	161	149	141	141	141	141	-3.2	3.53
Kishanganj	49	50	49	49	49	49	-0.5	1.21
Araria	95	94	69	69	69	69	-8.9	1.72
Katihar	116	100	103	103	103	103	-2.2	2.56
Bihar	4483	4426	4253	4253	4006	4006	-2.6	100.00

Source : Road Construction Department, GoB

Table A 6.3 : District-wise Major District Road Network in Bihar (in km)

District	2013	2014	2015	2016	2017	2018	CAGR (2013-18)	Percent Share (2018)
Patna	458	496	565	562	562	670	5.5	5.42
Nalanda	318	390	445	448	448	473	8.6	3.82
Bhojpur	258	250	282	282	282	285	3.0	2.31
Buxar	126	127	127	127	127	141	0.0	1.14
Rohtas	398	415	366	383	404	423	-0.5	3.42
Kaimur	233	239	264	269	269	302	4.2	2.45
Gaya	351	601	628	624	627	764	12.7	6.18
Jehanabad	203	280	289	289	289	299	7.6	2.42
Arwal			69	65	65	65	-3.1	0.52
Nawada	137	158	157	172	151	145	2.8	1.18
Aurangabad	259	245	256	256	256	455	0.3	3.68
Saran	262	219	200	360	365	394	12.3	3.19
Siwan	329	250	292	306	306	301	0.6	2.44
Gopalganj	312	322	353	353	353	355	3.4	2.87
W. Champaran	317	299	294	293	302	377	-1.1	3.05
E. Champaran	310	330	409	474	462	458	12.3	3.71
Muzaffarpur	394	431	456	467	467	542	4.3	4.39
Sitamarhi	222	287	214	214	214	250	-3.6	2.02
Sheohar	33	33	101	101	101	102	40.1	0.82
Vaishali	177	177	179	343	347	345	22.2	2.79
Darbhanga	403	373	412	472	475	485	5.8	3.93
Madhubani	315	371	381	380	380	401	4.1	3.24
Samastipur	321	385	411	429	429	507	7.1	4.10
Begusarai	202	247	246	209	209	209	-0.9	1.69
Munger	45	53	46	46	46	53	-1.1	0.43
Sheikhpura	109	127	137	137	137	137	5.5	1.11
Lakhisarai	58	87	91	93	93	104	10.4	0.84
Jamui	184	198	208	208	239	308	5.9	2.49
Khagaria	129	212	243	243	243	239	15.0	1.94
Bhagalpur	253	265	264	264	280	281	2.0	2.27
Banka	264	206	200	200	200	218	-5.8	1.76
Saharsa	358	332	279	279	279	286	-6.5	2.31
Supaul	470	547	498	505	505	535	0.7	4.33
Madhepura	74	87	103	103	103	113	8.7	0.91
Purnea	269	257	227	227	227	338	-4.5	2.74
Kishanganj	234	286	290	221	221	265	-3.6	2.14
Araria	252	241	376	376	408	480	15.1	3.88
Katihar	364	304	275	275	275	253	-6.4	2.04
Bihar	9401	10128	10634	11054	11145	12357	4.4	100.00

Source : Road Construction Department, GoB

Table A 6.4 : District-wise Rural Road Network in Bihar (in km)

District	2014-15	2015-16	2016-17	2017-18	2018-19 (Upto Sep. 18)	CAGR (2014-18)	Percent Share (2018)
Patna	1420.04	1606.60	2085.92	2310.94	2359.26	18.8	3.20
Nalanda	1308.55	1467.32	1605.05	1886.34	1905.21	12.6	2.58
Bhojpur	1094.22	1224.84	1420.41	1594.55	1612.79	13.6	2.19
Buxar	959.96	1072.94	1242.09	1501.09	1524.76	16.0	2.07
Rohtas	1264.76	1530.92	2079.70	2624.43	2670.14	28.4	3.62
Kaimur	1210.95	1243.77	1342.63	1924.28	1951.09	15.8	2.64
Gaya	1958.17	2302.30	2667.80	2976.55	3055.69	15.1	4.14
Jehanabad	467.93	529.41	721.45	1091.65	1097.17	33.0	1.49
Arwal	195.87	221.61	260.13	336.52	347.23	19.5	0.47
Nawada	939.61	1063.06	1247.88	1702.84	1774.22	21.5	2.40
Aurangabad	1373.43	1893.87	2324.02	2587.05	2607.13	23.4	3.53
Saran	2018.03	2170.02	2650.30	2985.03	3041.03	14.7	4.12
Siwan	1482.75	1564.41	1736.40	1893.83	1956.93	8.7	2.65
Gopalganj	1236.37	1398.80	1741.99	1856.46	1950.33	15.5	2.64
W. Champaran	1815.14	1827.33	2745.03	2907.32	2928.62	20.0	3.97
E. Champaran	2515.46	2932.81	3407.93	3550.28	3657.42	12.6	4.96
Muzaffarpur	2448.96	2983.84	3485.23	3667.60	3703.65	14.6	5.02
Sitamarhi	1345.04	1482.34	1987.90	2084.66	2158.74	17.4	2.93
Sheohar	308.38	348.90	409.56	455.82	472.63	14.3	0.64
Vaishali	1944.68	2087.04	2249.89	2366.61	2404.25	6.9	3.26
Darbhanga	1910.91	2141.97	2151.85	2284.50	2326.90	5.6	3.15
Madhubani	2561.58	2750.67	3033.22	3177.49	3219.81	7.7	4.36
Samastipur	1909.16	2046.84	2270.71	2594.10	2661.23	10.8	3.61
Begusarai	814.47	921.48	1081.69	1198.86	1208.51	14.1	1.64
Munger	308.72	349.28	410.00	496.31	539.53	17.2	0.73
Sheikhpura	415.29	469.85	490.54	501.83	538.11	6.3	0.73
Lakhisarai	316.51	358.09	420.35	461.83	514.68	13.8	0.70
Jamui	1092.07	1335.55	1650.36	2052.18	2080.52	23.4	2.82
Khagaria	352.01	424.53	493.12	585.92	599.75	18.3	0.81
Bhagalpur	1046.76	1284.29	1490.19	1625.21	1645.82	15.8	2.23
Banka	1367.49	1527.15	2102.13	2371.27	2420.98	21.8	3.28
Saharsa	893.31	923.81	949.19	1001.20	1075.95	3.8	1.46
Supaul	1049.14	1126.39	1191.77	1294.16	1341.59	7.1	1.82
Madhepura	1013.38	1172.80	1211.47	1293.49	1349.60	7.9	1.83
Purnea	1954.03	2310.75	2695.11	2888.24	2919.13	14.2	3.96
Kishanganj	1097.96	1455.35	1690.99	1675.69	1732.21	15.2	2.35
Araria	1975.57	2021.98	2290.90	2452.26	2518.73	8.0	3.41
Katihar	1407.46	1631.78	1767.64	1863.78	1910.78	9.7	2.59
Total	48794.11	55204.68	64802.55	72122.20	73782.11	14.3	100.00

Source : Road Construction and Rural Works Department, GoB

Table A 6.5 : District-wise Registered Vehicles in Bihar During 2016-17

(in No.)

District	Truck	Bus	Car	Taxi	Jeep	Three Wheeler	Two Wheeler	Tractor	Trailor	Other	Total
Patna	4262	415	22674	1866	5030	5124	137320	868	523	1560	179642
Nalanda	503	76	478	138	293	694	23354	1530	1007	382	28455
Bhojpur	552	52	514	167	380	1156	31975	1003	865		36664
Buxar	162	13	269	38	188	480	11032	360	303		12845
Rohtas	848	81	893	105	92	985	22766	911	655	520	27856
Kaimur	155	37	155	48	111	244	12241	1142	615	1	14749
Gaya	996	139	1864	183	448	2589	31261	1606	886		39972
Jehanabad	187	68	85	16	1	518	6158	793	330		8156
Arwal	26	1	33		1	51	2768	19	18	748	3665
Nawada	167	31	196	62	167	202	12192	1209	1083	1086	16395
Aurangabad	516	58	647	103	153	1540	14094	1145	1056		19312
Saran	400	24	602	119	467	515	29411	911	238	167	32854
Siwan	665	39	662	244	648	734	28479	1389	27	4	32891
Gopalganj	255	26	801	47	130	137	21646	897	30	79	24048
W. Champaran	1259	10	544	5	147	787	30636	592	22	13	34015
E. Champaran	623	46	1311	214	361	1175	38047	1632	2	264	43675
Muzaffarpur	4810	1119	3457	777		1989	75019	553	73		87797
Sitamarhi	143	21	145	41	124	992	28817	1198	156		31637
Sheohar	5		18	11	15	20	2534	64	6	2	2675
Vaishali	555	61	4435	135	751	807	35520	896	488	343	43991
Darbhanga	824	18	1550	403	693	2591	32791	691	22	351	39934
Madhubani	192	17	227	122	360	848	27300	1623	415	18	31122
Samastipur	129	14	263	38	18	1226	38755	1092	490	210	42235
Begusarai	573	54	1178	174	139	1134	22997	858	541	161	27809
Munger	118		82	87	70	320	9486	2	2	488	10655
Sheikhpura	119	8	35	26	28	79	2802	398	246		3741
Lakhisarai	274	6	201	48	8	127	4283	398	182	5	5532
Jamui	101	6	33	24	58	549	9250	588	536	12	11157
Khagaria	69	3	53	31	159	361	9729	372	317	812	11906
Bhagalpur	685	19	1347	199	311	1208	13301	315	228	498	18111
Banka	164	19	68	27	32	200	6830	242	218	1081	8881
Saharsa	134	20	300	47	119	587	12549	924	178		14858
Supaul	90	216	261	99	14	99	19121	1338	465	17	21720
Madhepura	55	15	338	10		935	16358	1172	354	95	19332
Purnea	2026	79	2776	327	1005	4207	34354	893	160	2343	48170
Kishanganj	45	5	551	18	4	688	26447	624	39	101	28522
Araria	24	11	551	10	123	746	17125	1279	650	12	20531
Katihar	62	6	268	31	20	451	30037	1156	474	60	32565
Bihar	22773	2833	49865	6040	12668	37095	928785	32683	13900	11433	1118075

Source : Transport Department, GoB

CHAPTER - VII

ENERGY SECTOR

For the process of fast economic growth, it is extremely necessary to provide for power. This is because power is not only a requirement for all non-agricultural activities, it is also important for agricultural operations, thanks to the use of power-based irrigation arrangements. As was discussed before, the economy of Bihar has been growing at a fast rate in the recent years and, as such, the development of energy sector is of utmost importance to ensure that the present growth momentum is maintained in the coming years. Apart from production activities, power is also needed for the households to ensure amenities that make life more comfortable and enjoyable. Indeed, under ‘Saat Nishchay’ of the state government, indicating its seven basic development commitments, ‘Har Ghar Bijli (supply of power to all households) is the third component. To attain the objective of universal household electrification under this component, power companies in Bihar have been able to energise all unelectrified villages within the target of December, 2017 and all habitations by April, 2018. Further, the target of providing electricity connection to all willing households has been achieved by October, 2018, two months ahead of the target of December, 2018.

7.1 Availability of Power

There has been significant improvement in peak demand met in Bihar from 1712 MW in 2011-12 to 4535 MW in 2017-18, implying a growth of around 165 percent in six years (Table 7.1). The peak demand has reached a new high of 5139 MW during current financial year in the month of September, 2018. As is apparent from the table, the peak deficit in power has been around 30 percent for several years till 2012-13; by 2017-18, this deficit was reduced to around 9 percent. The availability of power has increased from an average of 6-8 hours to 18-20 hours in rural areas and from 10-12 hours to 22-24 hours in urban areas. The per capita consumption in the state has risen from 134 kwh in 2011-12 to 280 kwh in 2017-18, implying a growth of more than 100 percent in six years.

There is considerable variation across the districts in terms of power consumption (Table 7.2). In 2017-18, the top 3 districts in power consumption were — Patna (4965 MU), Gaya (1522 MU) and Nalanda (1008 MU). On the other end, 3 bottom most districts were — Sheohar (76 MU), Arwal (135 MU) and Sheikhpura (176 MU).

Table 7.1 : Power Scenario (2011-12 to 2017-18)

Characteristic	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Peak Demand (MW)	2500	2650	3150	3500	4112	4405	4965
Peak Met (MW)	1712	1802	2335	2831	3459	3769	4535
Peak Deficit/ Surplus (MW) (-/+)	-788	-848	-815	-669	-653	-636	-430
Peak Deficit/ Surplus (%) (-/+)	-31.5	-32.0	-25.9	-19.1	-15.6	-14.4	-9.4
Energy Requirement (MU)	14454	15321	18212	22226	25550	28245	30095
Energy Availability (MU)	12145	13267	15045	18731	21679	23978	26788
Energy Deficit/ Surplus (MU) (-/+)	-2309	-2054	-3464	-3495	-3871	-4267	-5296
Energy Deficit/ Surplus (%) (-/+)	-16.0	-13.4	-19.0	-15.7	-15.2	-15.10	-12.34
Per Capita Consumption (kwh)	134	145	160	203	258	272	280

Source : Department of Energy

Table 7.2 : District-wise Power Consumption

District	Consumption (MU)				District	Consumption (MU)			
	2014-15	2015-16	2016-17	2017-18		2014-15	2015-16	2016-17	2017-18
Patna	3959	4197	4713	4965	Darbhanga	381	482	522	570
Nalanda	672	813	940	1008	Madhubani	325	407	469	512
Bhojpur	380	494	601	715	Samastipur	343	453	501	572
Buxar	276	351	439	452	Begusarai	370	452	488	547
Rohtas	625	785	842	1004	Munger	255	310	368	382
Kaimur	358	432	546	712	Sheikhpura	114	136	165	176
Gaya	1003	1214	1365	1522	Lakhisarai	171	213	300	327
Jehanabad	216	273	337	363	Jamui	167	191	278	328
Arwal	69	95	120	135	Khagaria	134	180	194	218
Nawada	161	286	374	466	Bhagalpur	628	714	812	842
Aurangabad	321	497	759	877	Banka	161	215	308	296
Saran	459	605	661	740	Saharsa	185	282	309	300
Siwan	233	291	350	497	Supaul	185	264	284	294
Gopalganj	195	294	342	428	Madhepura	165	235	255	283
W. Champaran	260	402	438	543	Purnea	358	382	427	484
E. Champaran	341	428	466	654	Kishanganj	143	188	197	215
Muzaffarpur	735	916	937	986	Araria	161	207	269	306
Sitamarhi	201	270	295	409	Katihar	188	255	276	345
Sheohar	33	50	59	76					
Vaishali	444	586	636	640	Bihar	15375	18845	21642	24189

Source : Department of Energy, GOB

7.2 Projection of Power Requirement

Access to electricity on 24×7 basis to all the citizens is indeed synonymous with social equality. Thus, as mentioned above, the state government made ‘Har Ghar Bijli’ resolve targeted to achieve it by December, 2018. However as indicated earlier, this has already been achieved by October, 2018 which is two months ahead of the target. As of now, electric connection has been provided to all willing households in the state. In the next phase, connection is being provided to agriculture pumpsets, both new as well as existing pumps presently running on diesel. This has been taken up in a mission mode and the target for its completion has been set at December, 2019.

There will be a quantum jump in power demand in the state in the coming years, mainly due to large scale release of service connection in rural areas towards full electrification, substantial increase in agriculture consumers, rise in demand of existing consumers (because of widespread use of electrical gadgets), and industrialization of the state. Table 7.3 presents the estimated annual energy requirement for all consumers for the period 2018-19 to 2020-21.

Table 7.3 : Annual Energy Requirement for Rural and Urban Households

(Figures in MU)

Category of Households	2018-19	2019-20	2020-21
Existing Electrified Households	14518	16108	17408
New Households	372	848	916
Total Domestic Requirement	14890	16956	18324
Consumers other than Domestic	8204	9225	10492
New Agricultural Connections	750	1034	1551
Total	23844	27215	30367

Source : Department of Energy, GOB

Table 7.4 shows the projected energy requirement at the state periphery, considering distribution losses and intra-state transmission loss trajectory. The expected power demand of Bihar by 2020-21 shall be of the order of 6381 MW, with an annual energy requirement of 36894 MU.

Table 7.4 : Annual Energy and Peak Demand Requirement at State Periphery

Indicators	2018-19	2019-20	2020-21
Energy requirement as per demand projections (MU)	23844	27215	30367
Distribution losses (Percentage)	24	15	15
Intra-state transmission losses (Percentage)	3.92	3.92	3.92
Energy requirement at state periphery (MU)	32624	33048	36894
Peak demand at 0.734 Load Factor (MW)	5172	5868	6381
Peak demand at 0.734 Load Factor (MW) (Including Agricultural load upto 50% only)	5032	5624	6091

Source : Department of Energy, GOB

The power capacity availability in the state was 3889 MW in March, 2018. In order to meet the increased demand, the state government has already planned for additional capacity of 2522 MW from different sources in a phased manner by 2020-21. These sources are — own generating stations, central generating stations, renewable energy sources, and long/ medium term Power Purchase Agreements (PPA) through competitive bidding. The source-wise details of this additional capacity is presented in Table 7.5. As per the present generation plan, the additional capacity of 2522 MW is expected to be added by 2020-21 (either from new projects, or from those which are under construction, or from those old projects which are being renovated or modernised). The total available capacity for Bihar by 2020-21 is expected to be 6411 MW, of which 5053 MW will be conventional and the remaining 1358 MW non-conventional.

Table 7.5 : Year-wise and Source-wise Details of Capacity Expansion

(Figures in MW)

Sources	March 2018	Cumulative Proposed Capacity		
		2018-19	2019-20	2020-21
State Sector				
State Thermal	110	0	0	0
State Small Hydro	10	10	10	10
Central Generating Station Share				
CGS Thermal	2596	3178	3708	3945
CGS Hydro	469	719	719	719
IPPs Projects (Case1)	260	537	537	537
JV/ Partnership (Thermal)	220	521	571	571
NCE/RNES	224	229	629	629
Total	3889	5194	6174	6411

Note : IPP = Independent Power Producer; JV = Joint Venture; NCE = Non-Conventional Energy; RNES = Renewable Energy Source
Source : Department of Energy, GOB

Table 7.6 : Estimated Availability of Power and Energy (2018-19 to 2020-21)

Year	Total Capacity (MW)	Estimated Peak Availability at State Periphery (MW)	Estimated Energy Availability at State Periphery (MU)
2018-19	5194	4965	26190
2019-20	6174	5665	32124
2020-21	6411	5902	36635

Source : Department of Energy, GOB

With the availability of additional generation capacity, the deficit in peak availability of 1.33 percent during 2018-19 will be compensated during 2019-20, with surplus availability of 0.73 percent. However, the deficit is projected to increase slightly to 3.10 percent during 2020-21, which will be met by short term power purchase. The gap between energy requirement and availability is expected to go down continuously from 19.72 percent in 2018-19 to 0.70 percent in 2020-21. This gap will be met by power purchase through open market.

Table 7.7 : Projected Surplus/ Deficit in Power and Energy (2018-19 to 2020-21)

Power Supply Position	2018-19	2019-20	2020-21
Estimated Peak Requirement with 50 percent agriculture load (***) only (MW)	5032	5624	6091
Estimated Peak Availability as per State Generation Plan (MW)	4965	5665	5902
Peak demand Surplus (+) / Deficit (-) (MW)	(-) 67	(+) 41	(-) 189
Peak demand Surplus / Deficit (Percentage)	(-) 1.33	(+) 0.73	(-) 3.10
Estimated Energy Requirement at State Periphery (MU)	32624	33048	36894
Estimated Energy Availability at State Periphery as per State generation Plan (MU)	26190	32124	36635
Energy Surplus (+) / Deficit (-) (MU)	(-) 6434	(-)924	(-) 259
Energy Surplus (+) / Deficit (-) (Percentage)	(-) 19.72	(-) 2.80	(-) 0.70

Note : (***) 50 percent agriculture load will be supplied in rotation

Source : Department of Energy, GOB

7.3 Institutional Structure of Power Sector

In April, 1958, the Bihar State Electricity Board (BSEB) was originally constituted under Section 5 of the Electricity (Supply) Act, 1948 and was mandated for the management of generation, transmission, distribution and other electricity-related activities in Bihar. Under the new Bihar State Electricity Reforms Transfer Scheme 2012, the BSEB has been unbundled into five companies in November, 2012 — (i) Bihar State Power (Holding) Company Limited (BSPHCL), (ii) Bihar State Power Generation Company Limited (BSPGCL), (iii) Bihar State Power Transmission Company Limited (BSPTCL), (iv) North Bihar Power Distribution Company Limited (NBPDC) and (v) South Bihar Power Distribution Company Limited (SBPDCL). The responsibilities of the newly-formed companies are briefly described below.

Bihar State Power (Holding) Company Limited (BSPHCL) : This Company owns shares of the newly-incorporated, reorganized four companies — Bihar State Power Generation Company Limited, Bihar State Power Transmission Company Limited, South Bihar Power Distribution Company Limited, and North Bihar Power Distribution Company Limited. It is vested with the

assets, interest in property, rights and liabilities of the erstwhile Bihar State Electricity Board (BSEB). The Company will primarily be an investment company. It will co-ordinate the activities of other companies, handle disputes and provide all necessary support to them.

Bihar State Power Generation Company Limited (BSPGCL) : This company is responsible for coordinating and advising other companies and concerns, including subsidiaries, engaged in the generation of electricity. The coordination and advisory roles include all matters concerning the construction, operation and maintenance of generating stations and associated facilities. It is also responsible for procuring fuel and its transportation to various sites and settling pending disputes.

Bihar State Power Transmission Company Limited (BSPTCL) : This company is responsible for the transmission of electricity and is vested with the transmission assets, interest in property, and rights and liabilities of the erstwhile BSEB. Besides planning and coordination activities, this company is expected to develop an efficient system of intra-state transmission lines for electricity, connecting load centres to the generating stations.

North and South Bihar Power Distribution Companies Limited (NBPDC and SBPDC) : These two companies undertake the activities of distribution of electricity to all consumers, trading of electricity, and implementation of rural electrification schemes — under Deen Dayal Upadhyay Gram Jyoti Yojana (erstwhile Rajiv Gandhi Grameen Vidyutikaran Yojana), special Backward Region Grant Fund (BRGF), Integrated Power Devolvement Scheme (IPDS), State Plan, and schemes funded by the Asian Development Bank (ADB), the last one being an Externally Aided Project (EAP). The introduction of open access in distribution as per the Electricity Act, 2003 and the directions of the regulator is also the responsibility of these two companies. They also tender, finalise and execute Power Purchase Agreements (PPA) and other agreements for sale or purchase of electricity.

The allocation of fund for BSPHCL and its subsidiary companies, Bihar Renewable Energy Development Agency (BREDA) and Bihar State Hydroelectric Power Corporation (BSHPC) was Rs. 3110.92 crore in 2013-14, which increased to Rs. 8271.59 crore in 2017-18. The outlay for 2018-19 is Rs. 6185.63 crore. The breakup of this amount under various heads is given in Table 7.8.

Table 7.8 : Allocation of Funds under BSPHCL

(Rs. in crore)

Year	BRGF	State Plan						BSHPC (RIDF)	EAP	Mukhya Mantri Vidyut Sambandh Nishchay Yojana	Total
		BSPHCL	Generation	Transmission	Distribution	BREDA	BSHPC				
2013-14	2125.00	367.35	25.00	25.00	215.00	50.00	15.00	63.57	225.00	-	3110.92
2014-15	1650.00	369.21	61.68	661.00	1099.18	20.00	38.93	69.92	220.00	-	4189.92
2015-16	2274.00	64.43	181.01	448.99	486.00	60.00	15.00	67.80	66.26	-	3663.49
2016-17	1329.40	127.50	1155.00	700.00	3126.65	150.00	10.00	67.80	260.91	587.38	7514.64
2017-18	2600.00	1576.10	592.50	510.00	1680.00	249.90	10.00	67.80	235.29	750.00	8271.59
2018-19	2013.83	1399.14	61.85	500.00	1450.00	75.00	20.00	5.80	100.00	560.00	6185.63

Source : Department of Energy, GOB

7.4 Distribution Companies

Distribution is an extremely important component of the whole electricity supply chain, as this is the only arm that generates revenue. This revenue enables the state government to improve the entire supply chain, by purchasing more electricity from the central sector. Thus, a major challenge of the power sector reforms lies in the efficient management of the distribution sector. The distribution system in Bihar is being served by two distribution companies — North Bihar Power Distribution Company Limited (NBPDC) and South Bihar Power Distribution Company Limited (SBPDCL). As on March, 2018, these companies are serving more than 115 lakhs of electricity consumers.

Table 7.9 : Category-wise Number of Effective Consumers (As per billing data)

Year	Number of Effective Consumers								Total
	Domestic	Commercial	Industrial (LT)	Industrial (HT)	Public Lighting	Traction	Agriculture	Public Water Works	
2012-13	3773077 (91.3)	279879 (6.8)	18816 (0.5)	1317 (0.03)	399 (0.01)	17 (neg.)	57838 (1.4)	1098 (0.03)	4132441 (100.0)
2013-14	3900733 (91.9)	273466 (6.4)	15851 (0.4)	1422 (0.03)	389 (0.01)	19 (neg.)	51989 (1.2)	1192 (0.03)	4245061 (100.0)
2014-15	5174585 (92.5)	346375 (6.2)	19599 (0.4)	1582 (0.03)	511 (0.01)	19 (neg.)	52980 (0.9)	1302 (0.02)	5596953 (100.0)
2015-16	7407609 (92.5)	488690 (6.1)	31405 (0.4)	1922 (0.03)	1237 (0.02)	19 (neg.)	75087 (0.9)	1760 (0.02)	8007729 (100.0)
2016-17	9499943 (91.9)	616512 (6.0)	57433 (0.6)	2050 (0.02)	679 (0.01)	22 (neg.)	162188 (1.6)	2030 (0.02)	10340859 (100.0)
2017-18	10616565 (91.8)	672149 (5.8)	79489 (0.7)	2541 (0.02)	2199 (0.02)	23 (neg.)	186436 (1.6)	3173 (.03)	11562575 (100.0)

Note : Figures in bracket indicate percentage shares; neg. in negligible
Source : Department of Energy, GOB

The two distribution companies are already implementing several schemes for expanding and strengthening their distribution networks. These ongoing schemes include transformer replacement, procurement of new transformers, replacement of old conductors of existing high tension (HT) and low tension (LT) lines, and construction of new HT and LT lines, Power Sub Stations (PSS) and bays.

7.5 Operational and Financial Status

The generation and purchase of power (net of central transmission loss) in Bihar increased from 14,002 MU in 2013-14 to 25,559 MU in 2017-18. With increase in sales, the revenue collection has increased. The cost coverage was above 90 percent up to 2016-17; however, this was 80 percent in 2017-18. The financial status of the two distribution companies is described in Table 7.10.

Table 7.10 : Financial Status of Power Sector

Item	2013-14		2014-15		2015-16		2016-17		2017-18	
	NBPDCL	SBPDCL	NBPDCL	SBPDCL	NBPDCL	SBPDCL	NBPDCL	SBPDCL	NBPDCL	SBPDCL
Generation and Purchase (MU)	5381	8621	7029	10388	8929	12748	9647	13380	10983	14576
Sales (MU)	3605	4637	5004	5814	6505	7199	7195	8661	8745	9503
Losses (Percentage)	33.0	46.2	28.8	44.0	27.4	43.5	25.6	35.6	20.38	34.80
Average Revenue (Rs./Unit)	4.17	4.86	4.19	4.37	4.14	4.45	4.02	4.58	5.48	6.02
Sale of Power (Rs. crore)	1503.66	2254.77	2095.00	2540.28	2696.24	3202.37	2890.80	3971.21	4797.74	5717.51
Total Income (including subsidies) (Rs. crore)	2723.69	4190.81	3559.74	4610.37	4475.11	6309.15	4620.48	6754.77	5073.21	6189.13
Total Cost (Rs. crore)	2797.95	4459.50	3856.53	5357.92	4814.55	7043.32	5133.91	7527.08	5813.70	8519.72
Cost Coverage (Total Income/ Total cost) (Percentage)	97.4	94.0	92.3	86.0	92.9	89.6	90.0	89.7	87.3	72.6
Financial Loss (Percentage)	2.6	6.0	7.7	14.0	7.1	10.4	10.0	10.3	12.7	27.4

Source : Department of Energy, GOB

During the recent years, the demand for electricity has been increasing continuously in the state, because of the fast economic growth at one hand and the growth of population on the other. This has resulted in high AT&C (Aggregate Technical and Commercial) loss, specially due to large scale rural electrification (Table No. 7.11). In 2017-18, it was as high as 30.22 percent. Earlier in 2016-17, it was even higher (40.60 percent). The distribution companies have been trying to address this issue by improving the billing and collection system, along with the metering of all consumer connections. Energy accounting and auditing at feeders and distribution transformers

(DT) are essential for reducing these losses and the distribution companies have already started this exercise.

Table 7.11 : AT&C losses – Table with Time Series Data

Year	AT & C Loss (Percentage)
2011-12	59.24
2012-13	54.63
2013-14	46.33
2014-15	43.82
2015-16	43.54
2016-17	40.60
2017-18	30.22

Note : AT&C loss is estimated using PFC formula (excluding Nepal)
Source : Department of Energy, GOB

7.6 Programmes for Electrification and Distribution Schemes

Three important programmes of the central government for expanding the coverage of electricity supply are — Integrated Power Development Scheme (IPDS) (Erstwhile Restructured Accelerated Power Development and Reforms Programme — R-APDRP), Deen Dayal Upadhyay Gram Jyoti Yojana (DDUGJY) (Erstwhile Rajiv Gandhi Grameen Vidyutikaran Yojana - RGGVY), and Special Plan (Backward Regions Grant Fund). The progress of these programmes is presented below:

Integrated Power Development Scheme (IPDS)

The earlier scheme of R-APDRP has been subsumed in the newly launched Integrated Power Development Scheme (IPDS). It has several components — IT enablement of distribution sector, strengthening of distribution network for completion of targets, strengthening of sub-transmission network in urban areas and metering of distribution transformers/feeders/consumers in the urban areas.

Under Part-A of the erstwhile R-APDRP scheme, the work in 67 towns (excluding 4 franchise towns) has been completed. Strengthening of distribution system under Part-B of the scheme in 60 towns and under the ADB-funded scheme in 7 towns has also been completed. The aim is to provide real-time monitoring and control, minimizing losses, balancing load, and improving voltage profiles.

The newly launched scheme of Integrated Power Development Scheme (IPDS) is being implemented in 133 towns of Bihar for strengthening of sub-transmission and distribution network, installation of solar panels on government buildings, metering of feeders/ distribution transformers/ consumers and IT implementation in distribution system in urban areas. The details of capital expenditure under R-APDRP and IPDS are presented in Table 7.12.

Table 7.12 : Capital Expenditure of R-APDRP & IPDS

Project Component under R-APDRP	Outlay (Rs. crore)	Expenditure incurred (Rs. crore)
R-APDRP — Part A	253.68	156.29
R-APDRP — Part B	1155.21	988.55
R-APDRP — SCADA	38.00	15.91
IPDS (IT & ERP)	67.68	0.00
IPDS (System Strengthening)	2144.36	674.84
Total	3658.93	1835.59

Source : Department of Energy, GOB

The central government has further sanctioned a scheme under IPDS for six towns in Bihar — Muzaffarpur, Bhagalpur, Kahalgaon, Gaya, Bodhgaya and Ara for system strengthening and other allied works. This scheme would cost Rs. 529.97 crore. Further, it has also sanctioned a scheme for GIS Power Sub-Stations in different towns, costing Rs. 179.80 crore. Presently, tendering process is on for the second scheme.

Village Electrification

The scheme of RGGVY, as approved by the central government for implementation during Twelfth and Thirteenth Plans, has now been subsumed in the new scheme of the central government, called Deen Dayal Upadhyay Gramin Vidyutikaran Yojana (DDUGVY). This scheme has the following objectives :

- (i) Separation of agriculture and non-agriculture feeders, facilitating judicious restoring of supply to agricultural and non-agricultural consumers in the rural areas.
- (ii) Strengthening and augmentation of sub-transmission and distribution infrastructure in rural areas, including metering of distribution transformers/feeders/consumers.
- (iii) Rural electrification for completion of the targets laid down under RGGVY by carrying forward the approved outlay of RGGVY to DDUGVY.

Bihar, with 88.7 percent of its population living in rural areas (2011 census), remains the most ruralised state in India, the national average being around 68.9 percent. Thus, improving

connectivity of rural areas to the grid power is of great importance. In view of this, the rural electrification work has been completed in all 38 districts of the state under DDUGJY. The progress of rural electrification under DDUGJY is given in Table 7.13.

Table 7.13 : Progress of Work under DDUGJY (Erstwhile RGGVY)

A				B					
Agencies/ Targets/ Achievements	Tenth Plan	Eleventh Plan	Total	Agencies/ Targets/ Achievements	Eleventh Plan Phase II	Twelfth Plan	Under DDG	DDG converted into UEV	Total
Electrification of Un-electrified Villages (UEV)				Electrification of Un-electrified Villages (UEV)					
Target				Target					
NBPDCL	5954	4108	10062	NBPDCL	384	1403	59	153	1999
SBPDCL	10627	697	11324	SBPDCL	757	327	154	68	1306
Total	16581	4805	21386	Total	1141	1730	213	221	3305
Achievement				Achievement					
NBPDCL	5954	4108	10062	NBPDCL	384	1403	59	153	1999
SBPDCL	10627	697	11324	SBPDCL	757	327	154	68	1306
Total	16581	4805	21386	Total	1141	1730	213	221	3305
Intensive Electrification of Partially Electrified Villages (PEV)				Intensive Electrification of Partially Electrified Villages (PEV)					
Target				Target					
NBPDCL	-	5969	5969	NBPDCL	3510	14819	0	0	18329
SBPDCL	-	106	106	SBPDCL	9534	7030	0	0	16564
Total	-	6075	6075	Total	13044	21849	0	0	34893
Achievement				Achievement					
NBPDCL	-	5969	5969	NPDCL	3510	14819	0	0	18329
SBPDCL	-	106	106	SBPDCL	9534	7030	0	0	16564
Total	-	6075	6075	Total	13044	21849	0	0	34893

(Figures for no. of villages)

Note : DDG = Decentralised Distributed Generation

Source : Department of Energy, GOB

Special Plan (Backward Regions Grant Fund)

The Backward Regions Grant Fund (BRGF) of the central government is designed to redress regional imbalances in development. This is a fully funded scheme of the central government. The fund provides financial resources for supplementing and converging existing developmental inflows into identified backward districts. It aims to bridge critical gaps in local infrastructure and other development requirements that are not being adequately met through existing inflows. The fund will facilitate participatory planning, decision making, implementation and monitoring,

reflecting the locally felt needs. It also helps to improve the performance of critical functions by the state government. The scheme is divided into four parts — Phase-I, Phase-II, Phase-II (Part-C) and Rural Electrification (RE). The cost of the above schemes is Rs. 6309.56 crore. Till December 2018, the expenditure incurred is — Rs. 2863.90 crore (under NBPDCCL) and Rs. 2091.02 crore (under SBPDCL), totalling to Rs. 4954.92 crore.

Har Ghar Bijli under SAUBHAGYA

‘Har Ghar Bijli’ is one of the seven resolves of the Saat Nischay (Seven Resolves) of the state government, with an aim to provide electricity connection to each willing household. As all rural BPL households are covered under DDUGJY and there was no scheme for providing service connection to rural APL households, a scheme has been sanctioned by the state government for releasing new service connection to APL Rural households under Mukhyamantri Vidyut Sambandh Nischay Yojana (MMVSNY). Meanwhile, in October 2017, the Union Ministry of Power had issued a memorandum conveying approval of SAUBHAGYA (Sahaj Bijli Har Ghar Yojana) to provide electric connection to each willing household across the country. Under this scheme, the central government has sanctioned Rs 3000 per household for connection, and Rs 1500 per household for last mile connectivity.

The scheme has the provision that the state governments which have already taken up household electrification programme on their own will also be eligible under the scheme from the date it comes into vogue, provided the scheme of the state government is aligned with SAUBHAGYA and follows all guidelines of the scheme. The state government has adopted SAUBHAGYA and the Mukhyamantri Vidyut Sambandh Nishchay Yojana (MMVSNY) has been subsumed under SAUBHAGYA. The scheme has been completed in October, 2018 by providing 32,59,041 electricity connection to all willing households in rural areas; in urban areas, connections are being given on demand.

Reconductoring Scheme

A new scheme of R&M (Renovation and Modernisation) for replacement of existing old and dilapidated conductors, poles, brackets, insulator etc. of 33 KV, 11 KV and LT Lines has been sanctioned by the state government to strengthen the electrical infrastructure. It has sanctioned Rs. 3070.23 crore to replace 1062 CKM of 33 KV Line, 25,272 CKM of 11 KV Line and 45,339 CKM of LT Line. The shares of two distribution companies in this amount are — Rs. 1652.15 crore (NBPDCCL) and Rs. 1418.08 crore (SBPDCL). Circle-wise Turn key Agencies have been selected through e-tendering in March, 2018, and work has already started to complete the scheme within a period of three years. The scheme gained momentum after completion of ‘Har

Ghar Bijli' scheme in the month of October, 2018. The progress report of the scheme is given in Table 7.14.

Table 7.14 : Status of Reconductoring Schemes

Sl. No.	Line (In CKM)	NBPDC		SBPDCL		Total	
		Scope	Achievement	Scope	Achievement	Scope	Achievement
1	33 KV Line	684	4.30	378	5.00	1062	9.30
2	11 KV Line	13357	499.30	11915	315.94	25272	815.24
3	LT Line	25500	1567.33	19839	772.26	45339	2339.59

Source : Department of Energy, GOB

7.7 Transmission

Power is supplied to various categories of consumers through a transmission network, which also involves the transformation of high voltage power to lower voltage. The transmission network serves as an important link between the generation and distribution of electricity. The challenges pertaining to the transmission process are, thus, mostly related to the growing needs of the other two segments — generation and distribution. To meet the growing demand of power, a robust and reliable transmission network is required, for both inter-state and intra-state transmission. The existing transmission system is, therefore, being strengthened with proper planning to cater to the demand for 24 hour availability of power by all categories of consumers.

Presently, about 15,707 circuit km EHV (Extra High Voltage) transmission line, 142 grid substations with total transformation capacity of 7710 MVA at 220/132 KV level and 12,680 MVA at 132/33 KV level comprise the transmission system in Bihar. The projection for 2018-19 is 16,000 circuit km transmission line, 150 grid sub-stations with 9790 MVA transformation capacity at 220/132 KV level and 14,220 MVA at 132/33 KV transmission capacity. The required capacity for 24 hour power supply for the period 2018-19 to 2020-21 has been projected, as presented in Table 7.15. The plan of action to meet the projected demand in 2018-19 to 2020-21 has been shown in Table 7.16. The peak demand met was 2831 MW in 2014-15, which increased to 5139 MW in September 2018, implying an increase of 81 percent in four years.

Table 7.15 : Projected Required Capacity for Power (2018-19 to 2020-21)

Demand / Capacity	2018-19	2019-20	2020-21
Peak Demand (MW)	4904	5308	6016
Transformation Capacity needed to meet Peak Demand (MW)	9195	9953	11280
Available Capacity MVA at 220/132 KV level	11090	14510	15200
132/33 KV level	14450	15290	15490

Source : Department of Energy, GOB

Table 7.16 : Plan of Action for Strengthening Transmission

Year	Nos. of New Grid Sub-Stations	New Transmission Lines (Circuit km)
2018-19	<ul style="list-style-type: none"> ▪ 400/220/132/33 kv-0 No. ▪ 400/220/132 kv-0 Nos. ▪ 220/132/33 kv -02 Nos ▪ 132/33 kv-06 Nos. 	<ul style="list-style-type: none"> ▪ 400 kv-0 ▪ 220 kv-110 ▪ 132 kv-315
2019-20	<ul style="list-style-type: none"> ▪ 400/220/132/33 kv-0 Nos. ▪ 400/220/132 kv-0 No. ▪ 220/132/33 kv-03 Nos. ▪ 132/33 kv - 02 Nos. 	<ul style="list-style-type: none"> ▪ 400 kv-0 ▪ 220 kv-500 ▪ 132 kv-190
2020-21	<ul style="list-style-type: none"> ▪ 400/220/132/33 kv-02 Nos. ▪ 400/220/132 kv – 01 Nos. ▪ 220/132/33 kv-07 Nos. ▪ 132/33 kv - 0 Nos. 	<ul style="list-style-type: none"> ▪ 400 kv-390 ▪ 220 kv-400 ▪ 132 kv-250

Source : Department of Energy, GOB

7.8 Generation

The total generation capacity of power as on March 2018 for the state was 3889 MW. Out of this, 81.9 percent is from coal-based thermal power, 12.3 percent from hydro power, and the balance 5.8 percent from renewable energy sources. In terms of ownership, central sector has the largest share of 79.1 percent, followed by the private sector/IPPs (17.8 percent) and state sector (3.1 percent). The details of existing generating capacity in Bihar are shown in Table 7.17.

Table 7.17 : Existing Generation Capacity (March 2018)

(Figures in MW)

Ownership/ Sector	Thermal				Nuclear	Hydro (Renewable)	RES(M NRE)	Grand Total
	Coal	Gas	Diesel	Total				
State	110	0	0	110	0	10	0	120
Private/ IPPs	480	0	0	480	0	0	214	694
Central	2596	0	0	2596	0	469	10	3075
Total	3186	0	0	3186	0	479	224	3889

Note : RES = Renewable Energy Sources; MNRE = Ministry of New and Renewable Energy;

IPP = Independent Power Producers

Source : Department of Energy, GOB

The present status of the three generating units that remained in Bihar after the bifurcation of the state in 2000 is as mentioned below :

(i) **Barauni Thermal Power Station (BTPS)**

BTPS has 7 different units, 5 of them have already run through their working life and are not in service anymore. Unit 7 has started generation after completion of Renovation and

Modernisation (R&M). Further R&M work of Unit 6 is in progress. The construction works of two new units (Units 8 and 9) of 250 MW each is also going on under the extension project of BTPS. The coal linkage and environmental clearance have been obtained for these two new units. Capacity addition of Unit 8 has been achieved in January, 2018 and of Unit 9 in March, 2018. Further, the state government has transferred the ownership of Barauni Thermal Power Station to National Thermal Power Corporation (NTPC) to reduce the cost of generated power from these units by utilizing expertise of NTPC.

(ii) **Kanti Bijlee Utpadan Nigam Limited (KBUNL)**

The KBUNL is a joint venture of NTPC and BSPGCL, having equity partnership ratio of 65:35. It has two units of 110 MW each. The power production has started in both the units after renovation and modernization. The construction work of two units (Units 3 and 4) of 195 MW each has also been completed and has started generating power. Further, as per the decision of the state government, 100 percent equity share has been handed over to NTPC.

(iii) **Kosi Hydel Power Station (KHPS)**

The Kosi Hydro Power Station (Kataiya), Birpur, consisting of 4 units of 4.8 MW each was commissioned during 1970-78. This project was handed over to the Bihar State Hydroelectric Power Corporation (BSHPC) in November, 2003. The renovation work of 3 out of 4 units has been completed and power generation has started.

(iv) **Eastern Gandak Canal HE Project**

The Eastern Gandak Canal HE Project in Valmikinagar, West Champaran was commissioned during 1996-97, consisting of 3 units of 5 MW.

(v) **Sone Western Link Canal HE Project**

Sone Western Link Canal HE Project in Dehri-on-Sone, Rohtas, consisting of 4 units of 1.65 MW, was commissioned during 1991-92.

(vi) **Sone Eastern Link Canal HE Project**

Sone Eastern Link Canal HE Project in Barun, Aurangabad, consisting of 2 units of 1.65 MW, was commissioned during 1996-97.

(vii) **Agnoor HE Project**

Agnoor HE Project, Arwal, consisting of 2 units of 0.5 MW, was commissioned during 2004-05.

(viii) **Dhelabagh HE Project**

Dhelabagh HE Project in Rohtas, consisting of 2 units of 0.5 MW, was commissioned during 2006-07.

(ix) **Triveni Link Canal HE Project**

Triveni Link Canal HE Project in West Champaran, consisting of 2 units of 1.5 MW, was commissioned during 2007-08.

(x) **Nasriganj HE Project**

Nasriganj HE Project in Rohtas, consisting of 2 units of 0.5 MW, was commissioned during 2007-08.

(xi) **Sebari HE Project**

Sebari HE Project in Rohtas, consisting of 2 units of 0.5 MW, was commissioned during 2008-09.

(xii) **Jainagra HE Project**

Jainagra HE Project in Rohtas consisting of 2 units of 0.5 MW, was commissioned during 2007-08.

(xiii) **Shirkhinda HE Project**

Shirkhinda HE Project in Rohtas, consisting of 2 units of 0.35 MW, was commissioned during 2009-10.

(xiv) **Belsar HE Project**

Belsar HE Project in Arwal, consisting of 2 units of 0.5 MW, was commissioned during 2011-12.

(xv) **Arwal HE Project**

Arwal HE Project in Arwal consisting of 1 unit of 0.5 MW, was commissioned during 2011-12.

At present, the work is in progress for some more generating units in Bihar. On completion of all these projects, the dependence of Bihar on the central sector for power will be lessened. The details of these new projects are presented below:

1. **Nabinagar Stage-1 Plant** : This project is located in Aurangabad district. The NPGC is a joint venture of NTPC and BSPGCL, having equity partnership ratio of 50:50. For this power project, the construction work of 3 units of 660 MW each is in progress. After sustained efforts of the state government, coal linkage has been allotted by the union Ministry of Coal. The expected date of completion of all the 3 units are December, 2018, March, 2019 and October, 2019 respectively. Further, as per the decision of the state government, 100 percent equity share has been handed over to NTPC.
2. **Power Project in Buxar** : An agreement was signed with Satluj Jal Vidyut Nigam Ltd. (SJVNL) for construction of greenfield power projects at Chausa (Buxar), having 2 units of 660 MW each. Topographical survey of the project area, erection of boundary pillars and barbed wire fencing work for the project is completed. By now, 1035.74 acres of land has already been transferred for this purpose. Amrapali coal block has been allocated to SJVNL. The Power Purchase Agreement (PPA) has been signed with distribution companies of Bihar and 85 percent power has been allocated to Bihar. Environment clearance has also been obtained. Consultancy service for main work has been awarded to a reputed private company and is expected to be completed by 2022.
3. **Ultra Mega Power Project (Banka)** : A proposal has been sent for the establishment of a ultra mega power project in Banka (approximately 4000 MW), for which 2500 acres of land has been identified. The Central Water Commission has given consent for 120 cusecs of water from the Ganga river. The Power Finance Corporation (PFC) has incorporated two Special Purpose Vehicles (SPV) for carrying out the pre-award project activities. The Union Ministry of Power has allotted Barhat and Dhulia Nala Coal Blocks having a reserve of 731 MT. Bihar has been allotted 2000 MW of power from this project.

Table 7.18 : Details of Existing and Planned Generation Units

Thermal Plan	2016-17	2017-18	2018-19 (Under progress)	2019-20	By 2022 (Upcoming Projects)	Beyond 2022
KANTI TPP (2x110 MW) (2x195 MW)	220 MW	195 MW Unit 3	195 MW Unit 4 completed	—	—	—
BARAUNI TPP (2x110 MW) (2x250 MW)	—	110 MW Unit 7: Nov. 16	500 MW Unit 8- Capacity addition achieved in Jan' 18 Unit 9- Capacity addition achieved in Mar' 18 (250 MW each) Unit 6- Dec' 18 (likely) (110 MW)	—	—	—
NABINAGAR TPP (3x660 MW) 1980 MW	—	—	Unit 1: Feb' 19 660 MW	1320 MW Unit 2: May' 19 Unit 3: Oct' 19 (660 MW each)	—	—
BUXAR TPP (2x660 MW) SJVNL	—	—	—	—	MoU signed on 20.11.15 1320 MW	—
BANKA UMPP (4000 MW)	—	—	—	—	—	4000 MW
Total Installed Capacity	220 MW	525 MW	1990 MW	3310 MW	4630 MW	8,630 MW

Note : Renewal of MOU with NTPC and NHPC for Kajra and Pirpainti Project is under process

Source : Department of Energy, GOB

7.9 New Schemes / Projects

Integrated Power Development Scheme (IPDS)

The project covers works relating to strengthening of sub-transmission and distribution network, provisioning of solar panels on government buildings, including net-metering, metering of feeders/ distribution transformers/ consumers in 133 statutory towns (excluding 6 towns in distribution franchise area) of Bihar. The project will ensure 24X7 power supply and reduction in AT&C losses. The total approved cost of the scheme is Rs. 2100.50 crore. The ongoing scheme of R-APDRP has been subsumed in it. The work has been awarded after tendering and is under progress.

The central government has further sanctioned two schemes under IPDS for six towns in Bihar — Muzaffarpur, Bhagalpur, Kahalgaon, Gaya, Bodhgaya and Ara. The first scheme is meant for system strengthening and other allied works at a cost of for Rs. 529.97 crore, and the second scheme is meant for GIS Power Sub Station in different towns at a cost of Rs. 179.80 crore. The central government will provide 60 percent of the project cost as grant and the remaining 40 percent is to be arranged by the state government and the distribution companies.

Deendayal Upadhyay Gram Jyoti Yojana (DDUGJY)

The central government launched Deendayal Upadhyay Gram Jyoti Yojana (DDUGJY), whose objectives have already been mentioned before. The work is under progress and the target month for completion is December 2019. The total sanctioned cost of the project is Rs. 5827.23 crore. The central government will provide 60 percent of the project cost as grant and the remaining 40 percent is to be arranged by the state government.

Ujjwal Discom Assurance Yojana (UDAY)

For operational and financial turnaround of power distribution companies (DISCOM), the Union Ministry of Power had brought the UDAY scheme. The scheme includes various activities for improvement in operational and financial efficiencies which ultimately aims at — (a) Reduction in AT&C Loss to 15 percent, and (b) Reduction in gap between Average Cost of Supply (ACS) and Average Revenue Realized (ARR) to zero, both by 2019-20. A tripartite agreement among Government of Bihar, Union Ministry of Power, and DISCOMs (NBPDC and SBPDCL) was signed on February 22, 2016.

The scheme also provides for taking over 75 percent of the debt of DISCOMs by the state government over 2 years (50 percent in 2015-16 and 25 percent in 2016-17). Out of the total debt of Rs. 3109.05 crore on both the DISCOMs of Bihar, Rs. 2332.01 crore has been taken over by the state government under UDAY Scheme.

Presently, all the parameters aiming to reduce AT&C Loss and ACS-ARR gap have been made online through UDAY website portal (www.uday.gov.in), where every participating DISCOM has to upload the progress on monthly/quarterly basis. The marks are assigned to each activity and marks obtained on the basis of achievement monthly/quarterly decide the ranking of DISCOMs among the participating states. Both DISCOMs of Bihar together have reduced AT&C loss from 43.5 percent (2015-16) to 30.22 percent (2017-18) and also reduced ACS-ARR gap from 89 paise per unit (2015-16) to 58 paise per unit (2017-18).

7.10 Recent Developments in Power Sector

Spot Billing : Spot Billing has been implemented for all electricity consumers of the state through android mobile and bluetooth printer.

Tariff Rationalization : Bihar became the pioneer state in the country to implement ‘Tariff Rationalization’. The tariff order for 2017-18 has been issued on ‘Zero Subsidy’ basis to reflect the true cost of supply, upfront subsidy to be provided to consumers and, assistance, if any given to discoms as a measure to enhance transparency and accountability.

V-Wallet : Revenue collection work has also been outsourced to billing and collection agencies including RRF through V- wallet in all rural areas in the state. However, in urban areas, the collection is being received at companies’ own POS counters.

Power Theft Redressal through WhatsApp : A separate and dedicated mobile number (70333-55555) has been introduced for power theft information by consumers throughout the state.

Project Monitoring App : For intensive and real time monitoring of different projects going on in the power distribution companies in the state, a Mobile App ‘DC-Nine’ has been developed. Through this app, the latest status of the project and information regarding its inspection can be uploaded on the mobile from the spot itself by the field project officers. Officers at headquarters get this information through MIS, resulting in continuous monitoring of the project.

Toll Free Number 1912 : To resolve the complaints of consumers, one Toll Free number (1912) has been started in the state on 24×7 basis. Upon lodging a complaint on this number, the consumers will get a call and SMS regarding their complaint. Arrangement has been made for time to time interaction of the top management with consumers.

Remote Meter Reading : Remote meter reading of High Tension (HT) and Low Tension (LT) industrial consumers is being done from the headquarters.

Prepaid Metering : For better metering in Patna, prepaid metering has been started in the Vidyut Board Colony which will be extended to other consumers in a phase-wise manner.

New Techniques in Transmission System : In the new projects of transmission system, most advanced techniques in electricity like Sub-station Automation System (SAS), Optical Ground Wire (OPGW), High Temperature Low Sag (HTLS) conductor and Gas Insulated System (GIS) have been introduced.

GIS Mapping : GIS mapping of Power Lines, Power Sub-stations and Grid Sub-stations at 33 KV, 132 KV, 220 KV and 400 KV level has been completed.

7.11 Bihar Renewable Energy Development Agency (BREDA)

Most of Bihar's installed generation capacity is concentrated in thermal power plants. This not only leads to a concern about the clean generation of electricity, it also puts a fiscal burden on the state, given that the prices of coal may be very volatile. Thus, aside from promoting hydel power projects, the state government has also created an agency called Bihar Renewable Energy Development Agency (BREDA), which is responsible for the development of projects that would use non-conventional energy sources for production of electricity. The state government provides funds to BREDA for expenditure on subsidies for the schemes and also for the expenditure on establishments.

Table 7.19 : Achievements of BREDA (2016-17 to October 2018)

2016-17		
A. Solar Photovoltaic Scheme	Physical Achievement	Financial Outlay (Rs. crore)
Solar Water Pumping Systems installation under <i>Mukhyamantri Naveen & Naveekarniya</i> irrigation scheme	34 nos.	1.00
Installation of 1kWp solar rooftop off-grid power plant systems under <i>Mukhyamantri Naveen & Naveekarniya</i> scheme	186 nos.	2.78
Solar electrification at District Collectorate, Hospital, Guest House of 25 kWp	35 nos. (875kWp)	15.45
Installation of 2 nos. of 25kWp off-grid roof top solar power plant under e-court mode mission project at Hon'ble Civil and Session Court buildings of Sheikhpura and Jehanabad districts	2 nos. (50kWp)	0.88
B. BEE (Bureau of Energy Efficiency) Schemes		
Draft of ECBC as per geographical condition of State		0.0475
Awareness campaign on Energy Conservation	3 nos.	0.04
Establishment of Energy Club in School	5 nos.	0.0165

2017-18		
A. Solar Photovoltaic Scheme	Physical Achievement	Financial Outlay (Rs. crore)
Solar Water Pumping Systems installation under <i>Mukhyamantri Naveen & Naveekarniya</i> irrigation scheme	280 nos.	8.63
Installation of 1kWp solar rooftop off-grid power plant systems under <i>Mukhyamantri Naveen & Naveekarniya</i> scheme	2135 nos.	32.00
Installation of 2 nos. of 40kWp solar off-grid power plant at Hon'ble Civil and Session Court buildings at Bhagalpur and Muzaffarpur districts under e-court mode mission	80 kWp	0.88
Installation of 23 kWp solar power plant at Hon'ble CM House, NEK SAMVAD BHAWAN	23 kWp	0.276
Solar Street Lighting System in Katihar district under District Minority Welfare Department	1425 Nos. (57.01 kWp)	2.19
Installation of 3.6 kWp off grid solar power plant at 27 locations LWE affected Police Stations	97.2 kWp	1.21
Installation of Solar Street Lighting System	157 nos.	0.274
B. BEE (Bureau of Energy Efficiency) Schemes		
Establishment of Energy Club in School	8 nos.	0.0264
Distribution of LED bulbs in selected 8 villages of Samastipur and Saran districts	8 nos.	0.059
Model Energy Efficient Village Project	1 no.	0.025

2018-19 (Upto October 2018)		
A. Solar Photovoltaic Scheme	Physical Achievement	Financial Outlay (Rs. crore)
Installation of 1kWp solar rooftop off-grid power plant systems under <i>Mukhyamantri Naveen & Naveekarniya</i> scheme	490 nos.	7.34
Installation of 2 nos. of 40kWp solar off-grid power plant at Hon'ble Civil and Session Court buildings at Gaya and Nalanda districts under e-court mode mission	80 kWp	0.88
Installation of 5 kWp off grid solar power plant at 62 locations of BSEIDC	310 kWp	3.875
Installation of 3.6 kWp off grid solar power plant at 44 locations LWE affected Police Stations	158.4 kWp	1.98
Installation of 40 kWp off grid roof top solar power plant and 04 nos. of Solar Street Light at Mangal Talab, Patna under CSR initiative	40 kWp	0.446
Installation of 500 Wp off grid roof top solar power plant with 04 nos. of 9 W Street Lights at 25 nos. Police Stations in Gaya	12.5 kWp	0.31
Solar Water Pumping Systems installation under <i>Mukhyamantri Naveen & Naveekarniya</i> Irrigation Scheme	32 nos.	0.658
B. BEE (Bureau of Energy Efficiency) Schemes		
Energy Efficiency in Government Schools : Provision of free appliance to the schools	18 nos.	0.013
Awareness campaign on Energy Conservation	4 nos.	0.07
Energy Efficiency Workshop for SME	1 no.	0.025

Source : BREDA

7.12 Bihar State Hydroelectric Power Corporation Limited

Aside from thermal power, Bihar also has the potential for generating power from water resources and, presently, this is being exploited through a number of hydroelectric power projects. The Bihar State Hydroelectric Power Corporation Limited (BSHPC) was established to oversee expansion of hydroelectric power projects in the state. During the Tenth Plan, BSHPC started exploring possibilities for major hydel projects, besides its earlier mandate for minor hydel projects. There are 13 minor hydel projects that are currently operational in the state, with a total installed capacity of 54.3 MW. Presently, the construction work is in progress for 11 more schemes, the details of which are presented in Table 7.20.

Presently, BSHPC is also engaged in exploring the possibilities of Dagmara and Indrapuri projects in the state. Regarding these hydel projects, preparation of DPR of Indrapuri HEP (300 MW) is in progress. For Dagmara (130 MW) an expression of interest is in progress for surveying and preparation of PFR/DPR.

Table 7.20 : Minor Hydel Projects under Construction

Sl. No.	Project	District	Capacity (MW)
Work progress more than 75 Percent			
1	Amethi (1x500 KW)	Rohtas	0.5
2	Tejpura (2x750 KW)	Aurangabad	1.5
3	Paharma (2x500 KW)	Rohtas	1.0
4	Rajpur (2x350 KW)	Supaul	0.70
Work progress between 50 to 75 Percent			
5	Mathauli (2x400 KW)	West Champaran	0.80
6	Rampur (1x250 KW)	Rohtas	0.25
7	Natwar (1x250 KW)	Rohtas	0.25
8	Sipha (2x500 KW)	Aurangabad	1.0
9	Dehra (2x500 KW)	Aurangabad	1.0
10	Walidad (1x700 KW)	Arwal	0.70
Work progress less than 50 Percent			
11	Barwal (2x800 KW)	West Champaran	1.6
Total			9.3 MW
Capacity addition			54.30 MW + 9.30 MW
Grand Total			63.60 MW

Source : Bihar State Hydroelectric Power Corporation Limited

CHAPTER – VIII

RURAL DEVELOPMENT

Rural development is one of the key components of an overall inclusive development, and it is more so in the context of Bihar where nearly nine-tenths of the people live in rural areas. For Bihar, rural development is also vital because agricultural sector accounts for the second highest contribution to the state's Gross State Domestic Product (GSDP), after the services sector. Initially, rural development was mainly focused on agriculture and allied sectors, since agriculture forms the main base of the rural economy, both in Bihar and elsewhere in India. However, rural development is a multi-dimensional construct now and is not restricted to any single area or activity. This is because rural development deeply affects the quality of life and overall well-being of the rural people, including economic, social and cultural dimensions. Thus, the aim of rural development now is to enable rural people set their own priorities through effective and democratic bodies to improve rural economy, infrastructure, social justice and human capacity. In recent years, the State Government has taken a number of initiatives towards the above-mentioned wide agenda. These initiatives are particularly necessary for Bihar where, as mentioned before, a very large proportion of people lives in the rural areas. For the overall development of the state, Bihar needs to reduce not only hunger, but all forms of poverty.

This chapter focuses on different rural development programmes in Bihar that directly influence the life of the rural people. These programmes first include — Bihar Rural Livelihood Project (BRLP) (JEEVIKA), and Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), both of which try to address the crucial agenda of employment for the rural people. Towards meeting the housing and sanitation needs of the rural people, the state government is presently implementing the Pradhan Mantri Awas Yojana Gramin (PMAY-G), as well as Swachh Bharat Mission (Rural). The state government is supplementing Swachh Bharat Mission (Rural) with Lohia Swachh Bharat Mission with its own funds. Next, the chapter discusses the Public Distribution System (PDS) in Bihar which addresses the food security dimension of the rural people. As is well known, Panchayati Raj Institutions (PRI) play a vital role both in the implementation of rural development programmes, as well as in mobilisation of the rural people for a number of collective efforts towards social, economic and political development. As such, the details about the functioning of PRIs have also been analysed in this Chapter. Three other important aspects of rural development — Distribution of Homestead Land,

Disaster Management, and Environment and Climate Change — form the remaining parts of this chapter.

8.1 Poverty

Poverty in simple form is scarcity of material possessions or means to meet the basic needs of a person, such as food, clothing and shelter. In India, poverty is usually measured as per the methodology developed by the erstwhile Planning Commission. The latest estimates of poverty refer to 2011-12 and Table 8.1 presents these estimates for both Bihar and India, along with the poverty estimates for an earlier year, 2004-05. One can easily note from this Table that, in 2011-12, the poverty ratio in Bihar was 33.7 percent, decreasing from 54.4 percent in 2004-05. This implies a substantial drop of 20.7 percentage points over a period of only seven years. In the rural areas, this drop was even more noticeable (21.6 percentage points), from 55.7 percent in 2004-05 to 31.4 percent in 2011-12.

Table 8.1 : Poverty Ratios in Bihar and India

	Bihar			India		
	Rural	Urban	Total	Rural	Urban	Total
Poverty Ratio						
2004-05	55.7	43.7	54.4	41.8	25.7	37.2
2011-12	34.1	31.2	33.7	25.7	13.7	21.9
Reduction in Poverty Ratio	21.6	12.5	20.7	16.1	12.0	15.3

Source : Planning Commission, Government of India

For India as a whole, although the poverty ratio was lower, the pace of reduction in poverty was slower at 15.3 percentage points between the two years. Table A 8.1 (Statistical Appendix) presents the rural, urban and overall poverty ratios in different Indian states in the two years 2004-05 and 2011-12. These estimates of poverty ratios are obviously dated, but as mentioned before, it is quite likely that the fast economic growth in Bihar during the recent past would have caused the poverty ratios to decrease even further.

The official estimates of poverty ratio in India is based a poverty line which is estimated taking into account some minimum level of food consumption, plus consumption of some non-food items. However, poverty does not imply only economic deprivation, it is indeed a multi-dimensional construct which includes health, education and living standards as well. People living with multi-dimensional poverty may not be poor in terms of income, but may face severe deprivation in terms of health, education or living standards. To measure multidimensional

poverty, the Oxford Poverty and Human Development Initiative (OPHI) and the United Nations Development Programme (UNDP) have jointly constructed a Multidimensional Poverty Index (MPI) in 2010. The MPI is based on ten indicators, each with different weights — health (nutrition and child mortality), education (years of schooling and school attendance) and living standards (cooking fuel, sanitation, source of drinking water, electricity, housing and assets). MPI ranges from zero to one, zero indicating no deprivation and one indicating most severe level of deprivation. Under this methodology, MPI is estimated by multiplying the incidence of poverty or the headcount ratio (H) and the average intensity of poverty (A). Thus, MPI reflects both the proportion of people suffering from poverty as well as the degree to which they are deprived.

Based on the above methodology, OPHI and UNDP have estimated MPI for 105 developing countries, including India. With a MPI of 0.121, India stands at 59th position among those 105 countries (Table 8.2). For Bihar, the MPI stands at 0.246. One can also notice that, based on this methodology, proportion of poor population in India is 27.5 percent and that of severely poor population is 8.6 percent. The corresponding figures for Bihar are 52.2 percent and 22.1 percent respectively. It should be noted here that these poverty ratios are substantially higher than those prepared by the erstwhile Planning Commission.

Table 8.2 : Multidimensional Poverty Index (MPI) for Bihar and India

	Bihar	India
MPI	0.246	0.121
Percentage of Poor Population	52.2	27.5
Percentage of Severely Poor Population	22.1	8.6

Source : Oxford Poverty and Human Development Initiative and United Nations Development Programme

To obtain a deeper idea about MPI in Bihar, OPHI and UNDP have also estimated these indices for different districts in Bihar. In Statistical Appendix (Table A 8.2) these indices have been presented. It emerges from this table that the three districts with the highest MPI are — Araria (0.346), Madhepura (0.337) and Kishanganj (0.325). All these districts, it should be noted, are in north Bihar. At the other end, three districts with least MPI are — Patna (0.125), Siwan (0.172) and Bhojpur (0.171). Apart from Siwan, the other two districts are in south Bihar.

As mentioned before, MPI is estimated using 10 indicators under three groups — health, education and living conditions. The deprivation of the population with respect to each of these indicators is not same. From this perspective, it is necessary to analyse the degree of deprivation

for each indicator separately and these figures have been presented in Statistical Appendix (Table A 8.3). From this table, one can easily conclude that the three indicators, with respect to which the deprivation is relatively more in Bihar are — cooking fuel, sanitation and housing. Leaving out Patna where situation is relatively better in terms of all indicators, for cooking fuel, the deprivation ranges from 68.6 percent (Araria) to 38.1 percent (both Bhojpur and Munger). Similarly, for sanitation, the deprivation ranges from 66.7 percent (Araria) to 37.4 percent (Siwan). Finally, for housing, the deprivation ranges from 66.5 percent (Madhepura) to 34.7 percent (Rohtas). These indicator-wise deprivation measurements for different districts are very useful for the State Government to design district-specific intervention strategies for social and economic development.

8.2 Rural Development Programmes

At present, a number of rural development programmes are being implemented in Bihar, as elsewhere in India. Some of these programmes are sponsored by the Central Government and others by the State Government; however, the central government programmes are also being implemented by the State Government. As mentioned before, the rural development programmes in Bihar collectively cover — employment, housing, sanitation and food security.

Bihar Rural Livelihood Project (JEEVIKA)

To improve the economic and social conditions of the rural people, the State Government has been running Bihar Rural Livelihood Project since 2007. This programme is aided by the World Bank and is popularly known as Jeevika. In 2007, Jeevika had begun in 6 blocks in 6 different districts of Bihar; later the programme gradually expanded and now covers all the 534 blocks of 38 districts. The programme aims at reducing in poverty through skill development and gainful self-employment. The core strategy of this programme is to create sustainable sources of income and financial inclusion, through self-managed community level organisations, particularly women Self-Help Groups (SHG).

During more than a decade of its operation, Jeevika has achieved enormous success. The achievements of Jeevika towards promotion of SHGs is presented in Table 8.3. Till September 2018, no less than 8.17 lakh SHGs have been formed in Bihar; in 2014-15, this number was only 3.65 lakh. Simultaneously, the number of Village Organisations (VO) and Community Level Federations (CLF) has also increased. Compared to 14.4 thousand VOs in 2014-15, there now exists 51.3 thousand VOs. Similarly, the number of CLFs has increased from 231 (2014-15) to 843 (2018-19). For effective operation of SHGs, it is extremely necessary for them to have bank credit linkage. In 2014-15, the percentage of SHGs with bank linkage was 33.2 percent; presently, this ratio has reached the level of 80.2 percent.

Table 8.3 : Progress of JEEVIKA

Items	2014-15	2015-16	2016-17	2017-18	2018-19 up to Sept. 18
No. of SHGs formed	365150	470220	610808	790411	817169
No. of VOs formed	14363	31229	35681	46756	51299
No. of CLFs formed	231	318	415	706	843
No. of SHGs credit linked with banks	121181	221261	391314	587616	655302
Bank credit (Rs. crore)	659	1300	2993	5358	6205

Source : Jeevika, Government of Bihar

As regards Jeevika's achievement in different economic and social fields, they are indeed very commendable (Table 8.4). For example, more than 4.64 lakh households under SHGs have adopted new and innovative productivity enhancing practices in the cultivation of paddy. Similar innovations were also undertaken in the cultivation of wheat and vegetables. All these practices have obvious implications for food security and nutrition. Towards enhancing nutrition, many households have also started maintaining kitchen gardens. Besides cultivation, SHG members have also expanded their economic activities in off-farms areas like poultry, dairy and goat-keeping. Of these, activities for poultry are the widest and no less than 1.81 lakh SHG members are engaged in this activity. Towards creating jobs, Jeevika has organised the training of 1.95 lakh rural youth through Project Implementation Agencies (PIA) and Rural Self-Employment Training Institutes (RSETI). Towards promoting social development, Jeevika has again undertaken a number of programmes, and achievements under two of them is also presented in Table 8.4. First, towards reducing vulnerability, 22.4 thousand are now managing Food Security Fund and 30.3 thousand of them are also managing their Health Security Fund. Secondly, Jeevika has also contributed substantially towards reduction of Open Defecation (OD) in the state.

Along with sanitation, Jeevika has also been designated as the nodal agency for the implementation of Pradhan Mantri Suraksha Bima Yojana (PMSBM) and Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) to provide life insurance coverage to all SHG members in Bihar. Presently, some new initiatives of Jeevika include — (a) opening of Customer Service Point (CSP) for doorstep banking services, (b) distribution of solar lamps to school-going children, (c) launching of Rural Retail Mart Model, aiming at reduction of marketing cost for small retailers, and (d) initiation of Milk Producers' Cooperative in Kosi region, in partnership with National Dairy Development Board (NDDB).

Table 8.4 : Extent of Livelihood-Related Activities by SHGs (2017-18)

Activities	Number
Farms	
Number of farmers who undertook paddy cultivation (Productivity Enhancement intervention)	464126
Number of farmers who undertook wheat cultivation	343531
Number of farmers engaged in vegetable cultivation	355504
Number of farmers engaged in kitchen gardening	292211
Off-farms	
Number of SHG members involved in poultry intervention	181566
Number of SHG members involved in dairy intervention	52624
Number of household's part of goat intervention	32888
Number of SHG members involved in non-farm intervention	203575
Creating jobs	
Number of Rural Youths trained (PIAs & RSETIs)	195322
Number of Rural Youths placed (PIAs & RSETIs and Job Fair, etc.)	236946
Reducing Vulnerability	
Number of Village Organizations received Food Security Fund	22427
Number of Village Organizations received Health Security Fund	30347

Source : Jeevika, Government of Bihar

In appreciation of the achievements of Jeevika, the Central Government has identified it as a National Resource Organisation for rural livelihood programme across the country. Presently, resource persons from Jeevika are supporting the rural livelihood programme in Assam and Uttar Pradesh.

Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

The productive absorption of under-employed and unemployed labour force in the rural areas is the main focus of MNREGS. The programme assures a minimum of 100 days of employment in every year to the adults of every rural household when they volunteer for manual or unskilled labour. This central government scheme was initiated in 2005, covering only 200 districts across the country; but it now covers all the districts except the fully urbanised ones. This programme is very important in the context of Bihar, because only 11 percent of the people in the state live in

urban areas. Through provision of employment opportunities, MGNREGS is also expected to decrease the out-migration of labour in Bihar, both rural to urban and inter-state.

In Table 8.5, all the relevant information related to MGNREGS is presented for the years 2013-14 to 2017-18. Till 2017-18, a total of 147.5 lakh job cards were issued in Bihar, compared to 142.4 lakh a year ago. In other words, during 2017-18, an additional 5.10 lakh job cards were issued, expanding the coverage of the programme. As regards the proportion of workers provided with employment, it has fluctuated over the years; in 2017-18, this ratio stood at 15.3 percent of total Job Card issued. The total employment generated per year has been around 800 lakh person-days for all the years, the exact figure being 817.3 lakh person-days in 2017-18. A particular positive aspect of this employment programme is that the share of women labourers in total employment has been rising over the years; compared to a share of 35.0 percent in 2013-14, it has increased to 46.6 percent in 2017-18. The average employment per household has again been fluctuating in the range of 35-40 person-days and, in 2017-18, it stood at 36.4 person-days. Finally, it might be noted that, the extent of fund utilisation under this programme has been generally above 80 percent (exception being 2013-14 & 2014-15, when it was 75.8 percent & 65.7 percent respectively) and, in 2017-18, it was at a very high level of 92.1 percent.

Table 8.5 : Performance of MGNREGS in Bihar

Year	2013-14	2014-15	2015-16	2016-17	2017-18
No. of Job Cards Issued (lakh)	130.1	127.2	133.6	142.4	147.5
No. of households provided with employment (lakh)	20.6 (15.8)	10.4 (8.1)	14.9 (11.2)	22.3 (16.1)	22.5 (15.3)
No. of households obtaining 100 days of employment (lakh)	1.2 (6.0)	0.3 (3.0)	0.6 (4.0)	0.2 (0.6)	0.2 (0.7)
Employment generated (lakh person-days)	862.4	352.0	670.9	858.4	817.3
Percentage share of women in total employment generated	35.0	37.3	40.8	43.8	46.6
Average employment per household (person-days)	41.9	34.0	45.1	37.4	36.4
Number of Completed Works	107710	115983	110537	76895	104442
Fund utilized (percentage) As per MIS	75.8	65.7	81.6	89.9	92.1
No. of accounts opened (in lakh)	22.4	29.4	34.0	39.2	49.6

Note : Figures in parentheses denote percentages with respect to the previous row

Source : Department of Rural Development, GOB

In Statistical Appendix (Tables A 8.4 - A 8.5) are presented the details of the operation of MGNREGS in the different districts of Bihar. It is quite apparent from these tables that the

implementation of the programme has not been uniform across the districts. Taking into the criterion of extent of utilisation of funds, one may note that in each of these following districts, the fund utilisation has been above 95 percent — Nalanda, Jehanabad, Arwal, Nawada, Munger, Sheikhpura, Lakhisarai, Bhagalpur, Saharsa, Madhepura and Katihar. At the other end, the fund utilisation has been less than 85 percent in the following districts — Patna, Rohtas, Gaya, Muzaffarpur, Supaul and Araria.

The total number of completed works under MGNREGS during the years 2013-14 to 2017-18 is presented in Table 8.6. It is quite apparent from the table that proportion of different types of work varies considerably over the years. This is quite understandable, since the local needs for different needs vary, both over time and place. However, two categories of work that are generally more important are — drought proofing and rural connectivity. Drought proofing accounted for more than 25 percent of the work in all the years, except 2016-17 and 2017-18. Similarly, rural connectivity also accounted for more than 25 percent of the work in all the years, except 2014-15 and 2015-16.

Table 8.6 : Completed Works under MGNREGS

Sl. No.	Categories	2013-14	2014-15	2015-16	2016-17	2017-18
1	Water Conservation and Water Harvesting	7112 (6.6)	2464 (2.1)	3234 (2.9)	3979 (5.2)	6409 (6.1)
2	Drought Proofing	30158 (28.0)	32201 (27.8)	42685 (38.6)	16352 (21.3)	7031 (6.7)
3	Micro Irrigation Works	5795 (5.4)	2274 (2.0)	3852 (3.5)	5501 (7.2)	9248 (8.9)
4	Works on Individuals Land (Category IV)	3330 (3.1)	4227 (3.6)	6612 (6.0)	6449 (8.4)	20613 (19.7)
5	Renovation of traditional water bodies	2478 (2.3)	825 (0.7)	1058 (1.0)	1324 (1.7)	1735 (1.7)
6	Land Development	7887 (7.3)	4312 (3.7)	6928 (6.3)	8798 (11.4)	15836 (15.2)
7	Flood Control and Protection	1347 (1.3)	395 (0.3)	640 (0.6)	651 (0.8)	1313 (1.3)
8	Rural Connectivity	29459 (27.4)	13847 (11.9)	20081 (18.2)	22494 (29.3)	31672 (30.3)
9	Any Other Activity	20144 (18.7)	55438 (47.8)	25447 (23.0)	11347 (14.8)	10585 (10.1)
	Total Works Completed	107710 (100)	115983 (100)	110537 (100)	76895 (100)	104442 (100)

Note : Figures in the parentheses denote percent share to total works completed
Source : Department of Rural Development, GOB

Pradhan Mantri Aawas Yojana-Gramin (PMAY-G) / Indira Aawas Yojana (IAY)

The Rural Housing Scheme called the Indira Aawas Yojana (IAY) was being implemented till financial Year 2015-16. From Financial Year 2016-17, the Pradhan Mantri Aawas Yojana-Gramin (PMAY-G) was introduced to provide affordable housing to the identified houseless poor in the rural areas. The eligible houseless beneficiaries under this Scheme were identified on the basis of the Socio-Economic Caste Census 2011 (SECC-2011), and the Permanent Wait List (PWL) was finalized after field verification and approval by the Gram Sabha. Under this Scheme, every eligible beneficiary is being provided financial support of Rs. 1.20 lakh while in the IAP (Integrated Action Plan) districts Rs. 1.30 lakh per beneficiary is being given as financial assistant for construction of house. The aforementioned amount is being transferred in the Bank Accounts of the beneficiaries through FTO (Fund Transfer Order) from the State Nodal Account (SNA) through PFMS, in three installments.

From Financial Year 2012-13 to 2015-16 the number of houses completed in each Financial Year surpassed the target allotted for that year, as incomplete houses sanctioned in previous years were also completed.

The new Scheme PMAY-G was launched from Financial Year 2016-17 onwards and it started in November 2016. Total 6.89 lakh houses were completed in 2016-17, which had been sanctioned under the IAY in the previous years. This figure of completion was in excess of the annual PMAY-G target of 6.37 lakh houses for 2016-17.

In financial year 2017-18, as against the annual PMAY-G target of 5.38 lakh houses, 3.13 lakh houses were completed, of which 2.85 lakh houses completed were those sanctioned under the IAY in the previous financial year.

In financial Year 2018-19, while the annual target is still to be communicated, 4.05 lakh houses have already been completed, of which 3.05 lakh were sanctioned under the PMAY-G while 1.00 lakh were sanctioned under the IAY.

The physical & Financial Progress report are as follows:-

Table 8.7 : Performance of IAY/PMAY-G Scheme

Year	Annual Physical Target (Lakh)	House Completed (Lakh)	
		Total	SC & ST
2012-13	8.36	8.40 (100.4)	3.72 (44.3)
2013-14	6.06	6.95 (114.8)	3.12 (51.6)
2014-15	2.75	4.99 (181.5)	2.48 (90.2)

Note : Based on Monthly Progress Report
Source : Department of Rural Development, GOB

Table 8.8 : Performance of IAY/PMAY-G Scheme

Year	Annual Physical Target (Lakh)	House Completed (Lakh)			Fund Utilization						% of Fund Utilization
		PMAY-G	IAY	Total	Total (Rs. in Lakh)			SC & ST (Rs. in Lakh)			
					PMAY-G	IAY	Total	PMAY-G	IAY	Total	
2015-16	2.33	-	2.77	2.77	-	127593.9	127593.9	-	48713.16	48713.16	44.12
2016-17	6.37	-	6.89	6.89	291.25	61960.79	62252.04	158.25	25316.13	25474.38	12.99
2017-18	5.38	0.28	2.85	3.13	324373.65	65207.80	389581.45	131052.20	29467.46	160519.66	75.94
2018-19 (Till 28 Jan, 19)	-	3.05	1.00	4.05	465331.15	23484.85	488816.00	99058.65	10730.14	109788.79	72.76

Note : Report based on Aawas Soft
Source : Department of Rural Development, GOB

Swachh Bharat Mission (Gramin)

Towards sanitation facilities in rural areas, the centrally sponsored programme of Swachh Bharat Mission (Gramin) is supported by state led Lohiya Swachhata Yojana (LSY) in the State. Both these programmes are implemented in Bihar under banner of Lohiya Swachh Bihar Abhiyan (LSBA) since Oct. 2014, and target was set to declare Bihar- a ODF state by 2, October 2019.

Rural Development Department was entrusted with the responsibility of Implementing Swachh Bharat Mission – (Gramin) in June 2016 and prior to that it was being implemented by PHED, Government of Bihar.

Rural Development Department, Govt. of Bihar decided to implement Swachh Bharat Mission – (Gramin) through Bihar Rural Livelihoods Promotion Society (JEEViKA) by creating a Separate vertical (Lohiya Swachh Bihar Abhiyan) within JEEViKA as Health Nutrition & Sanitation is also one of the core components of JEEViKA.

Bihar Rural Livelihoods Promotion Society under guidance of Rural Development Department has worked on following to achieve the target of ODF- Bihar on time with quality.

- (i) Focus on BCC and Community engagement, through engagement of swachhagrahis, SHG's didi's PRI members etc.
- (ii) Issuing various guidelines/instructions to smoothen and making the process more transparent with specific responsibilities.
- (iii) Capacity building and training of all stake holders from GP level to State level.
- (iv) Digital Technological innovation & usages for transparent incentive transfer (DBT) to beneficiary.
- (v) Large work force of JEEViKA SHGs were used in BCC and HH level motivation.
- (vi) Establishment of Rural Sanitary Mart through JEEViKA's VO/CLF to minimise the demand supply gap.

Against the target of providing access of toilet to 1.15 crore HH, as on 23rd Jan 2019 State has achieved the 100% physical targets, during which 3954 Gram panchayats, 21,237 villages, 151 Blocks and 5 districts (Sitamarhi, Sheikhpura, Rohtas, Munger & Begusarai) also declared as ODF.

With the concerted effort of concerned department and districts, State is expected to achieve its sanitation target before stipulated time.

Public Distribution System (PDS)

The Public Distribution System (PDS) aims at providing rationed amount of basic food and non-food items at subsidised prices to consumers. It is the most important programme of the state government that can ensure the successful implementation of the National Food Security Act (NFSA), 2013. Apart from providing food security to the population, the PDS also helps farmers in obtaining fair prices for two of their most important crops (rice and wheat), since the foodgrains supplied by the PDS are obtained from the Food Corporation of India (FCI) which buys the foodgrains from farmers at Minimum Support Prices (MSP). Four essential commodities (rice, wheat, sugar and kerosene oil) are distributed through the PDS. The system is run by a network of Fair Price Shops (FPS) spread across the states.

Presently, the FPS network in Bihar comprises 42,520 outlets and the dealers for those outlets come from various social backgrounds. Table 8.9 presents the percentage distribution of dealers by their social background. Four important categories in terms of share in total dealership are — backward castes (27.8 percent), general castes (19.9 percent), scheduled castes (16.7 percent)

and cooperative societies of ex-army personnel (10.3 percent). These four categories together account for nearly three-fourth of the PDS dealers. Although the share of other social groups are rather limited, it should be noted that extremely backward castes, minorities and women also have some share in PDS dealership. From the pattern of this distribution in four years (2015 to 2018), it is also observed that this pattern of ownership of PDS has remained practically unchanged over the years. The percentage distribution of dealers by their social background in different districts is presented in Statistical Appendix (Table A 8.6). This distribution undoubtedly varies across the districts, but the variations are not very wide, except in some limited cases. For example, the share of women in PDS dealership is rather high in Darbhanga (19.5 percent), compared to the State average (8.6 percent).

Table 8.9 : Social Background of PDS Dealers

Social Background of PDS Dealers	No of PDS Outlets				Percentage			
	2015	2016	2017	2018	2015	2016	2017	2018
Scheduled Caste	6891	6905	6773	7103	16.4	16.4	16.3	16.7
Scheduled Tribes	327	331	336	319	0.8	0.8	0.8	0.8
Backward Caste	12463	12337	11897	11801	29.6	29.3	28.7	27.8
Extremely Backward Caste	3109	3203	3298	3632	7.4	7.6	8.0	8.5
Minority	2812	2806	2659	2705	6.7	6.7	6.4	6.4
Women	3361	3344	3340	3640	7.0	8.0	8.1	8.6
Women Self-Help Groups	209	204	184	208	0.5	0.5	0.4	0.5
Other Self-Help Groups	105	102	108	103	0.3	0.2	0.3	0.2
Co-operative Society (Ex-Army Personnel)	4494	4469	4406	4365	10.7	10.6	10.6	10.3
Handicapped	180	178	181	186	0.4	0.4	0.4	0.4
General Caste	8190	8180	8301	8458	19.4	19.5	20.0	19.9
Total	42141	42059	41483	42520	100	100	100	100

Source : Department of Food and Consumer Protection, GOB

Under PDS, eligible households are divided into two categories — Antyodaya and Priority Households (PHH). The Antyodaya households receive 35 kgs of foodgrains (21 kgs of rice and 14 kgs of wheat) per month. On the other hand, PHH beneficiaries receive 5 kgs of foodgrains (3 kgs of rice and 2 kgs of wheat) per month for each member of the household. The operational details of PDS in Bihar is presented in Table 8.10. It clearly emerges from the above table that the PDS in Bihar is being implemented successfully, as the amount of foodgrains actually lifted by the PDS dealers is more than 95 percent of what is allotted to the state for all the years (2014-15 to 2017-18). In 2017-18, the lifting of foodgrains was as high as 97.6 percent of what was allotted. The district-wise figures for allotment and lifting for 2017-18 are presented in Table A 8.7 (Statistical Appendix). Just as at the state level, the lifting percentages are also very high in all the districts. For wheat, there are only four districts (Patna, Jehanabad, Khagaria and Banka)

where the lifting ratio is less than 90 percent. For rice, the situation is even better, as there are only two districts (Patna and Jehanabad) where less than 90 percent of the allotted rice is actually lifted.

Table 8.10 : Allotment and Lifting of Wheat and Rice under PHH+AAY

(Fig. in '000 tonnes)

	Total allotment (PHH+AAY)			Total lifting (PHH+AAY)			Total lifting in % (PHH+AAY)
	Wheat	Rice	Total	Wheat	Rice	Total	
2014-15	1966.0	2948.9	4914.9	1871.0	2828.4	4699.4	95.6
2015-16	2096.5	3144.6	5241.1	2053.6	2987.7	5041.3	96.2
2016-17	2197.4	3296.1	5493.5	2087.1	3165.0	5252.1	95.6
2017-18	2187.7	3281.6	5469.3	2135.2	3205.1	5340.3	97.6

Source : Department of Food and Consumer Protection, GOB

8.3 Panchayati Raj Institutions

Political decentralisation is one of the key requirements for effective implementation of different development programmes. Bihar was one of the leading states to introduce Panchayati Raj Institutions (PRI) and the earliest PRI elections were held as early as in 1948. Unfortunately, the PRIs had become weaker later, and were finally revived after the 73rd Amendment of the Constitution in 1993. The last PRI elections were held in May 2016 in Bihar. Presently, there are 38 Zila Parishads (ZP) at the district level, 534 Panchayat Samitis (PS) at the block level, and 8386 Gram Panchayats (GP) at the village level. In all, there are 1161 ZP members, 11,497 PS members, and 1.15 lakh GP members (Table 8.11). Apart from these elected members of PRIs, there are also some functionaries who are employed by the State Government to help the PRIs in their functioning. The details of the PRI functionaries, both elected and employed, are presented in Table 8.11. From this table, it can be observed that, at the district and block levels, there exists adequate number of employed personnel (Zilla PRI Officer and Block PRI Officer). However, at the GP level, some vacancies are available.

Table 8.11 : Overview of Panchayati Raj Institutions in Bihar

Item	No.	Item	No.
Zila Parishad	38	Gram Panchayat Secretary	3701
Panchayat Samiti	534	Nyaya Mitra	6947
Gram Panchayat	8386	Gram Kachahari Secretary	7474
Gram Panchayat Members	114691	Zila Panchayati Raj Officers	38
Panchayat Samiti Members	11497	Block Panchayati Raj Officers	528
Zila Parishad Members	1161	Gram Kachahari Members	114691

Source : Department of Panchayati Raj, GOB

Table 8.12 : Grants for PRIs at Different Levels during 2014-15 to 2017-18

(Rs. lakh)

Heads	2014-15	2015-16	2016-17	2017-18 (BE)
Gram Panchayat				
1. BRGF	27821.0	0.0	0.0	0.0
2. RGPSA	0.0	0.0	5091.1	6000.0
3. MMGY	1084.0	0.0	0.0	0.0
4. Union Finance Commission Grants	107105.0	237627.0	314208.0	409680.0
5. State Finance Commission Grants	0.0	0.0	135453.7	17844.3
6. Mukhya Mantri Saat Nishchay Yojana	0.0	0.0	62000.0	162500.0
7. Construction of Panchayat Sarkar Bhawan	36863.0	12269.0	46222.0	30000.0
8. Contingency Grant	0.0	321.0	4035.0	7000.0
9. Payment and Allowance to GP members/ functionaries	15383.0	8172.0	9161.7	13274.0
Total	188256.0	258389.0	576171.4	806798.3
Panchayat Samiti				
1. BRGF	7949.0	0.0	0.0	0.0
2. RGPSA	0.0	0.0	0.0	01.0
3. Union Finance Commission Grants	30662.0	2829.0	0.0	0.0
4. State Finance Commission Grants	0.0	0.0	18729.8	24180.2
5. Allowance to PS members	1946.0	1947.0	2140.70	2892.0
6. Mukhya Mantri Saat Nishchay Yojana	0.0	0.0	0.0	0.0
Total	40557.0	4776.0	20870.5	27073.2
Zila Parishad				
1. BRGF	3975.0	227.0	0.0	0.0
2. RGPSA	0.0	0.0	0.0	01.0
3. Union Finance Commission Grants	15287.0	1414.0	0.0	0.0
4. State Finance Commission Grants	5026.0	0.0	47456.0	57535.5
5. Allowance to ZP members	431.0	432.0	409.4	560.0
6. Mukhya Mantri Saat Nishchay Yojana	0.0	0.0	0.0	0.0
Total	24719.0	2073.0	47865.4	58096.5
Grand Total	253532.0	265238.0	644907.2	891968.0

Note : BRGF = Backward Region Grant Fund, RGPSA = Rajiv Gandhi Panchayat Sashaktikaran Abhiyan, MMGY = Mukhya Mantri Gramoday Yojana

Source : Department of Panchayati Raj, GOB

The PRIs receive funds under several heads to finance their development programmes and meet their administrative expenditures. Table 8.12 presents the details of the funds received by the PRIs in Bihar during the last four years (2014-15 to 2017-18). The total grant was Rs. 2535.32 crore in 2014-15, which marginally increased to Rs. 2652.38 crore in 2015-16. However, in the next year (2016-17), the total grant became more than doubled to reach a figure of Rs. 6449.07 crore. As per the budget estimates for 2017-18, the total grant is even higher at Rs. 8919.68 crore, implying an increase of 38.3 percent over the previous year. It can also be observed that the contribution of different sources to the PRIs has varied considerably over the years. For

example, contributions from the Backward Regions Grant Fund (BRGF) used to be substantial earlier, but it had become nil in 2016-17. Similarly, the contributions under Finance Commission Grants have been steady for the GPs, but not for the other two tiers of PRI — Panchayat Samiti and Zila Parishad.

8.4 Distribution of Homestead Land

The ensuring of redistributive justice is one of the main planks of the present government. As a part of this, the State Government is providing 5 decimals of land to families without any homestead land of their own. This land distribution programme has three components — Mahadalit Vikas Yojana, Grihsthal Yojana and Tribal Sub-Plan. Table 8.13 presents the budget allocation and actual expenditure for distribution of Homestead Land for 2016-17 and 2017-18. It is observed from the table that the budget allocation for the programme has increased from Rs. 5.17 crore in 2016-17 to Rs. 5.19 crore in 2017-18, but the actual expenditure has not recorded a corresponding increase. The financial achievement for the programme was 73.2 percent in 2016-17 and 51.8 percent in 2017-18.

Table 8.13 : Budget Allocation and Expenditure for Distribution of Homestead Land

Name of Scheme	2016-17			2017-18		
	Budget Allocation (Rs. lakh)	Expenditure (Rs. lakh)	Financial Achievement (Percentage)	Budget Allocation (Rs. lakh)	Expenditure (Rs. lakh)	Financial Achievement (Percentage)
Mahadalit Vikas Yojana	350.7	350.5	99.9	264.0	254.3	89.5
Grihsthal Yojana	28.0	28.0	100.0	100.0	2.0	2.0
Tribal Sub-Plan	138.3	0.0	0.0	156.7	2.6	1.7
Total	517.1	378.5	73.2	519.3	268.9	51.8

Source : Department of Revenue and Land Reforms, GOB

8.5 Disaster Management

The occurrence of disasters is very frequent in Bihar. These disasters can be either natural or man-made. Out of 38 districts in the state, no less than 28 are flood-prone, most of them in north Bihar. In addition, there are 8 districts (Gaya, Nawada, Jamui, Jehanabad, Arwal, Aurangabad, Kaimur and Banka) which are drought-prone, and they are all in south Bihar. Further, 33 out of 38 districts of Bihar are in Seismic Zones III, IV and V. The State Disaster Management Plan is divided into two components — Disaster Risk Management and Disaster Crisis Management. The first component is related to prevention, mitigation and preparedness. And the second, Disaster Crisis Management, is about the response to disasters covering — relief, reconstruction and resettlement. Both these components of the disaster management function under Bihar State

Disaster Management Authority (BSDMA), which is a statutory body under the Disaster Management Act, 2005.

Table 8.14 presents the expenditure for disaster management in Bihar for the years 2013-14 to 2016-17. The total expenditure varies considerably, ranging from Rs. 85.01 crore in 2015-16 to Rs. 1569.11 crore in 2016-17. Most of this expenditure is on disaster caused by floods. In 2016-17, out of a total expenditure of Rs. 1569.11 crore, the highest expenditure was on Cash Dole Assistance (61.1 percent), followed by Repairs of Embankments and Irrigation System (19.4 percent) and Provision of Agricultural Inputs (9.6 percent).

Table 8.14 : Funds Allotted for Floods and Cyclones

(Rs. crore)

Programmes	2013-14	2014-15	2015-16	2016-17
Relief & Rescue instruments	7.61	3.17	0.0	0.00
Supply of Dry Food	293.06	121.98	19.15	30.38
Cash Dole Assistance	187.53	99.45	13.96	959.68
Clothes & Utensils Distribution	1.10	3.34	5.50	8.89
Supply of Drinking Water	0.42	0.00	0.00	1.50
Repair of Road & Bridges	2.80	0.00	0.15	0.00
Evacuation Operation	37.13	18.30	15.33	58.35
Repair of Public Buildings	0.93	2.10	0.17	22.78
Agricultural Inputs	121.16	38.70	0.0004	151.91
Repair of Boats	7.14	4.77	5.41	4.90
Repair of Embankments and Irrigation system	0.00	5.00	14.16	304.66
Human Medicines	0.00	0.00	0.0	0.00
Assistance for Flood Accidents	3.50	3.63	2.87	18.17
Assistance for Natural Calamity Accidents (except flood)	2.78	1.19	8.31	7.90
Total	665.14	301.64	85.01	1569.11

Source : Department of Disaster Management, GOB

8.6 Environment and Climate Change

The geographical area of Bihar is 94163 sq. kms. and it lies in the sub-tropical region. It has a humid sub-tropical climate. Presently, the total declared forest area in the state is 7299 sq. kms, which is just 7.8 percent of the total geographical area. Table 8.15 presents the revenue collection from the forest area during 2013-14 to 2017-18, as well as expenditure on forest

during those years. As regards revenue, it shows a steady increase from Rs. 16.22 crore in 2013-14 to Rs. 22.08 crore in 2017-18. This is an increase of 36.1 percent over a period of only four years. As regards expenditure, there is no clear trend. In the recent past, the highest level of expenditure was recorded in 2016-17 (Rs. 334.67 crore). The lowest level of expenditure was in 2013-14 (Rs. 250.65 crore).

Table 8.15 : Revenue and Expenditure for Department of Forest

(Fig. in crore)

Sl. No.	Year	Revenue	Expenditure (Rs.)		
			Plan	Non-Plan	Total
1	2013-14	16.22	156.80	93.84	250.65
2	2014-15	16.10	230.84	95.47	326.31
3	2015-16	17.52	179.87	106.88	286.76
4	2016-17	21.22	226.15	108.51	334.67
5	2017-18	22.08	148.90	117.03	265.93

Source : Department of Environment, Forest & Climate Change, GOB

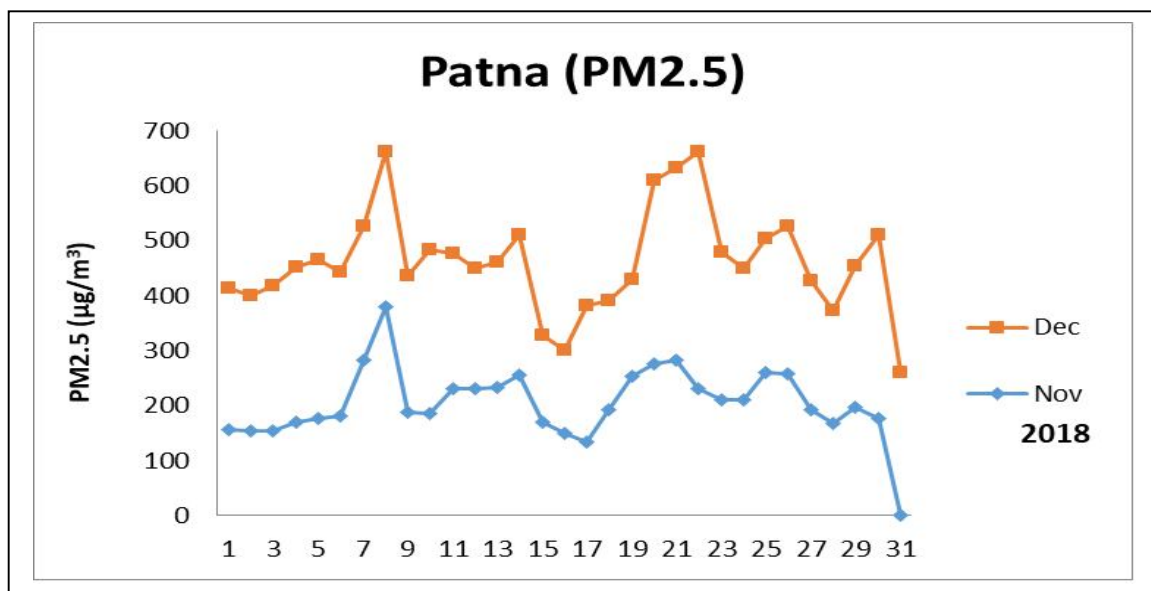
In the context of climate change, 2018-19 was the year of mainstreaming climate change in Bihar. First, the name of the Department of Environment and Forest was changed to Department of Environment, Forest and Climate Change. Second, the Bihar State Action Plan for Climate Change (BAPCC) is also being revised and the current state of finances for climate change is concerned with the line department which are prioritised in the Financial Framework for State Action Plan on Climate Change (SAPFIN). This document was prioritised in 2018 and it had found that about 74 percent of the expenditure by the Department of Forest was on Climate Change, and 24 percent of this expenditure is vulnerable to climate risks. Similarly, for the Department of Energy, 48 percent of the expenditure was relevant for climate change, and 33 percent was related to climate risks vulnerability. Yet another important department for climate change is the Department of Water Resources. For this department, the climate-related expenditure is 62 percent, and 53 percent of the expenditure is related to climate change.

The SAPFIN suggests that about 67 percent of future climate finance would be provided by the State Government, about 9 percent by the Central Government schemes, and about 12 percent from Central (National Adaptation Fund) and international sources (Green Climate Fund). The SAPFIN provides a scope for integration of different sectoral and development action plans, like

Disaster Risk Reduction Road Map, Agricultural Road Map and Sustainable Development Goals (SDG) Road Map into the revised State Action Plan for Climate Change (SAPFIN).

India is home to 14 most populated cities in the world, as per a report of the World Health Organisation (WHO) published in 2018. Out of those 14 cities, 3 are in Bihar (Patna, Gaya and Muzaffarpur). Responding to the increased level of pollution in the country, the Union Ministry of Environment, Forest and Climate Change has launched National Clean Air Programme (NCAP) which has directed the affected cities to prepare their own city-specific clean air action plan. In response to NCAP, clean air action plans are being prepared for Patna, Gaya and Muzaffarpur by the Bihar State Pollution Control Board (BSPCB). These plans would enlist city-specific and sector specific action plans. An updated emissions inventory for the respective cities was used to identify various sectors and their emission loads. As an illustration, Chart 8.1 presents the PM 2.5 levels in Patna during November and December, 2018. To generate adequate data on air pollution, the BSPCB is about to install 8 real-time Air Quality Monitoring Stations (AQMS) at different locations in Bihar.

Chart 8.1 : PM 2.5 Levels in Patna, winter 2018



Source : Department of Environment, Forest and Climate Change (Patna Clean Air Action Plan)

APPENDIX

Table A 8.1 : State-wise Below Poverty Line Population in Urban and Rural areas by Tendulkar Methodology

State	2004-05			2011-12		
	Rural	Urban	Total	Rural	Urban	Total
Andhra Pradesh	32.3	23.4	29.6	11.0	5.9	9.2
Arunachal Pradesh	33.6	23.5	31.4	39.0	20.3	34.7
Assam	36.4	21.8	34.4	34.0	20.5	32.0
Bihar	55.7	43.7	54.4	34.1	31.2	33.7
Chhattisgarh	55.1	28.4	49.4	44.7	24.8	39.9
Delhi	15.6	12.9	13	13.0	9.8	9.9
Goa	28.1	22.2	24.9	6.8	4.1	5.1
Gujarat	39.1	20.1	31.6	21.5	10.1	16.6
Haryana	24.8	22.4	24.1	11.6	10.3	11.2
Himachal Pradesh	25.0	4.6	22.9	8.5	4.3	8.1
Jammu & Kashmir	14.1	10.4	13.1	11.5	7.2	10.4
Jharkhand	51.6	23.8	45.3	40.8	24.8	37.0
Karnataka	37.5	25.9	33.3	24.5	15.3	21.0
Kerala	20.2	18.4	19.6	9.1	5.0	7.1
Madhya Pradesh	53.6	35.1	48.6	35.7	21.0	31.7
Maharashtra	47.9	25.6	38.2	24.2	9.1	17.4
Manipur	39.3	34.5	37.9	38.8	32.6	36.9
Meghalaya	14.0	24.7	16.1	12.5	9.3	11.9
Mizoram	23.0	7.9	15.4	35.4	6.4	20.4
Nagaland	10.0	4.3	8.8	19.9	16.5	18.9
Odisha	60.8	37.6	57.2	35.7	17.3	32.6
Puducherry	22.9	9.9	14.2	7.7	9.2	8.3
Punjab	22.1	18.7	20.9	16.1	10.7	14.7
Rajasthan	35.8	29.7	34.4	9.9	3.7	8.2
Sikkim	31.8	25.9	30.9	15.8	6.5	11.3
Tamil Nadu	37.5	19.7	29.4	16.5	7.4	14.1
Tripura	44.5	22.5	40	11.6	10.5	11.3
Uttar Pradesh	42.7	34.1	40.9	30.4	26.1	29.4
Uttarakhand	35.1	26.2	32.7	22.5	14.7	20.0
West Bengal	38.2	24.4	34.2	17.1	6.3	9.7
Andaman & Nicobar	4.1	0.8	3.0	1.6	0.0	1.0
Chandigarh	34.7	10.1	11.6	1.6	22.3	21.8
Dadra & Nagar Haveli	63.6	17.8	49.3	62.6	15.4	39.3
Daman	2.6	14.4	8.8	0.0	12.6	9.9
Lakshadweep	0.4	10.5	6.4	0.0	3.4	2.8
India	42	25.5	37.2	25.7	13.7	21.9

Source : Planning Commission, Government of India

Table A 8.2 : District-wise Multidimensional Poverty Index

Districts	Multidimensional Poverty Index (MPI = H*A)	Headcount ratio: Population in multidimensional poverty (H)	Intensity of deprivation among the poor (A)
Patna	0.1	28.2	44.2
Nalanda	0.2	47.3	47.1
Bhojpur	0.2	39.4	43.5
Buxar	0.2	41.4	42.7
Rohtas	0.2	39.0	41.6
Kaimur	0.2	46.7	44.1
Gaya	0.3	55.5	45.8
Jehanabad	0.2	45.8	46.8
Arwal	0.2	53.0	44.5
Nawada	0.2	50.6	47.0
Aurangabad	0.2	44.3	43.6
Saran	0.2	42.6	43.8
Siwan	0.2	39.8	43.2
Gopalganj	0.2	42.6	43.4
W. Champaran	0.3	56.7	48.1
E. Champaran	0.3	61.5	48.9
Muzaffarpur	0.2	48.3	45.9
Sitamarhi	0.3	65.0	48.8
Sheohar	0.3	62.1	47.8
Vaishali	0.2	46.8	45.8
Darbhanga	0.3	56.6	47.2
Madhubani	0.3	56.9	47.1
Samastipur	0.3	55.5	48.5
Begusarai	0.2	49.9	47.9
Munger	0.2	40.0	46.0
Sheikhpura	0.2	52.2	45.5
Lakhisarai	0.2	43.9	47.1
Jamui	0.3	64.0	47.4
Khagaria	0.3	58.6	50.2
Bhagalpur	0.2	45.5	48.5
Banka	0.3	59.9	46.8
Saharsa	0.3	61.6	50.7
Supaul	0.3	66.3	47.4
Madhepura	0.3	68.0	49.6
Purnea	0.3	67.0	49.9
Kishanganj	0.3	66.0	49.3
Araria	0.3	68.7	50.3
Katihar	0.3	62.5	50.0
Bihar	0.2	52.2	47.2

Source : Oxford Poverty and Human Development Initiative and United Nations Development Programme

Table A 8.3 : Percentage of Population who are MPI-Poor with Respect to Different Indictors

Districts	Health		Education		Living standards					
	Nutrition	Child mortality	Years of schooling	Child school attendance	Cooking fuel	Sanitation	Drinking water	Electricity	Housing	Assets
Patna	21.6	2.8	12.7	5.6	26.1	24.3	1.1	9.4	23.9	11.4
Nalanda	37.2	4.2	21.6	14.2	45	43.1	1.9	21.8	36.3	20.9
Bhojpur	32.7	3.5	12	6.3	38.1	37.7	0.1	21.1	35.7	12.3
Buxar	34.1	5.5	12.6	3.6	40.4	38.3	0.1	21	38.5	12.6
Rohtas	33.8	5	9.5	3.6	38.3	36.4	1.3	12.1	34.7	13.5
Kaimur	37.6	4.1	15.2	8.8	46.1	44.7	4.8	17.8	44	16
Gaya	47.2	7.6	19.7	9.2	54.8	51.8	4.6	20.5	51.4	22.5
Jehanabad	35.4	3.3	21	10.2	44.8	42.5	1.4	23.5	38.8	25
Arwal	44.7	4.1	15.9	7.6	52	51	0.4	34.1	49.1	21.8
Nawada	40.9	2.4	21.1	12	48.9	45.1	2.2	29.2	42.5	31.3
Aurangabad	36.3	3.3	13.2	7.5	43.4	40.6	0.9	26.5	40.7	14.4
Saran	31.1	3.4	16.4	9.2	41.7	40.3	1.7	23.3	37.4	11.3
Siwan	31.1	4.5	11.6	8	37.2	37.4	1.1	23.8	35.5	9.2
Gopalganj	32.4	3.5	15.8	7.3	41.2	39.1	0.8	25.1	40	9.4
W. Champaran	42.7	4.2	34.5	19.9	59.7	56.3	0.5	42.4	58	19.8
E. Champaran	36.5	4.4	31.9	17.4	54.8	52.8	3	39.3	54.4	16.6
Muzaffarpur	36.8	3.5	23.5	11	46.9	45.4	0.3	20	46	15.7
Sitamarhi	47.2	5.2	36.2	16.6	63.1	60.2	0.8	44.4	62.9	23.5
Sheohar	43	6.6	37.6	13.3	60.1	55.6	0.9	30.1	59.9	26
Vaishali	38.2	5.4	21.2	7.8	44.9	41.1	1.3	25.1	42.8	13.1
Darbhanga	43.4	4	29.4	13.4	54.6	49.8	0.5	31.2	54.5	20.3
Madhubani	45.2	4.1	26.6	11.3	56	53.8	0.9	33.1	55.1	21.6
Samastipur	41.0	2.8	29.1	12.9	53.9	53.1	1.4	41.2	53.3	24.2
Begusarai	39.4	5.3	27.5	10.7	48	42.3	1.3	24.1	46.5	20.1
Munger	32.2	3.8	18	6.4	38.1	35.5	4.7	20.4	34.8	16.7
Sheikhpura	44.4	5.3	23.2	9.3	50.6	45.4	6.1	15	41	22.7
Lakhisarai	33.7	5.2	22.7	9.3	43	37.8	4.9	13.3	36.9	23.4
Jamui	50.8	5.5	29	11.9	63.2	61.5	16.7	29	59.1	24.9
Khagaria	44.8	5.5	34.8	15.1	57.8	51.5	0.3	36.1	54.2	29.4
Bhagalpur	34.9	3.6	26.1	10.6	45.1	41.7	2.3	20.9	41.9	20.3
Banka	46.7	4.6	27.6	9.7	59.5	57.7	7.0	36.7	56.3	21.3
Saharsa	48.7	5.6	34.5	18.6	60.8	60	0.7	33.6	59.9	25.3
Supaul	53.2	4	34.9	14.7	65.5	64	0.4	29.3	65.1	21.2
Madhepura	51.9	4.9	40.3	18.6	67.2	65.4	0	36.6	66.5	24.1
Purnea	53.1	7.4	37.8	15.9	66.9	64.1	0	40.2	65.1	22.9
Kishanganj	49.3	3.4	41.1	19.3	65.3	63.1	0.8	36.6	61.1	19.6
Araria	51.5	7.7	41.1	18.7	68.6	66.7	0.4	40.3	66.3	22.9
Katihar	43.4	4.2	37.6	19.6	62.3	57.7	0.4	50.8	59.5	17.7
Bihar	40.04	4.50	25.41	11.95	50.89	48.38	1.68	28.85	48.61	18.73

Source : Oxford Poverty and Human Development Initiative and United Nations Development Programme

Table A 8.4 : District-wise Progress under MGNREGS

District	No. of households issued job cards (lakh)			Percentage share of SC households among households with job cards			Percentage of households with job cards demanding employment		
	2015-16	2016-17	2017-18	2015-16	2016-17	2017-18	2015-16	2016-17	2017-18
Patna	5.13	5.55	5.68	25.74	25.37	25.37	0.00	14.06	12.04
Nalanda	4.04	4.28	4.33	37.13	36.49	36.67	12.15	17.95	15.27
Bhojpur	3.33	3.57	3.58	34.08	32.72	32.51	9.41	17.88	16.59
Buxar	2.65	2.83	2.76	30.55	29.73	29.46	26.13	25.80	24.87
Rohtas	3.55	3.64	3.69	32.12	31.11	30.90	12.89	21.56	17.45
Kaimur	2.09	2.19	2.25	38.36	37.17	36.67	17.61	21.88	18.81
Gaya	5.48	5.73	5.99	56.21	55.13	54.63	8.40	17.81	18.23
Jehanabad	1.40	1.50	1.53	31.46	30.37	29.73	23.22	29.86	33.63
Arwal	0.98	1.14	1.08	31.64	27.62	25.03	22.12	35.86	42.74
Nawada	3.95	4.25	4.46	30.21	30.61	31.46	18.08	20.04	19.30
Aurangabad	3.38	3.58	3.76	42.17	41.40	41.13	15.70	23.58	23.43
Saran	4.73	5.23	5.36	24.28	24.80	24.36	12.72	21.64	17.36
Siwan	2.99	3.08	3.12	18.96	18.75	18.61	12.08	17.31	13.99
Gopalganj	3.48	3.53	3.37	19.84	19.44	18.90	11.57	19.35	16.74
W. Champaran	4.51	4.88	5.11	18.74	17.99	17.68	11.56	19.69	18.96
E. Champaran	6.16	6.46	6.72	19.44	18.88	18.29	14.05	18.60	14.73
Muzaffarpur	5.98	6.26	6.37	23.68	22.93	22.25	6.61	13.07	12.97
Sitamarhi	4.37	4.65	4.96	22.46	21.45	20.13	17.35	22.72	25.40
Sheohar	0.85	0.91	0.89	20.61	19.57	18.68	36.25	33.13	26.83
Vaishali	5.41	5.78	5.91	33.17	32.27	30.99	9.09	15.67	18.35
Darbhanga	4.84	5.12	5.64	27.11	25.98	24.15	11.48	18.74	19.39
Madhubani	5.11	5.42	5.56	22.21	21.41	20.86	12.37	17.66	13.49
Samastipur	4.75	5.19	5.73	30.63	29.23	28.18	15.19	21.33	20.84
Begusarai	3.20	3.37	3.49	23.07	22.27	21.47	10.79	15.82	17.25
Munger	1.85	1.98	2.09	16.76	16.38	16.01	12.99	20.38	23.51
Sheikhpura	0.97	0.95	1.01	37.27	36.52	36.23	18.66	26.59	21.46
Lakhisarai	1.57	1.74	1.82	23.56	23.22	23.05	17.81	25.08	27.05
Jamui	2.58	2.81	2.96	25.60	24.64	23.80	26.41	26.00	27.33
Khagaria	1.80	1.97	2.09	25.38	24.68	23.84	11.37	17.88	16.77
Bhagalpur	3.92	4.12	4.20	13.66	13.16	12.74	12.96	18.52	17.80
Banka	2.85	3.02	3.16	16.34	15.82	15.59	20.90	26.36	23.78
Saharsa	3.42	3.81	3.99	22.54	21.08	20.45	26.26	33.44	30.45
Supaul	3.08	3.30	3.36	22.34	21.16	25.06	17.10	21.53	19.46
Madhepura	3.32	3.64	3.78	25.52	24.09	22.89	24.97	30.26	29.55
Purnea	4.48	4.86	4.99	17.94	17.55	16.77	16.45	21.79	20.66
Kishanganj	2.48	2.62	2.71	10.26	9.71	9.33	13.56	25.84	25.73
Araria	4.27	4.52	4.76	17.40	16.70	16.00	19.47	26.48	20.08
Katihar	4.64	5.00	5.28	15.90	15.30	14.59	18.42	22.76	20.38
Bihar	133.60	142.48	147.55	25.91	25.13	24.65	14.40	20.91	19.69

Source : Department of Rural Development, GOB

Table A 8.4 : District-wise Progress under MGNREGS (Contd.)

District	Household getting 100 days of employment as percentage of those obtaining			Person days of employment generated(lakh)			Percentage share of women in total employment generated		
	2015-16	2016-17	2017-18	2015-16	2016-17	2017-18	2015-16	2016-17	2017-18
Patna	0.0	0.9	0.1	0.0	24.3	17.4	0.0	48.6	47.6
Nalanda	5.2	1.0	0.6	18.4	25.4	19.6	45.8	50.5	51.6
Bhojpur	3.6	0.7	0.2	8.2	15.9	13.1	30.7	34.2	39.4
Buxar	8.7	0.5	0.6	29.7	18.8	19.4	29.6	34.5	35.6
Rohtas	2.2	0.2	0.2	11.6	18.4	14.0	25.0	30.4	34.3
Kaimur	2.6	0.9	1.3	11.9	14.8	12.5	29.4	33.7	37.4
Gaya	0.3	0.2	0.2	10.2	28.0	25.9	53.5	55.1	55.1
Jehanabad	11.9	2.5	2.1	15.3	18.2	20.4	43.4	44.7	45.1
Arwal	2.4	1.0	0.4	6.4	12.4	14.4	40.2	40.2	43.0
Nawada	3.5	0.4	0.9	26.7	25.1	25.8	50.4	53.1	54.5
Aurangabad	4.6	1.9	2.9	20.9	31.0	32.2	32.3	35.5	38.2
Saran	5.6	2.1	2.8	25.1	38.8	34.9	21.2	28.7	34.8
Siwan	5.8	1.1	1.2	11.7	14.9	11.5	26.4	30.4	37.1
Gopalganj	2.2	0.7	0.6	12.3	22.2	18.2	27.8	30.8	34.6
W. Champaran	2.2	0.5	0.3	18.1	29.9	22.0	32.3	34.7	39.8
E. Champaran	3.8	0.4	0.5	34.3	38.0	33.9	32.9	35.7	39.0
Muzaffarpur	2.3	0.4	0.5	12.3	23.1	21.1	36.6	41.2	44.6
Sitamarhi	2.2	0.2	0.3	20.5	25.6	31.3	41.8	44.2	47.1
Sheohar	5.5	0.3	0.0	15.3	11.0	7.4	46.2	44.2	46.1
Vaishali	3.0	0.1	0.5	16.1	24.5	28.9	43.6	45.0	46.7
Darbhanga	3.8	0.4	0.1	18.4	29.2	30.3	47.4	49.9	51.0
Madhubani	2.2	0.2	0.3	21.5	25.9	18.6	48.6	50.6	52.3
Samastipur	4.8	1.3	2.0	26.9	35.8	42.0	45.8	48.3	51.4
Begusarai	2.6	1.3	1.4	9.4	13.7	16.3	53.7	57.0	55.6
Munger	5.8	0.6	0.3	8.2	12.2	14.8	39.3	44.4	47.8
Sheikhpura	4.3	0.7	0.4	7.0	8.7	6.7	45.3	54.1	51.4
Lakhisarai	5.2	0.2	0.2	11.9	14.8	17.1	43.9	49.6	50.7
Jamui	5.1	0.2	0.4	26.0	19.8	23.8	43.8	47.1	50.3
Khagaria	0.3	0.2	0.2	4.2	7.4	7.8	53.7	57.8	59.3
Bhagalpur	4.9	0.6	0.9	17.4	22.0	21.8	39.2	39.1	40.9
Banka	4.0	0.3	0.3	19.3	23.2	20.8	42.1	48.4	49.3
Saharsa	3.7	0.3	0.1	39.0	39.0	34.3	48.1	50.4	52.8
Supaul	3.5	0.4	0.3	19.0	19.3	16.0	42.9	46.9	49.6
Madhepura	5.2	0.7	0.9	34.8	36.3	36.7	48.6	49.9	51.6
Purnea	1.9	0.1	0.4	24.5	24.4	26.6	46.7	49.2	53.5
Kishanganj	3.0	1.1	0.8	11.5	20.0	19.0	39.0	42.4	46.3
Araria	3.3	0.2	0.1	21.6	22.0	15.9	41.1	43.5	47.9
Katihar	2.4	0.2	0.1	25.5	24.7	24.9	45.7	48.1	50.1
Bihar	3.9	0.6	0.7	670.9	858.4	817.3	40.8	43.8	46.6

Source : Department of Rural Development, GOB

Table A 8.5 : District-wise Financial Progress under MGNREGS

(Rs. lakh)

District	2015-16			2016-17			2017-18		
	Funds available	Funds utilized	Percentage of utilization	Funds available	Funds utilized	Percentage of utilization	Funds available	Funds utilized	Percentage of utilization
Patna	4461.4	2013.7	45.1	6764.6	3077.4	45.5	8817.4	5310.2	60.2
Nalanda	4947.9	4478.4	90.5	6544.1	6050.3	92.5	7317.7	7003.0	95.7
Bhojpur	2997.3	2716.1	90.6	4381.3	3946.0	90.1	4841.6	4354.6	89.9
Buxar	8217.6	7703.0	93.7	8805.1	8307.8	94.4	8208.6	7630.8	93.0
Rohtas	3475.4	2807.9	80.8	4946.9	4007.6	81.0	5833.6	4899.3	84.0
Kaimur	3291.2	2882.5	87.6	4181.5	3828.2	91.6	4861.2	4232.9	87.1
Gaya	4052.3	1988.5	49.1	8078.1	6304.4	78.0	10888.6	8971.2	82.4
Jehanabad	3936.5	3769.5	95.8	5010.9	4844.1	96.7	6638.7	6447.4	97.1
Arwal	1099.1	988.6	89.9	3322.0	3282.0	98.8	5541.0	5414.2	97.7
Nawada	7403.7	7260.3	98.1	6599.5	6405.5	97.1	8527.3	8311.0	97.5
Aurangabad	5602.4	5204.2	92.9	8563.5	7769.3	90.7	12703.0	11771.2	92.7
Saran	7481.6	6815.9	91.1	10545.1	9792.7	92.9	15947.6	15016.1	94.2
Siwan	3580.3	2517.2	70.3	4367.2	3709.5	84.9	4695.4	4017.7	85.6
Gopalganj	3348.8	2307.5	68.9	6720.0	6212.6	92.4	7917.8	7341.1	92.7
W. Champaran	4770.0	4099.8	85.9	6937.3	6244.1	90.0	7373.5	6668.0	90.4
E. Champaran	9562.2	8597.6	89.9	10682.5	9938.0	93.0	13155.1	12424.6	94.4
Muzaffarpur	5042.9	2527.8	50.1	6058.4	4315.9	71.2	7313.4	5416.4	74.1
Sitamarhi	5816.8	4634.5	79.7	7165.6	6101.6	85.2	11047.0	10096.0	91.4
Sheohar	9745.5	3108.2	31.9	4193.7	3708.6	88.4	3913.6	3431.5	87.7
Vaishali	3953.3	3295.6	83.4	6101.3	5506.7	90.3	11895.9	11116.3	93.4
Darbhanga	5089.2	3789.7	74.5	8123.0	6941.8	85.5	13022.6	11867.0	91.1
Madhubani	5203.9	4730.5	90.9	7626.0	7106.8	93.2	8610.9	8079.6	93.8
Samastipur	8306.3	7159.3	86.2	11260.6	10140.6	90.1	14820.7	13628.0	92.0
Begusarai	6518.0	5994.9	92.0	6668.7	6144.9	92.1	9057.9	8463.0	93.4
Munger	2619.5	2469.1	94.3	3148.1	2790.4	88.6	5638.7	5385.1	95.5
Sheikhpura	1683.0	1652.4	98.2	2215.0	2160.1	97.5	2345.5	2274.8	97.0
Lakhisarai	3412.4	3276.4	96.0	3269.5	3121.2	95.5	6585.5	6422.8	97.5
Jamui	6787.8	6675.0	98.3	6301.9	6137.5	97.4	8668.4	8468.5	97.7
Khagaria	1018.5	811.8	79.7	1938.0	3931.5	202.9	2734.6	2548.6	93.2
Bhagalpur	4828.5	4535.0	93.9	5773.6	5310.3	92.0	8465.6	8066.3	95.3
Banka	4375.1	3900.7	89.2	5893.2	5492.1	93.2	6939.3	6550.1	94.4
Saharsa	6654.8	6425.0	96.5	12280.9	11942.1	97.2	12079.0	11821.5	97.9
Supaul	5799.6	3750.0	64.7	7173.0	5310.4	74.0	7879.4	5965.9	75.7
Madhepura	8189.4	7892.7	96.4	7558.8	7250.1	95.9	12468.4	11990.5	96.2
Purnea	6132.0	5120.8	83.5	7598.9	6483.7	85.3	9793.7	8633.5	88.2
Kishanganj	2380.1	1896.6	79.7	3953.4	3644.0	92.2	6149.3	5705.1	92.8
Araria	6280.1	5023.2	80.0	6570.4	5381.3	81.9	6842.4	5628.9	82.3
Katihar	7445.2	6748.1	90.6	6438.7	5994.6	93.1	8643.5	8293.0	95.9
Bihar	199242	162575	82	243760	219205	90	318120	292976	92

Source : Department of Rural Development, GOB

Table A 8.6 : District-wise Distribution of PDS Dealers by their Social Background in Bihar (2017-18)

Districts	Number of Dealers	SC/ST	BC/EBC	Minority	Women	Women/ Other SHG	Helper Samiti/ PACS/ Samiti of Ex- Army Personnel	General	Total
Patna	2529	17.6	45.7	2.5	11.3	0.3	7	15.6	100
Nalanda	1196	14.7	41.7	4	9.7	1.8	16.1	12	100
Bhojpur	1262	14.6	36.5	3.7	10.6	0	10.4	24.3	100
Buxar	733	19.1	35.1	2.5	5.9	1.5	13.5	22.5	100
Rohtas	927	23.2	34.7	6.3	5.8	1.1	12	16.9	100
Kaimur	596	23.5	42.1	6.5	7.4	0	4.2	16.3	100
Gaya	1723	31.5	30.6	5.3	6.3	1.8	9.9	14.6	100
Jehanabad	444	18.7	32.7	4	7.7	0.4	12.6	23.7	100
Arwal	325	22.5	51.7	0	3.4	0	0	22.5	100
Nawada	782	0.1	40.3	5	11.4	1.5	15.9	25.8	100
Aurangabad	1095	17.2	35.9	4	4	0.2	9.4	29.4	100
Saran	2315	11.6	31.5	2.4	16.2	0	10.6	27.7	100
Siwan	1501	13.7	37.3	8.1	6	0.5	7.1	27.4	100
Gopalganj	1152	13.3	28.7	2.5	7.9	0.1	17	30.6	100
W. Champaran	1945	20.4	31.3	12	6.3	0.1	13.1	17	100
E. Champaran	2169	13.2	38.1	9	5.1	0.6	10	24	100
Muzaffarpur	1897	18.3	31.7	4	9.1	1.2	11.4	24.4	100
Sitamarhi	975	17.6	41.5	6.7	6.7	1.1	12.3	14.1	100
Sheohar	299	13.4	31.1	4.7	8	1	13.4	28.4	100
Vaishali	1311	15	37.9	1.8	7	1	16.4	21.1	100
Darbhanga	1795	12.4	31.3	9.4	19.5	0.5	6.2	20.7	100
Madhubani	1465	19.3	35.9	7.6	5.6	1.3	11.1	19.4	100
Samastipur	1461	20.6	35.2	2.5	5.3	0.7	13.9	22	100
Begusarai	1021	27.3	27.3	4.3	12	0	4.6	24.5	100
Munger	576	8.7	49.5	5	9.4	0.2	10.1	17.2	100
Sheikhpura	289	16.6	36.3	2.4	6.6	0	12.5	25.6	100
Lakhisarai	360	11.4	34.2	2.5	10.3	2.2	10.3	29.2	100
Jamui	756	19.7	34.4	3.6	4.4	0	13.6	24.3	100
Khagaria	604	14	49	2.7	14.9	3.2	5.5	10.8	100
Bhagalpur	1320	15	46.1	10.4	7.3	0	10.4	10.8	100
Banka	1723	31.5	30.6	5.3	6.3	1.8	9.9	14.6	100
Saharsa	693	18.9	38.1	9.8	4.8	1.3	15.2	12	100
Supaul	708	11.7	46.5	8.9	4.2	0	15.3	13.4	100
Madhepura	578	14.9	46.4	4.7	8.1	0.4	16.8	8.8	100
Purnea	1154	18.6	36.1	16.2	9.7	2.8	6.2	10.3	100
Kishangunj	577	14	26.2	0	4.2	0.4	8.3	46.6	100
Araria	1242	14.9	31.1	23.7	15	0	7.2	8.2	100
Katihar	1022	18.5	38.3	10.7	3.6	0	13.1	15.9	100
Bihar	42520	17.5	36.3	6.4	8.6	0.7	10.7	19.9	100

Source : Department of Food and Consumer Protection, GOB (till 11/10/2018)

Table A 8.7 : District-wise Allotment and Lifting of Wheat and Rice under NFSA during 2017-18

(Fig. in MT)

Districts	Wheat			Rice		
	Allotment	Lifting	Lifting Percentage	Allotment	Lifting	Lifting Percentage
Patna	125620	106965	85.1	188431	159502	84.6
Nalanda	55803	55712	99.8	83705	82753	98.9
Bhojpur	51425	51106	99.4	77138	71919	93.2
Buxar	23820	23820	100.0	35730	35730	100.0
Rohtas	47617	47617	100.0	71425	71425	100.0
Kaimur	25848	25848	100.0	38772	38661	99.7
Gaya	83280	83280	100.0	124920	124920	100.0
Jehanabad	18221	14792	81.2	27331	23404	85.6
Arwal	13808	13388	97.0	20712	20637	99.6
Nawada	43836	43836	100.0	65753	65481	99.6
Aurangabad	45984	45983	100.0	68975	68975	100.0
Saran	70797	70797	100.0	106195	106195	100.0
Siwan	61005	61005	100.0	91507	87757	95.9
Gopalganj	45304	42459	93.7	67956	62394	91.8
W. Champaran	83959	83959	100.0	125938	125939	100.0
E. Champaran	112291	112291	100.0	168438	168438	100.0
Muzaffarpur	100872	100872	100.0	151307	151308	100.0
Sitamarhi	76779	76779	100.0	115168	115168	100.0
Sheohar	14424	14424	100.0	21636	21636	100.0
Vaishali	78776	78776	100.0	118164	118161	100.0
Darbhanga	93713	90016	96.1	140569	129713	92.3
Madhubani	105112	105076	100.0	157667	157407	99.8
Samastipur	101375	96918	95.6	152063	149909	98.6
Begusarai	68120	68120	100.0	102179	102179	100.0
Munger	27781	27781	100.0	41667	41667	100.0
Sheikhpura	11885	11271	94.8	17828	17827	100.0
Lakhisarai	18834	17256	91.6	28251	27161	96.1
Jamui	37336	37336	100.0	56004	56004	100.0
Khagaria	40590	36281	89.4	60885	57267	94.1
Bhagalpur	60703	55373	91.2	91054	82977	91.1
Banka	44746	39783	88.9	67120	65287	97.3
Saharsa	45134	45134	100.0	67702	67377	100.0
Supaul	50664	50664	100.0	75996	75996	100.0
Madhepura	45955	45954	100.0	68932	68932	100.0
Purnea	75054	75054	100.0	112581	112532	100.0
Kishanganj	39986	39986	100.0	59979	59858	99.8
Araria	72072	71917	99.8	108107	104905	97.0
Katihar	69201	69201	100.0	103802	103802	100.0
Bihar	2187730	2136830	97.7	3281587	3201203	97.6

Source : Department of Food and Consumer Protection, GOB (till 11/10/2018)

CHAPTER - IX

URBAN DEVELOPMENT

Urbanization is a manifestation of the transition from an agriculture-based economy to an industrialized modern economy with corresponding growth in infrastructure and basic civic amenities. Urbanization is not only an outcome of the growth process and sectoral transition, it also acts as an impetus for the growth process through market exchanges, technology and social mobility. In an environment of tiny non-agricultural sector and high population density, the rate of urbanization in Bihar has been historically low, and Bihar continues to be one of the least urbanized states of India. However, the scope of urban development in the state is enormous as the base is very low and diversification of economic activities is gradually unfolding along with sectoral and occupational transition gearing pace in recent years. Massive out-migration from rural areas and shift towards non-farm activities in the state are the reflections of socio-economic transformation of an urbanizing society.

Urban transformation in Bihar requires impetus and is presently receiving significant attention in policy documents. The challenge of urban development has two different dimensions. First, to facilitate urban development, there has to be provision of basic civic amenities with necessary supporting human and physical infrastructure. The second dimension, which is more important in the context of Bihar, refers to the conversion of relatively larger rural centres to urban centres such that these places promote more non-agricultural production activities. Fortunately, the state government in Bihar has been quite responsive to both these challenges in the recent past. Presently, there are a number of urban development initiatives being implemented by the state, some of which are being financially supported by the central government.

9.1 Level of Urbanisation

Among the states, the level of urbanisation is the least (11.3 percent) in Bihar. The national average for urbanisation stands at a much higher level at 31.2 percent (Table 9.1). The state accounts for 8.6 percent of India's total population, but it has only 3.1 percent of country's total urban population. Apart from recording a low 'level' of urbanisation, Bihar has also recorded a low 'pace' of urbanisation. Between 2001 and 2011, the level of urbanisation in India has increased by 3.4 percentage points, from 27.8 percent (2001) to 31.2 percent (2011). In contrast, such increase was only 0.8 percentage points in Bihar, from 10.5 percent (2001) to 11.3 percent (2011). This slow pace of urbanisation in Bihar is indeed a long-term phenomenon. Between 1961 and 2011, a span of half a century, the level of urbanisation in Bihar has increased by only

3.9 percentage points, from 7.4 percent (1961) to 11.3 percent (2011). For the entire country, this increase was no less than 13.2 percentage points, from 18.0 percent (1961) to 31.2 percent (2011).

Table 9.1 : Urbanisation Trend in Bihar and India

Year	Urban Population (lakh)		Level of Urbanisation	
	India	Bihar	India	Bihar
1961	789.4	25.8	18.0	7.4
1971	1091.1	32.4	18.2	7.7
1981	1594.6	50.1	23.3	9.6
1991	2171.8	64.9	25.7	10.0
2001	2853.5	86.6	27.8	10.5
2011	3771.1	117.6	31.2	11.3

Source : Census of India, RGI, GOI

Between 2001 and 2011, the number of towns in Bihar has increased from 130 to 199 (Table 9.2). The emergence of 69 additional towns over a decade is undoubtedly a positive development, but many of these new towns are indeed small, having a population of less than 10 thousand. Out of a total of 199 towns in Bihar, only 26 towns have a population of at least one lakh where one could expect the growth of secondary and tertiary activities. Patna, as the capital city, has maintained its primacy in the state's urban system, as it accounts for 14 percent of state's urban population, followed by Gaya, which has a share of 4 percent.

Table 9.2 : Distribution of Urban Population by Size Class of Town

Size Class	Number		Population (million)		Growth Rate of Population
	2001	2011	2001	2011	
>1 million	1	1	1.43	1.68	1.6
100,000-1 million	18	25	3.42	5.07	3.9
50,000 - 100,000	19	29	1.37	1.88	3.1
20,000 - 50,000	67	75	2.10	2.49	1.7
10,000 - 20,000	19	22	0.31	0.33	0.8
5,000 - 10,000	6	38	0.04	0.26	18.2
< 5,000	-	9	-	0.03	-
Total	130	199	8.68	11.76	3.06

Source : Census of India, RGI, GOI

If one compares the extent of urbanisation across the districts of Bihar, one observes considerable variation (Table A9.1-Statistical Appendix). The urbanisation in the district of Patna, which obviously includes the state capital of Patna, is the highest (43.1 percent). Next, there are only five more districts where the urbanisation is more than 15 percent — Nalanda (15.9 percent), Sheikhpura (17.1 percent), Begusarai (19.2 percent), Bhagalpur (19.8 percent)

and Munger (27.8 percent). There are no less than seven districts (Kaimur, Sheohar, Madhubani, Samastipur, Banka, Supaul and Madhepura), in each of which the level of urbanisation is less than 5 percent. From the district-wise figures for urbanisation, it is also quite apparent that the level of urbanisation is much lower in north Bihar, compared to south Bihar.

In order to promote urbanisation throughout Bihar, the state government has adopted the important objective of providing basic services in the urban areas at a faster pace. This is because inadequacy of basic services in the urban areas like water supply and drainage system are major factors for slower pace of urbanization in Bihar. This is revealed through the data from 2011 census (Table 9.3). Out of total urban households, only 16.7 percent had the facility of piped water within their premises. Even in the state capital Patna, this facility was available for about only half the households. In smaller towns, it was extremely low. Similarly, percentage of households with their latrines connected to a piped sewer was again low at 7.2 percent. The availability of the facility of a covered drainage was wider, but not universal. For the entire urban area in Bihar, the drain coverage was about 30 percent, the highest being in Patna town where the coverage was 61 percent.

Table 9.3 : Access to Basic Urban Services in Bihar by Size Class of Towns (2011)

City Size	Households with tap water within premises (%)	Households with access to piped sewer connected to latrines (%)	Households connected to covered drainage (%)
>1 million	50.8	19.6	61.3
100,000 – 1 million	13.1	6.1	29.2
50,000 – 100,000	8.7	3.3	18.8
20,000 – 50,000	4.1	3.0	16.3
10,000 – 20,000	5.1	2.9	13.1
5000 – 10,000	3.1	3.4	17.3
<5000	5.1	2.1	12.9
Bihar Urban	16.7	7.2	29.9

Source : Census of India 2011

To improve the basic services in the urban areas, the state government has undertaken a number of schemes. From a recent survey, conducted by the Department of Urban Development and Housing, one can judge the availability of basic services in urban areas of Bihar. This survey has covered four components of the basic urban services — piped water supplies, toilets, roads, and drainage. This data is now available for three types of urban centres — Municipal Corporations, Municipal Councils and Nagar Panchayats. This survey had a sample of 19.08 lakh households (Tables 9.4 and 9.5).

In terms of the supply of piped water, the coverage is rather low at 18 percent, taking into account all three types of urban habitations. Even for larger towns with Municipal Corporations,

the coverage of piped water is barely one-third of the households (Table 9.4). However, the status of basic services is much better with regard to toilets, as its coverage is about 94.1 percent. In larger towns, this coverage is even wider at 96.1 percent.

Table 9.4 : Availability of Piped Water and Toilet in Urban Areas of Bihar

Particulars	Type of Towns			
	Municipal Corporations	Municipal Councils	Nagar Panchayats	Total
No. of households surveyed (thousand)	759.7	635.8	522.6	1918.2
Percentage of households with piped water	33.7	10.9	3.8	17.6
Percentage of households with toilets	96.1	93.2	92.1	94.1

Source : Department of Urban Development and Housing, GOB

One of the basic requirements of faster urban development is the availability of adequate roads of good quality, which ensures easy movement within a town. Table 9.5 presents the status of roads in the towns of Bihar. One may consider concrete roads, paved block roads and Water Bound Macadam (WBM) roads as quality roads in a town, and such roads account for 71 percent of the roads in the urban areas. Quite expectedly, the coverage of quality roads is even higher at larger towns (79 percent). However, the spread of quality roads in smaller towns having a Municipal Council or Nagar Panchayats is rather low at below 60 percent and this situation needs to be improved. As regards the drainage facility (Table 9.5), one again notices that its coverage is not universal even in larger towns where roads with no drain or kutchra drain account for about 30 percent of the roads.

Table 9.5 : Status of Roads and Drains in Urban Areas of Bihar

	Type of Towns			
	Municipal Corporations	Municipal Councils	Nagar Panchayats	Total
Percentage Distribution of Roads by Type				
Kutchra Roads	9.0	21.0	20.0	15.0
Tar Roads	6.0	12.0	17.0	9.0
Concrete Roads	74.0	61.0	52.0	67.0
Paved Block Roads	4.0	2.0	2.0	3.0
WBM Road	1.0	1.0	1.0	1.0
Brick Road	6.0	3.0	8.0	5.0
Total	100.0	100.0	100.0	100.0
Percentage Distribution of Roads by Existence of Drains				
No drain	21.5	49.6	68.4	36.0
Kutchra drain	9.4	8.5	5.5	8.4
Pucca drain	67.4	41.4	25.9	54.4
Hume pipe	1.7	0.5	0.2	1.2
Total	100.0	100.0	100.0	100.0

Source: Department of Urban Development and Housing, GOB

9.2 Expenditure on Urban Development

In the recent past, to improve basic services, the state government is paying more attention to urban development through increased allocation toward infrastructure oriented projects. In 2016-17, the total expenditure of the state government on urban development and housing was Rs. 6420 crore, compared to Rs. 1290 crore in 2010-11 (Table 9.6). If one segregates the total expenditure between housing and urban development, it is noticed that the expenditure on urban development has registered an even higher growth rate of 33.6 percent, indicating the state government's priority attached to this sector during this decade. The figures in Table 9.6 also indicate that the actual expenditure on urban development and housing as a percentage of budget allocations has been higher in recent years.

Table 9.6 : Expenditure Pattern of Urban Development and Housing in Bihar

(Figures in Rs. crore)

Year	Budget Allocations			Actual Expenditures		
	Housing	Urban Development	Total	Housing	Urban Development	Total
2010-11	796	1744	2541	785 (98.6)	505 (29.0)	1290 (50.8)
2011-12	846	1233	2079	823 (97.3)	572 (46.4)	1395 (67.1)
2012-13	967	1336	2303	827 (85.5)	1139 (85.3)	1966 (85.4)
2013-14	1064	1784	2849	927 (87.1)	1364 (76.4)	2291 (80.4)
2014-15	3826	2108	5934	1598 (41.8)	1455 (69.0)	3053 (51.5)
2015-16	1897	1737	3634	1486 (78.3)	1649 (94.9)	3134 (86.2)
2016-17	2249	2837	5086	3596 (159.8)	2824 (99.5)	6420 (126.2)

Notes : Figures in brackets indicate utilisation percentage

Source : Finance Accounts, GOB

9.3 Urban Development Programmes (State Plan)

To improve the living conditions in urban areas, the state government is now implementing a number of development programmes. This section presents the details of these programmes implemented under State Plan.

Mukhyamantri Saat Nishchay Yojana : The 'Saat Nishchay' (Seven Resolves) scheme aims at improving the lives of the people through education, skill development, electricity connection, piped water supply, and road and drainage. Out of these seven resolves, three are related to urban

areas —'Shauchalay Nirman Ghar Ka Sammaan', 'Har Ghar Nal Ka Jal' and 'Har Ghar Pakki Gali evam Naaliyan'. The Department of Urban Development and Housing is implementing these three resolves.

(A) Mukhyamantri Shahri Peyjal Nishchay Yojana : The state government has introduced 'Har Ghar Nal Ka Jal' scheme to provide clean and safe drinking water to all households in urban areas with water pipeline connection by 2019-20. Under this scheme, it is targeted to remove all the handpumps, on which the urban people depend for their water needs. It is roughly estimated that around 1.95 lakh households would benefit under this programme. The scheme is being implemented through Bihar Rajya Jal Parishad (BRJP), Bihar Urban Infrastructure Development Corporation (BUIDCO), Public Health Engineering Department (PHED) and Urban Local Bodies. All urban bodies have been allotted the funds as per following norms — 30 percent of the total fund required would come from the Fifth State Finance Commission, 2.30 percent of the fund required would come from the Fourteenth Central Finance Commission, and the rest of the funds would be provided from the State plan head. The salient features of the scheme is presented in Table 9.7 and the district-wise progress is reported in Table A9.2 (Statistical Appendix).

Table 9.7 : Salient Feature of the Scheme

Indicators	No. of households
Total No. of households	19,08,164
No. of HHs with piped water supply	3,36,521
No. of HHs to be covered with piped water supply	15,71,643
Strategy	99,079 HH in 32 towns under State Plan being executed by BRJP 6,05,148 HH in 21 towns under AMRUT being executed by BRJP 1,44,504 HH in 2 ADB schemes and 3 JnNURM Schemes being executed by BUIDCO 7,22,912 HH in 116 ULBs under Nishchay Yojana being executed by ULBs
No. of wards in which tenders floated	2826 out of 3396 wards
No. of wards in which work started	2333
No. of HHs provided with water pipeline connections	2,05,933

Source : Department of Urban Development and Housing, GOB

(B) Mukhyamantri Shahri Naali-Gali Pakkikaran Nishchay Yojana : It has been resolved that each street in all the wards of the urban areas in the state would be concretised. Besides this,

each urban habitat would be connected through concrete roads. In order to provide each household with access to drainage system along with concrete streets, the state government has initiated the ‘Ghar Tak Pakki Gali – Naaliyan’. The scheme was launched with the aim of linking every house located in the urban areas with a permanent drain and street. The Urban Local Bodies, on the basis of the recommendation of the Ward Sabhas, have prepared long-term plans which are now being implemented as per the priority list.

About 3,65,490 households would be covered under Pakki Nali Gali Yojana by 2019-20. To meet the fund requirement, 20 percent of State Finance Commission funds have been reserved for the scheme, which will be supplemented by State Plan funds. The year-wise target is presented in Table 9.8. The salient features of the scheme is presented in Table 9.9. Finally, the district-wise targets and achievements are presented in Table A9.3 (Statistical Appendix).

Table 9.8 : Year-wise Targets of Ghar Tak Pakki Gali Naali Yojana

Year	2016-17	2017-18	2018-19	2019-20	Total
Target (No. of households)	73098 (20)	109647 (30)	109647 (30)	73098 (20)	365490 (100)

Note : Figures in parenthesis indicate percentages

Source : Department of Urban Development and Housing, GOB

Table 9.9 : Salient Features of Ghar Tak Pakki Gali Naali Yojana

Indicators	No. of households
Total No. of households (HH)	19,08,164
No. of HHs to be covered under Nishchay Yojana	3,65,490
Status	66,697 HH has been covered against the target of 73,098 in 2016-17 and 68885 against the target of 112772 in 2017-18 (including backlog) and 96976 in 2018-19 (Up to Dated 30.11.2018) against the Target 153029 (Including Backlog)
Long term Action Plan with priority list	Prepared in all Wards after conducting Ward Sabha and uploaded on departmental website
No. of wards in which tenders floated	In 3234 Wards out of 3396
No. of schemes tendered	7747
No. of wards in which work started	3125 Wards out of 3377
No. of schemes completed	5510
Length of Gali completed	572.96
Length of Nali completed	456.85

Source : Department of Urban Development and Housing, GOB

9.4 Urban Development Programmes (Jointly Funded by Centre and State)

To improve the living conditions in urban areas, the state government is implementing a number of development programmes. The central and the state government are jointly funding most of these programmes. This section presents the details of important urban development programmes — (i) Namami Gange Scheme (NSG), (ii) Deendayal Antyodaya Yojana – National Urban Livelihoods Mission – (DAY-NULM), (iii) Swachh Bharat Mission (SBM) (iv) Pradhan Mantri Awas Yojana – Housing for All (HFA), (v) Atal Mission for Rejuvenation and Urban Transformation (AMRUT), (vi) Smart City Mission and (vii) Heritage City Development and Augmentation Yojana (HRIDAY).

Namami Gange Scheme : It is an integrated conservation mission, approved as a flagship programme of the central government in June 2014, with a budget of Rs. 20,000 crore. The objectives of the scheme is effective abatement of pollution, conservation and rejuvenation of the Ganga, the national river. The key components under this programme are — (a) Creating Sewerage Treatment Capacity (Sewerage management projects are under implementation by the state government), (b) Creating River-Front Development (River-Front Development projects at Patna is in advance stage) and (c) River Surface Cleaning (River Surface cleaning for collection of floating solid waste from the surface of the Ghats and River and its disposal are ongoing). This scheme is being managed by National Mission for Clean Ganga (NMCG). In addition to the above, the scheme also includes components for afforestation and promotion of awareness. There were 20 towns identified under Namami Gange Programme along the bank of river Ganga. The status of projects sanctioned under Namami Gange Programme is presented in Table 9.10.

Table 9.10 : Status of Projects under Namami Gange

Sectors	Cost of Projects (Rs. crore)			
	2015-16	2016-17	2017-18	2018-19
Solid Waste Management	-	-	-	426.9
Sewerage Network	-	1176.9	2135.74	829.27
Interception and Diversion of Drainage including STP	-	-	487.22	414.51
River Front Development	-	243.27	-	-
Crematoria	-	40.86	-	66.63
Community Toilets	1.05	4.05	6.84	
Total	1.05	1465.08	2629.80	1737.31

Source : Department of Urban Development and Housing, GOB

Deendayal Antyodaya Yojana - National Urban Livelihoods Mission (DAY-NULM)

This programme has 5 components — (i) Social Mobilisation and Institutional Development (SMID), (ii) Employment through Skill Training and Placement (ESTP), (iii) Financial Inclusion and Self-Employment Programme (FISEP), (iv) Support to Urban Street Vendors (SUSV), and Shelter for Urban Homeless (SUH).

Social Mobilisation and Institutional Development (SMID) : The mobilization of urban poor households to form their own institutions is an important instrument for an effective and sustainable poverty reduction programme. The National Urban Livelihood Mission (NULM) envisages universal social mobilization of urban poor into Self-Help Groups (SHGs) and their federations. At least one member from each urban poor household, preferably a woman, should be brought under the Self-Help Group network in a time-bound manner. These groups are serving as a support system for the poor, to meet their financial and social needs.

Table 9.11 : Achievement under SMID for 2017-18

Program/ Monitoring Parameter	Achievement
No. of Self-Help Groups (SHGs) formed under NULM	2185
No. of members in the SHGs under NULM	21850
Area-Level Federations (ALFs) formed under NULM	25
No. of City-Level Federations formed under NULM	01
Revolving Fund (RF) Support	1260

Source : Department of Urban Development and Housing, GOB

Employment through Skill Training and Placement (ESTP) : This programme was initiated in 42 urban centres of Bihar, comprising 38 districts headquarter and 4 other towns. The main objective of the programme is to train urban BPL youth and provide them with either salaried employment or self-employment opportunities. This programme is implemented through National Urban Livelihood Mission (NULM) and Bihar Skill Development Mission (BSDM). Due to amendments in operational guidelines of NULM and introduction of process and cost norms of BSDM, the training has been undertaken in only 7 Modular Employability Scheme (MES) courses, out of planned 16 courses. These courses follow the standards of National Skill Qualification Framework (NSQF). The department had made an arrangement for assessment and certification of trained beneficiary in association with National Council of Vocational Training (NCVT).

Table 9.12 : Achievement under ESTP for 2017-18

Population Category	Number of Persons	
	Undergoing Training	Completed Training
SC	487	496
ST	39	147
Others	2219	2861
Total	2745	3504

Source : Department of Urban Development and Housing, GOB

Financial Inclusion & Self Employment Program (FISEP) : This component focuses on financial assistance to individuals or groups of urban poor for setting up gainful self-employment venture which is suited to their skills, aptitude and local conditions. The urban local bodies provide support for processing loan application for individual urban poor. It also supports in assessing the skills requirement of the beneficiary and linking them with training programme of Rural Self-Employment Training Institutes (RSETI).

Table 9.13 : Achievement under FI SEP for 2017-18

Sl. No.	Program/Monitoring Parameter	Beneficiaries
1	SEP-I individual	1725
2	SEP- Group	08
3	SHG Credit Linkage	103
	Total	1819

Source : Department of Urban Development and Housing, GOB

Support to Urban Street Vendors (SUSV) : This programme aims to organise street vending activities in all 142 urban centres of Bihar. It first proposes to conduct survey of the street vendors, issue them I-Cards and facilitate their linkage with different welfare schemes. In particular, the programme promotes financial inclusion, training and insurance coverage for identified street vendors across the state.

The Department of Urban Development & Housing of the State government has formulated and is currently implementing the provisions of the Street Vendors (Protection of Livelihoods and Regulation of Street Vending) Act, 2014. In exercise of the powers conferred by Section 38 of the Act and after consultation with the Urban Local Bodies and Town Vending Committees, the

state government has notified the Bihar Street Vendors (Protection of Livelihood and Regulation of Street Vending) Rules, 2017 and is implementing them. In exercise of the powers conferred by Section 22 of the Act, the Town Vending Committees (TVC) have been constituted in all towns of Bihar. As per these Rules, Identity Cards are being distributed to surveyed street vendors. The Urban Local Bodies, in consultation with the Town Vending Committees, are in the process of developing City Street Vending Plans. The proposal for Vending Zones in Motihari town has already been sanctioned and it is under the process of implementation.

Table 9.14 : Achievement under Support to Urban Street Vendors for 2017-18

Sl. No.	Program/ Monitoring Parameter	Progress
1	Survey of Street Vendors	
i	No. of Cities to be covered for Street vendor Survey	98
ii	No. of Cities in which vendor survey started	98
iii	No. of Cities completed vendor survey	06
iv	No. of Street vendors identified in surveyed cities (Biometric survey)	--
v	No. of Street vendors issued ID cards	9850
2	Others	
vi	No. of basic Saving Accounts opened for Street vendors	805
vii	No. of financial literacy camps organized for Street vendors	25
viii	No. of training programmes organized for Street vendors	27
ix	Number of Street Vendors trained under Capacity Building	2875
x	No. of Credit Cards issued to Street Vendors	20
xi	No of Street Vendors linked to insurance scheme	192

Source : Department of Urban Development and Housing, GOB

Shelter for Urban Homeless (SUH) : The SUH scheme aims to ensure availability and access of the urban homeless population to permanent shelters, including the basic infrastructure facilities like water supply, sanitation, safety and security. To cater to the needs of especially vulnerable segments of the urban homeless population (dependent children, aged, disabled, mentally ill and people recovering from grave illness), the state government is creating special sections within homeless shelters and providing special service linkages for them. The department had sanctioned construction of 48 new shelters (50 bedded) in 48 cities. Apart from the new construction, refurbishment as well as operation and maintenance of 66 existing shelters have also been undertaken under SUH scheme.

Table 9.15 : Year-wise Release of Fund for Construction of Shelters in Bihar

Year	Allotment (Rs. lakh)		
Scheme	DAY-NULM	State Plan Head (Nagrik Suvidha)	Total
2014-15	1407.14	370.30	1777.44
2015-16	396.00	0.00	396.00
2016-17	0.00	0.00	0.00
2017-18	298.57	0.00	298.57

Source : Department of Urban Development and Housing, GOB

Table 9.16 : Status under SUH in Bihar (2017-18)

Shelters Sanctioned/ Planned	Operational	Already constructed/ refurbished & under process of getting operational	Under process of construction/ refurbishment
48 (New Construction)	13	15	10
66 (Refurbishment along with O&M)	38	06	22
Total (114)	51	21	32

Source : Department of Urban Development and Housing, GOB

Swachh Bharat Mission (SBM)

This is one of the flagship projects launched by the central government in 2014 to improve the sanitation standards in the country. With Bihar facing an acute problem of open defecation, the state government has joined hands with the central government in eliminating this problem. Bihar has set a target for the construction of 5.48 lakh toilets in the urban areas. The estimated expenditure is Rs. 759.60 crore, to be spread over four years.

Table 9.17 : Physical Progress under SBM (till November 2018)

Particulars	Constructed	Under Construction
Individual Toilet	2,63,368	1,70,170
Community Toilets	5213	4311
Public Toilets	3220	168

Source : Department of Urban Development and Housing, GOB

Till November 2018, a sum of Rs. 290.00 crore has already been disbursed to 142 towns in the state. For individual toilets, the state government provides Rs. 8000 to each family, in addition to

the central assistance of Rs. 4000. Till date, 99 out of 142 urban centres and a total of 3270 wards out of 3396 wards have been declared as ODF (Open Defecation-Free).

Pradhan Mantri Awas Yojana - Housing for All

The Pradhan Mantri Awas Yojana Mission was launched in June 2015. The period of the Mission is upto March, 2022. The main objective of this scheme is to provide pucca houses for the homeless family under different income slab. The details of this programme are presented in Table 9.18.

Table 9.18 : Progress of Work Under Pradhan Mantri Awas Yojana – Housing for All

Particulars	Physical Details (Number)
Total target of houses to be construct in different verticals under PMAY	7.00 Lakh
Total Demand of houses till date in different verticals under PMAY	5.50 Lakh
i. Beneficiary Led Construction (BLC)	3.70 Lakh
ii. Credit Link Subsidy Scheme (CLSS)	0.50 Lakh
iii. In-Situ Slum Redevelopment (ISSR)	0.10 Lakh
iv. Affordable Housing in Partnership (AHP)	1.20 Lakh
Total Towns Covered	140
Total Sanctioned Projects	336 under Beneficiary Led Construction
Total Sanctioned Dwelling Units	2,25,831
Particulars	Financial Details (Rs. Lakh)
Total Project Cost	1119257.985
Total Central Share	338746.50
Total State Share	112915.50
Central Share Released	77577.66
State Share Released	22651.63
Total Expenditure till Nov 2017	60233.00

Source : Department of Urban Development and Housing, GOB

Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

The state government has sanctioned Water Supply Schemes and Parks under the scheme. The details of the schemes sanctioned under the Mission are presented in Tables 9.19 and 9.20.

Table 9.19 : Details of Water Supply, Drainage and Park Projects

Name of Scheme	Total Project Cost (Rs. Lakh)	Total Expenditure (Rs. Lakh)	Financial Achievement (%)
Hajipur Water Supply Scheme-Phase I & II	10780.25	3411	31.6
Buxar Water Supply Scheme-Phase I & II	7365.786	2293.2	31.1
Chhapra Water Supply Scheme-Phase I & II	11788.2	3804	32.3
Jehanabad Water Supply Scheme-Phase I & II	6993.24	2970.72	42.5
Bagaha Water Supply Scheme-Phase I & II	9421.33	3013.71	32.0
Motihari Water Supply Scheme-Phase I & II	9739.628	2059.36	21.1
Siwan Water Supply Scheme-Phase I & II	10235.31	3073	30.0
Aurangabad Water Supply Scheme-Phase I	2977.1	2291.5	77.0
Purnea Water Supply Scheme-Phase I & II	19583.17	2900	14.8
Sasaram Water Supply Scheme-Phase I & II	11260.29	3200	28.4
Katihar Water Supply Scheme-Phase I & II	14646.832	1500	10.2
Begusarai Water Supply Scheme-Phase I & II	11844.25	1300.00	11.0
Kishanganj Water Supply Scheme-Phase I & II	7360.63	1300	17.7
Biharsharif Water Supply Scheme-Phase I & II	16210.78	1100	6.8
Arrah Water Supply Scheme-Phase I & II	12306.83	0	0.0
Darbhanga Water Supply Scheme-Phase	6799.9	500	7.4
Saharsa Water Supply Scheme-Phase	9291.1	4385.2	47.2
Betiah Water Supply Scheme-Phase	9725	2200	22.6
Dehri Water Supply Scheme-Phase	8286.18	2800	33.8
A (Total)	196615.806	44101.69	22.4
Bhagalpur Storm water drainage Scheme	3265.95		
Patna Storm water drainage Scheme	4894.99		
B (Total)	8160.94	0.00	0.0
Park Development in Buxar	43.258	6.49	15.0
Park Development in Arrah	156.12	68.08	43.6
Park Development in Biharsharif	59.44	11.91	20.0
Park Development in Darbhanga	82.988	33.20	40.0
Park Development in Chhapra	108.499	86.80	80.0
Park Development in Motihari	114.03	22.81	20.0
Park Development in Siwan	63.021	37.81	60.0
Park Development in Kishanganj	78.40	38.50	49.1
Park Development in Sasaram	95.655	24.26	25.4
Park Development in Bettiah	47.545	35.66	75.0
Park Development in Gaya	338.31	10.00	3.0
Park Development in Patna	472.00	47.20	10.0
Park Development in Saharsa	49.47		0.0
C (Total)	1708.731	422.72	24.7
Grand Total	206485.48	44524.41	21.56

Source : Department of Urban Development and Housing, GOB

Table 9.20 : Status of Implementation of Approved Water Supply Schemes

Description	No. of Projects	Amount (Rs. In Crore)
Approved by Apex Committee	38	2184.25
Approved by SHPSC	35	2142.24
Contract Awarded	33	1966.16
Work in Progress	33	1966.16

Note : The incurred expenditure on 33 projects is Rs. 305.00 crore

Source : Department of Urban Development and Housing, GOB

SMART City Mission

Under this scheme, four cities in Bihar have been selected — Patna, Bhagalpur, Biharsharif and Muzaffarpur. Since Bhagalpur was selected during the first phase, an allocation of Rs. 286 crore has already been earmarked for the town of Bhagalpur. The approval of the state cabinet has already been obtained on planned budget for Patna, Muzaffarpur and Biharsharif. The Special Purpose Vehicles (SPV) have been established for Patna, Muzaffarpur and Biharsharif. The details of the Smart City Mission in Bihar are presented in Tables 9.21 (a) and (b) and 9.22.

Table 9.21 (a) : Progress under SMART City Mission

Bhagalpur	Amount (Rs. crore)
i.) Multimodal intelligent Public Transport system	138.50
ii.) Development of UG sewerage system with SBR STP	119.39
iii.) 24X7 water supply	493.00
iv.) Command and Control Data Centre	31.40
Biharsharif	
i.) Commercial Area Development	109.00
ii.) Improvement Vehicular Movement and decongestion of roads	190.95
iii.) Unified City Governance	140.90
Muzaffarpur	
i.) Commercial Area Development	194.02
ii.) Improvement Vehicular Movement and decongestion of roads	159.00
iii.) River and Lake Edge Development	119.76
iv.) 24X7 water supply	52.61
Patna	
i.) Redevelopment of Railway station area	433.00
ii.) Smart Road Network	240.30
iii.) Slum Free ABD	123.34
iv.) Solar Rooftop on Government Building	99.92
v.) Multi Utility Smart Poles	148.50
vi.) Integrated Command and Control Data Centre	89.60

Source : Department of Urban Development and Housing, GOB

Table 9.21 (b) : Progress under SMART City Mission

Sl. No.	Cities	DPR under Preparation		DPR Prepared		Tender Stage (EoI / RFP)		Work Order Issued Stage		Work Completed Stage	
		No of Projects	Cost (Rs. Cr.)	No of Projects	Cost (Rs. Cr.)	No of Projects	Cost (Rs. Cr.)	No of Projects	Cost (Rs. Cr.)	No of Projects	Cost (Rs. Cr.)
1	Bhagalpur	7	160.50	4	471.00	2	423.00	31	38.91	24	20.69
2	Muzaffarpur	44	496.22	-	-	-	-	-	-	-	-
3	Patna	28	1570.30	14	395.76	12	372.65	1	51.90	1	490.00
4	Biharsharif	12	329.54	3*	180.15	2	37.05	3	180.15		
	Total	91	2556.60	18	1046.90	16	832.70	35	270.96	25	510.69

Source : Department of Urban Development and Housing, GOB

Table 9.22 : Smart City Costing

Cities	SCP Cost (In Rs. Cr.)	SPV Establishment	CEO Appointment	CFO Appointment	CS Appointment	PMC Appointment	Central Share Released	State Share Released
Bhagalpur (Fast Track-25.05.2016)	1,309.30	14.12.2016	14.12.2016 (Municipal Commissioner)	Part Time Engaged (M/s Himanshu Shekhar)	Part time engaged	02.08.2017 (M/s ILF Consulting with M/s Almondz Global)	196.00	186.00
Muzaffarpur (3rd Round-28.06.2017)	1,580.00	18.12.2017	18.12.2017 (Municipal Commissioner)	-	Part Time Engaged (M/s A. Kumar & Associates)	18.06.2018 (M/s SREI Infrastructure Finance Ltd)	56.00	52.50
Patna (3rd Round-28.06.2017)	2,776.16	09.11.2017	24.07.2018 (Addl. Municipal Commissioner)	Appointed	Appointed	(M/s Eptisa with M/s IDECK)	104.00	100.00
Biharsharif (4th Round-19.01.2018)	1,517.00	17.05.2018	17.05.2018 (Municipal Commissioner)	-	Part time	23.07.2018 M/S URS Scott Wilson	55.00	50.00
Total	7,182.46						411.00	388.50

Source : Department of Urban Development and Housing, GOB

Patna Metro Rail

The implementation of the Patna Metro Rail Project will entail a cost of Rs.13,412 crore in Special Purpose Vehicle (SPV) Model. The initial work for the project will include preparation of Detailed Project Report (DPR), Comprehensive Mobility Plan (CMP) and Alternative Analysis (AA). For this purpose, after obtaining necessary approval from the state cabinet, the proposal has been forwarded to the Union Ministry of Housing and Urban Affairs.

In the first phase, a total length of 16.94 kms has been proposed for the East-West Metro Corridor (Danapur to Mithapur via Bailey Road and railway station). In the second phase, a total length of 14.45 kms has been proposed for the North-South Metro corridor (from Patna railway

Station to New Interstate Bus Terminus (New ISBT), via Gandhi Maidan, Patna Medical College and Hospital (PMCH) and Rajendra Nagar Railway Station).

9.5 Municipal Finance

The state government has been collecting data on municipal finance for 35 ULBs in which Double Entry Accounting System (DEAS) has been introduced until 2015-16. The relevant data is presented in Table 9.23. The revenue grants comprise a very large part of total revenue income of municipal bodies. For example, in 2017-18, out of a total income of Rs. 1079.31 crore, the revenue grants accounted for Rs. 710.07 (65.8 percent). Unless the self-generated income of the municipal bodies grows fast, their heavy dependence on the revenue grants will continue for many more years. In the recent past, the self-generated income of the local bodies has grown only at a modest rate. In case of expenditure, the major component is establishment expenditure. In 2017-18, the expenditure on establishment was Rs. 271.65 crore which is no less than 47.0 percent of the total expenditure of Rs. 577.40 crore. In general, the municipal bodies in Bihar, as elsewhere in India, are highly dependent on external support. This is clearly indicated by some key financial indicators, as presented. For example, in 2017-18, the self-generated income accounts for barely 13.7 percent of the total revenue income.

Table 9.23 : Municipal Finances for 35 Towns in Bihar

(Rs. In Lakh)

Indicators	Total			
	2014-15	2015-16	2016-17	2017-18
Revenue Income				
(a) Self-Generated Income	1522.07	2179.63	12850.65	14784.76
(i) Holding Tax	418.23	452.96	7957.36	8715.84
(ii) Other Tax	209.69	331.51	1419.45	1426.60
(iii) Non Taxes	894.16	1395.16	3473.84	4642.32
(b) Assigned Income	284.66	176.31	10823.83	17075.03
(c) Revenue Grants	11885.73	11192.65	57913.36	71007.31
(d) Other Income/Receipts	361.97	863.26	2315.49	5063.70
Total	14054.43	14411.86	83903.33	107930.80
Revenue Expenditure				
(a) Establishment	4206.79	5270.40	27311.26	27165.33
(b) Programme	1811.09	2936.65	0.00	0.00
(c) Operation/ Maintenance	1095.85	1925.97	5316.37	17727.53
(d) Finance /Interest	0.68	0.55	0.02	0.05
(e) Others	7330.70	9474.68	14798.24	12847.37
Total	14445.10	19608.25	47425.89	57740.28
Capital Grants	32216.58	34418.31	46637.67	139337.054
Key Indicators				
Self-Generated Income/ Revenue Income (Percentage)	10.83	15.12	15.32	13.70
Self-Generated Income/ Establishment Expenditure (Percentage)	36.18	41.36	47.05	54.43

Source : Department of Urban Development and Housing, GOB

APPENDIX

Table A 9.1 : District-wise Urbanisation in Bihar (2001 and 2011)

Districts	Urbanisation		Districts	Urbanisation	
	2001	2011		2001	2011
Patna	41.6	43.1	Vaishali	6.8	6.7
Nalanda	14.9	15.9	Darbhanga	8.1	9.7
Bhojpur	13.9	14.3	Madhubani	3.5	3.6
Buxar	9.2	9.6	Samastipur	3.7	3.5
Rohtas	13.3	14.5	Begusarai	4.6	19.2
Kaimur	3.3	4.0	Munger	27.9	27.8
Gaya	13.7	13.2	Sheikhpura	15.6	17.1
Jehanabad	12.1	12.0	Lakhisarai	14.7	14.3
Arwal	–	7.4	Jamui	7.4	8.3
Nawada	7.7	9.7	Khagaria	5.9	5.2
Aurangabad	8.4	9.3	Bhagalpur	18.7	19.8
Saran	9.2	8.9	Banka	3.5	3.5
Siwan	5.5	5.5	Saharsa	8.3	8.2
Gopalganj	6.1	6.4	Supaul	5.1	4.7
W. Champaran	10.2	10.0	Madhepura	4.5	4.4
E. Champaran	6.4	7.9	Purnea	8.7	10.5
Muzaffarpur	9.3	9.9	Kishanganj	10.0	9.5
Sitamarhi	5.7	5.6	Araria	6.2	6.0
Sheohar	4.1	4.3	Katihar	9.2	8.9
Bihar				10.5	11.3

Source : Census of India, RGI, GOI

Table A 9.2 : District-wise Progress of the Mukhyamantri Shahri Peyjal Nishchay Yojana

District	Total Number of Urban		Number of Households				
			Access to Piped Water Supply	Access to Tap Water			
	Ward	Households			2016-17	2017-18	2018-19
Patna	363	334941	159448	18131	9981	16664	44776
Nalanda	143	71177	21542	1908	1753	2111	5772
Bhojpur	119	57531	4551	2667	1110	2238	6015
Buxar	60	22209	2261	584	1037	3292	4913
Rohtas	159	69214	12625	771	609	2635	4015
Kaimur	41	14294	1663	0	0	6553	6553
Gaya	105	86134	36897	4550	100	533	5183
Jehanabad	52	27040	1718	3437	2054	2052	7543
Arwal	25	8685	0	0	500	1830	2330
Nawada	70	31307	2458	944	2968	4778	8690
Aurangabad	86	33638	261	0	615	0	615
Saran	162	75245	7889	1	0	11949	11950
Siwan	65	29674	76	35	1053	4526	5614
Gopalganj	78	25947	0	85	167	1029	1281
W. Champaran	137	67902	217	1015	1955	3828	6798
E. Champaran	170	69216	582	1917	1467	7585	10969
Muzaffarpur	91	84825	24251	0	1980	4396	6376
Sitamarhi	103	36389	1088	670	1715	2825	5210
Sheohar	15	6344	36	36	755	0	791
Vaishali	97	36713	4473	2110	100	7851	10061
Darbhanga	77	75850	5182	505	0	930	1435
Madhubani	71	30899	425	0	0	3909	3909
Samastipur	61	23375	1671	0	0	650	650
Begusarai	144	87881	2426	100	0	4427	4527
Munger	99	40491	6370	0	0	0	0
Sheikhpura	53	18559	3252	0	0	4013	4013
Lakhisarai	57	28201	6896	1183	0	4392	5575
Jamui	52	25577	0	0	0	1010	1010
Khagaria	46	18426	338	0	0	250	250
Bhagalpur	116	98991	27241	451	934	9997	11382
Banka	36	12851	49	0	0	24	24
Saharsa	55	40033	62	510	970	0	1480
Supaul	53	23219	91	586	1151	2023	3760
Madhepura	41	20293	6	163	623	3478	4264
Purnea	80	68697	373	0	0	4910	4910
Kishanganj	64	34360	0	0	350	0	350
Araria	73	33818	103	1154	973	28	2155
Katihar	77	41775	0	0	0	784	784
Bihar	3396	1911721	336521	43513	34920	127500	205933

Source : Department of Urban Development and Housing, GOB

Table A 9.3 : District-wise Targets and Achievements of Ghar Tak Pakki Gali Naali Yojana

District	Total Number of Urban		Number of Households	
	Households	Wards	To be covered	Covered
Patna	333594	363	51911	24128
Nalanda	71349	143	11306	20205
Bhojpur	57265	119	8948	9448
Bauxar	21875	60	5469	5491
Rohtas	66905	159	16223	10068
Kaimur	12796	41	3103	2695

Gaya	86716	105	11591	7019
Jehanabad	27040	52	6627	2627
Arwal	8685	25	2171	1185
Nawada	31374	70	7586	4926
Aurangabad	33738	86	8219	4910

Saran	72218	162	12700	8201
Siwan	30883	65	7553	4226
Gopalganj	26014	78	6177	4432

W. Champaran	67884	137	16633	11622
E. Champaran	69525	170	16619	11323
Muzaffarpur	84836	91	11226	4804
Sitamarhi	36389	103	8680	2890
Sheohar	6344	15	1459	231
Vaishali	36207	97	8840	4305

Darbhanga	75852	77	11226	6247
Madhubani	30899	71	7431	9355
Samastipur	23375	61	5609	2301

Begusarai	87882	144	14368	13600
Munger	54716	99	8931	3382
Sheikhpura	19977	53	4994	4190
Lakhisarai	28459	57	6959	3230
Jamui	25497	52	6232	3359
Khagaria	18426	46	4442	1170

Bhagalpur	87368	116	13336	4724
Banka	12851	36	2956	2910

Saharsa	40032	55	9870	1106
Supaul	22731	53	5516	3087
Madhepura	20293	41	4932	2550

Purnea	68697	80	9200	13858
Kishanganj	33896	64	8221	2559
Araria	34201	73	8398	6511
Katihar	41375	77	5276	3653

Bihar	1908164	3396	360938	232528

Source : Department of Urban Development and Housing, GOB

CHAPTER - X

BANKING AND ALLIED SECTORS

The period since 2016-17 has seen a number of changes in the banking sector of the country, particularly the enactment of the Insolvency and Bankruptcy Code (IBC), 2016 and the announcement of the plan for the recapitalisation of Public Sector Banks (PSBs), with Rs. 65,000 crore. It was also marked by the introduction of a number of innovative measures to inject a fresh life into the financial services in the country, especially in respect of extending the outreach of banking services to the hitherto deprived sections of the country's population. These have the potential for transforming the banking sector as a whole by making it stronger and more resilient.

Among the key achievements of the policies of the central government was the much higher financial inclusion of rural population through the Pradhan Mantri Jan-Dhan-Yojana (PMJDY) scheme, introduced in 2014 under which altogether 30.71 crore accounts have been opened as of December 2017, including 18.05 crore accounts in rural/semi-urban areas. For Bihar, the corresponding figures are — 3.23 crore (total accounts) and 2.02 crore (accounts in rural and semi-urban areas).

Following the Reserve Bank of India (RBI) approvals for launching of the Immediate Payment Service (IMPS) in 2010-11 and Payments Banks and the Small Finance Banks in 2014-15, the digital payments in India have received a boost. The Faster Payments Innovation Index (FPII), used since 2014, aims at “evolving a comparative rating system where diverse payments systems across the globe could be compared and contrasted”. The FPII ranks payments systems on a five-point scale, where level 5 payments systems indicate maximum customer value with features like remittance information, push and pull capability and aliases. India's is the only payment system at level 5 of the FPII scale, ahead of payment systems among 25 surveyed countries, which included such advanced countries like USA, UK, Canada, Japan and Singapore. The Immediate Payment Service (IMPS) was launched by the National Payments Corporation of India (NPCI), the umbrella organization for all retail payments in the country. Along with IMPS, the NPCI also launched in August, 2016 the Unified Payments Interface (UPI) which is a combination of real time payments with open interfaces, with an intention to replace cash, point-of-sale and wallet. All these technologies facilitate instant fund transfers between two bank accounts on a mobile platform, without any details of the beneficiary's bank. Transactions through UPI received a

major boost from the government after the launching of the BHIM (Bharat Interface for Money) app in December 2016.

In August 2015, India Post got a licence to run a payments bank – the India Post Payments Bank (IPPB) - from the RBI. A year later, it was registered as a public limited government company for setting up a payments bank. Following the success of a pilot project, the first phase of IPPB with 650 branches and 3250 post offices as access points was inaugurated on September 1, 2018. Bihar has 18 of these branches with 90 access points under the first phase. Operating under the Department of Posts, Ministry of Communication, IPPB will ultimately utilize all of India's 1,55,015 post offices as access points and 3,00,000 postal service workers to provide house-to-house banking services. All these are ensuring unprecedented financial inclusion and digitisation of transactions.

While these were success stories, the banking sector in India has also been beset with problems of unchecked growth of Non-Performing Assets (NPA), banking frauds and problems of increasing indebtedness of the Non Banking Financial Companies (NBFC), of which the most serious manifestation was in the collapse of the Infrastructure Leasing and Financial Services (IL&FS) that has accumulated debts exceeding Rs 90,000 crore. As per the RBI's Annual Report (July 2017 - June 2018), stressed assets in the banking system remained at a high level of 12.1 percent of gross advances at end-March 2018, which is expected to increase further this year. Eleven Public Sector Banks (PSB) were placed under the RBI's revised Prompt Corrective Action (PCA) framework (effective from April, 2017) which restricted their lending operations and subjected them to a remedial action plan to prevent further capital erosion. This has hit the Micro Small and Medium Enterprises (MSME) sector very hard by further limiting the sources of their scant working capital. These pan-India problems also equally affected Bihar's financial sector and capital availability to the MSMEs within the state.

The Indian banking system includes 21 public sector banks, 26 private sector banks, 49 foreign banks, 56 regional rural banks, 1562 urban cooperative banks and 94,384 rural cooperative banks, besides cooperative credit institutions. India's retail credit market is the fourth largest in the emerging countries. The public sector banks control more than 70 percent of the banking system assets in India, while the private sector banks play a relatively smaller role in the banking sector. The role of public sector banks is even more significant in rural areas.

In the near absence of a capital market, the financial sector in a state like Bihar is almost entirely driven by the Scheduled Commercial Banks (SCB). Any adverse development in the international and national banking scenario affecting the SCBs is, therefore, bound to impact the financial sector in Bihar as well. The financial system is driven by the flow of finances through intermediaries like banks, insurance companies, securities firms, mutual funds, finance companies and pension funds — all the institutions that channel resources from those who save to those who invest. However, the analysis of the financial sector in Bihar here will take into account only banking institutions in the state which include — (i) Banks that include Commercial Banks, Regional Rural Banks, Cooperative Banks as well as other Cooperative institutions, (ii) State financial institutions and (iii) National financial institutions.

10.1 Banking Infrastructure

Commercial Banks

Table 10.1 shows the number of commercial bank branches in Bihar from 2013 to 2018 and their location pattern. In March 2018, there were 6906 branches of commercial banks in Bihar. In 2017-18, there were 62 new branches in Bihar, implying a growth of 0.9 percent. During the recent past, the annual growth in number of branches was the highest in 2013-14 (12.1 percent). The distribution of branches shows that 50.8 percent of them are in rural, 28.7 percent in semi-urban and 20.5 percent in urban areas. Over the years, the share of rural areas in total number of bank branches has decreased, with a corresponding increase in the share of semi-urban and urban areas. The decrease in the percentage of rural branches is due to the fact that some rural areas have been converted into semi-urban areas, owing to an increase in their population.

Table 10.1 : Distribution of All Bank Branch Offices (2013-2018)

Year (End March)	Total	Growth Rate	Percentage distribution of branches by location			
			Rural	Semi- urban	Urban	All
2013	5270	8.4	59.6	21.8	18.6	100.0
2014	5908	12.1	58.7	23.0	18.3	100.0
2015	6297	6.6	57.9	23.1	19.0	100.0
2016	6661	5.8	55.4	25.2	19.4	100.0
2017	6844	2.8	51.0	28.5	20.5	100.0
2018	6906	0.9	50.8	28.6	20.5	100.0

Source : State Level Bankers' Committee

As of March 2018, the private non-nationalised banks have 386 urban and semi-urban branches and only 73 rural branches (compared to 354 and 54 respectively in March 2017). These banks obviously take advantage of the relatively higher purchasing power in the urban and semi-urban areas. Their location pattern does not serve the objective of financial inclusion.

From Table 10.2, it can be noted that Bihar accounted for only 4.8 percent of all the bank branches in the country in March 2018, though its share in country's population is about 8.6 percent. This share has remained the same over the past few years.

Table 10.2 : Distribution of Branches of Commercial Banks among States (as on March, 2018)

States	No. of Branches	Percentage share in all-India branches	Percentage share in all-India population	States	No. of Branches	Percentage share in all-India branches	Percentage share in all-India population
Andhra Pradesh	6892	4.9	7.0	Maharashtra	12317	8.8	9.3
Bihar	6681	4.8	8.6	Odisha	4801	3.4	6.0
Chhattisgarh	2492	1.8	2.1	Punjab	6436	4.6	2.3
Gujarat	7835	5.6	5.0	Rajasthan	7198	5.1	4.4
Haryana	4808	3.4	2.1	Tamil Nadu	10710	7.6	6.0
Himachal Pradesh	1532	1.1	0.5	Uttar Pradesh	16913	12.1	16.5
Jharkhand	2947	2.1	2.7	Uttarakhand	2041	1.5	0.8
Karnataka	9933	7.1	5.0	West Bengal	7932	5.7	3.5
Kerala	6281	4.5	2.8				
Madhya Pradesh	6511	4.6	6.0	India	140133	100.0	100.0

Note : The information on number of branches of commercial banks is slightly different in Tables 10.1 and 10.2. This is due to non-reporting by some banks about their operations to the Reserve Bank of India and non-reconciliation of SLBC data with the RBI data.

Source : Quarterly Statistics on Deposits and Credit of Scheduled Commercial Banks, Reserve Bank of India

Cooperative Banks

The data for the State and District Central Cooperative Banks is shown in Table 10.3. It emerges from the table that while the number of State Cooperative Banks in the country as a whole increased by 31 in 2017, in Bihar, the number increased by only one. As regards the District Central Cooperative Banks, there were 40 additions for the whole of India in 2017; however, in Bihar, there was no addition. The total number of Cooperative Bank branches in Bihar was 324 in 2017, compared to 323 in 2016.

Table 10.3 : Number of Branches of State and District Central Cooperative Banks (As on March 31)

State	State Cooperative Banks			District Central Cooperative Banks			Total		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
Andhra Pradesh	37	7	14	611	378	397	648	385	411
Bihar	12	11	12	312	312	312	324	323	324
Gujarat	10	16	25	1313	1322	1331	1323	1338	1356
Haryana	14	14	14	621	621	625	635	635	639
Himachal Pradesh	214	227	227	255	261	274	469	488	501
Jharkhand	-	-	-	122	122	-	122	122	0
Karnataka	42	42	42	701	715	729	743	757	771
Kerala	21	24	24	751	792	807	772	816	831
Madhya Pradesh	25	25	25	856	857	857	881	882	882
Maharashtra	48	48	51	3750	3755	3729	3798	3803	3780
Odisha	15	15	15	338	349	350	353	364	365
Punjab	20	19	18	816	816	817	836	835	835
Rajasthan	17	17	17	453	454	460	470	471	477
Tamil Nadu	47	47	47	782	812	844	829	859	891
Uttar Pradesh	29	29	29	1394	1406	1406	1423	1435	1435
Uttarakhand	16	16	16	250	255	261	266	271	277
West Bengal	48	48	48	304	313	318	352	361	366
India	1131	1168	1197	14060	14241	14252	15191	15409	15449

Source : National Federation of State Cooperative Banks Ltd. (NAFSCOB)

Regional Rural Banks (RRB)

With the promulgation of the Regional Rural Banks (RRB) Act of 1976, the regional rural banks came into existence. With equity holdings of these RRBs by the central government, the concerned state governments and the sponsoring banks are in the proportion of 50:15:35 respectively, the RRBs provide a multi-agency approach for agricultural and rural credit in India.

The data for RRBs in Bihar is shown in Table 10.4. At the end of September, 2018, Bihar had 2110 RRB branches; in September, 2017, this number was 2106. Of the three RRBs in Bihar, Uttar Bihar Kshetriya Gramin Bank alone account for almost half the total RRB branches in the state.

Table 10.4 : Number of RRB Branches in Bihar (as on September, 2018)

	Rural	Semi-Urban	Urban	Total
Madhya Bihar Gramin Bank	550	106	46	702
Bihar Kshetriya Gramin Bank	263	98	15	376
Uttar Bihar Kshetriya Gramin Bank	639	349	44	1032
Total	1452	553	105	2110

Source : State Level Bankers' Committee

The total rural deposits of all Scheduled Commercial Banks in Bihar stood at Rs 65,122 crore as of March 2017 (Table 10.5). Bihar accounted for about 5.8 percent of all rural deposits of the Scheduled Commercial Banks in the country; this ratio was 6.1 percent during the previous year. The deposits in the savings bank constituted the major share (67 percent) of the total rural deposits of Scheduled Commercial Banks in Bihar, compared to 64 percent in the previous year. Rural deposits grew by 5.3 percent during the year in Bihar, compared to all India average of 11.2 percent. The growth in rural deposits was much slower in 2017 compared to that in 2016 when it was 12.8 percent.

Table 10.5 : Rural Deposits of Scheduled Commercial Banks by Type of Deposit (as on March, 2017)

State	No. of Branches	Current		Savings		Term		Total	
		No. of Accounts (lakh)	Amount (Rs crore)	No. of Accounts (lakh)	Amount (Rs crore)	No. of Accounts (lakh)	Amount (Rs crore)	No. of Accounts (lakh)	Amount (Rs crore)
Andhra Pradesh	2,299	3.9	1,217	235.8	17,891	19.5	24,649	259.3	43,757
Bihar	3,098	15.1	2,346	436.6	43,880	29.7	18,896	481.5	65,122
Chhattisgarh	1,017	2.4	1,011	143.4	12,784	8.7	6,804	154.5	20,599
Gujarat	2,422	2.9	2,062	199.2	26,644	28	36,991	230.1	65,697
Haryana	1,579	7.2	993	98.8	16,953	8.2	12,456	114.3	30,403
Himachal Pradesh	1,150	7.2	1,391	63.8	17,665	21.8	27,566	92.9	46,622
Jharkhand	1,297	2.2	1,213	185.3	18,736	16.6	13,584	204.1	33,533
Karnataka	3,399	5.2	2,850	276.7	25,393	33.5	31,652	315.4	59,895
Kerala	326	0.5	253	18.8	3,602	3.1	5,674	22.4	9,529
Madhya Pradesh	2,242	5.3	1,356	279.2	21,288	19.3	13,949	303.8	36,592
Maharashtra	3,037	5.4	3,432	299.6	32,672	21.5	27,707	326.5	63,811
Odisha	2,481	4.0	1,886	282.6	31,201	30.7	23,396	317.3	56,482
Punjab	2,442	14.9	1,784	139.8	29,551	21.6	36,328	176.3	67,662
Rajasthan	2,749	7.8	1,882	272.5	25,876	16.6	16,820	296.9	44,579
Tamil Nadu	2,770	4.8	2,184	278.3	25,056	25.1	29,455	308.2	56,695
Uttar Pradesh	7,526	25.4	4,668	1,035.2	1,17,253	54.3	47,618	1,115.0	1,69,540
Uttarakhand	909	3.5	1,442	65.5	14,233	11.4	10,241	80.4	25,917
West Bengal	3,118	10.5	3,648	564.1	53,529	67.6	52,636	642.2	1,09,812
India	48,384	139.5	42,566	5,420.4	5,94,362	482.4	4,85,040	6,042.3	11,21,967

Source : Basic Statistical Returns of Scheduled Commercial Banks in India 2017-18, RBI

Employees of Scheduled Commercial Banks

From Table 10.6, it can be seen that there were 46,300 bank employees in Bihar in March 2017, compared to 42,500 in March 2016. Out of them, 53.3 percent belonged to the category of

officers, up from 49.3 percent in the previous year. Bihar accounted for only 3.4 percent of all the employees of Scheduled Commercial Banks in India in March, 2017. It is also seen from the table that females constitute 13.0 percent of the total bank employees in Bihar, much lower than the national average of 23.4 percent.

Table 10.6 : Distribution of Employees of SCBs (March, 2017)

State	Number of Employees ('000)				Number and percentage of Female Employees
	Officers	Clerks	Sub-ordinates	Total	
Andhra Pradesh	30.3 (56.4)	16.2 (30.2)	7.3 (13.6)	53.7 (100)	12.5 (23.3)
Bihar	24.7 (53.3)	15.0 (32.4)	6.6 (14.3)	46.3 (100)	6.0 (13.0)
Chhattisgarh	10.6 (59.9)	5.1 (28.8)	1.9 (10.7)	17.7 (100)	3.3 (18.6)
Gujarat	49.6 (64.6)	18.7 (24.3)	8.5 (11.1)	76.8 (100)	14.3 (18.6)
Haryana	29.3 (65)	11.0 (24.4)	4.8 (10.6)	45.1 (100)	10.2 (22.6)
Himachal Pradesh	5.0 (47.6)	3.5 (33.3)	2.0 (19)	10.5 (100)	1.9 (18.1)
Jharkhand	11.9 (52.9)	7.4 (32.9)	3.1 (13.8)	22.5 (100)	4.6 (20.4)
Karnataka	54.4 (57.7)	27.8 (29.5)	12.0 (12.7)	94.2 (100)	26.8 (28.5)
Kerala	33.0 (55.1)	20.1 (33.6)	6.8 (11.4)	59.9 (100)	25.5 (42.6)
Madhya Pradesh	30.3 (58.2)	14.7 (28.2)	7.1 (13.6)	52.1 (100)	9.5 (18.2)
Maharashtra	155.3 (72.9)	39.9 (18.7)	17.7 (8.3)	212.9 (100)	60.0 (28.2)
Odisha	19.5 (55.7)	10.5 (30)	4.9 (14)	35.0 (100)	6.5 (18.6)
Punjab	31.4 (59.9)	14.0 (26.7)	7.0 (13.4)	52.4 (100)	11.9 (22.7)
Rajasthan	33.9 (60)	15.1 (26.7)	7.5 (13.3)	56.5 (100)	8.1 (14.3)
Tamil Nadu	64.3 (59.6)	32.8 (30.4)	10.7 (9.9)	107.8 (100)	33.9 (31.4)
Uttar Pradesh	68.7 (55.2)	37.7 (30.3)	18.1 (14.5)	124.5 (100)	18.9 (15.2)
Uttarakhand	8.0 (52.3)	4.9 (32)	2.5 (16.3)	15.3 (100)	3.1 (20.3)
West Bengal	52.9 (61.9)	20.8 (24.3)	11.8 (13.8)	85.5 (100)	14.1 (16.5)
India	828.6 (61.4)	360.4 (26.7)	160.9 (11.9)	1349.9 (100)	316 (23.4)

Note : Figures in Parenthesis indicate row-wise percentage share.

Source : Basic Statistical Returns of Scheduled Commercial Banks in India, 2017-18, RBI

10.2 Deposits and Credits

Per Capita Deposits and Credits of Scheduled Commercial Banks

Table 10.7 shows the deposits and credits of Scheduled Commercial Banks in major states of India in 2016-17 and 2017-18. From this table, it is seen that there has been a modest growth of 7.2 percent in 2017-18 in the total deposits in Bihar (increase of Rs 21,242 crore) over the previous year. Simultaneously, the credit in 2017-18 has expanded by Rs 10,636 crore, implying

a higher growth of 11.7 percent. The corresponding national averages during the year were 6.8 percent for deposits and 9.5 percent for credit. Bihar's share in the total deposits of Scheduled Commercial Banks for 2017-18 (2.8 percent) was the same as in the previous year, while its share of credit improved marginally to 1.2 percent compared to 1.1 percent in the previous year. Compared to its population share of about 8.6 percent, Bihar's share in total deposits and in total credit is substantially lower.

Table 10.7 : State-wise Deposits and Credit of Scheduled Commercial Banks in India (March 31)

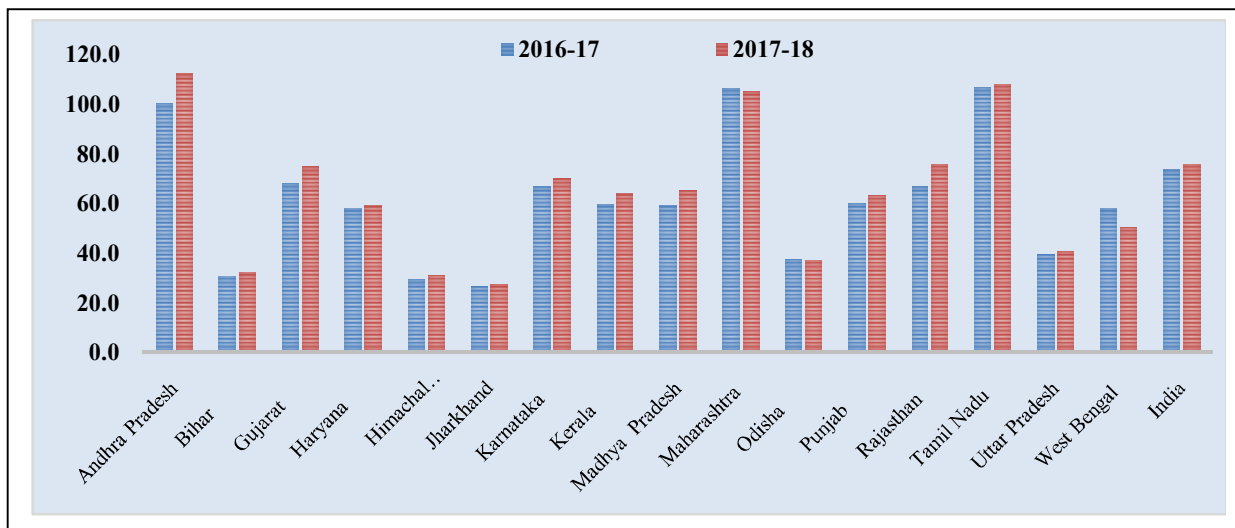
States	Deposits (Rs. crore)		Credits (Rs. crore)		CD Ratio	
	2016-17	2017-18	2016-17	2017-18	2016-17	2017-18
Andhra Pradesh	250682 (2.3)	276527 (2.4)	251210 (3.2)	310457 (3.6)	100.2	112.3
Bihar	295882 (2.8)	317131 (2.8)	90875 (1.1)	101511 (1.2)	30.7	32.0
Gujarat	609909 (5.7)	643747 (5.6)	413537 (5.2)	482779 (5.6)	67.8	75.0
Haryana	310704 (2.9)	367362 (3.2)	179537 (2.3)	218336 (2.5)	57.8	59.4
Himachal Pradesh	79416 (0.7)	85753 (0.7)	23289 (0.3)	26479 (0.3)	29.3	30.9
Jharkhand	187197 (1.7)	199475 (1.7)	49992 (0.6)	54639 (0.6)	26.7	27.4
Karnataka	782336 (7.3)	840424 (7.3)	523410 (6.6)	586740 (6.8)	66.9	69.8
Kerala	412503 (3.8)	440361 (3.8)	246314 (3.1)	281384 (3.2)	59.7	63.9
Madhya Pradesh	322859 (3)	340117 (3)	190915 (2.4)	221512 (2.6)	59.1	65.1
Maharashtra	2163654 (20.1)	2289301 (19.9)	2299580 (29)	2404766 (27.7)	106.3	105.0
Odisha	246976 (2.3)	271019 (2.4)	92313 (1.2)	100653 (1.2)	37.4	37.1
Punjab	336688 (3.1)	350459 (3.1)	202582 (2.6)	221388 (2.5)	60.2	63.2
Rajasthan	315105 (2.9)	336820 (2.9)	210398 (2.7)	254382 (2.9)	66.8	75.5
Tamil Nadu	671756 (6.2)	725810 (6.3)	715725 (9)	784172 (9)	106.5	108.0
Uttar Pradesh	890702 (8.3)	957832 (8.3)	351031 (4.4)	391892 (4.5)	39.4	40.9
West Bengal	688824 (6.4)	722699 (6.3)	398762 (5)	364454 (4.2)	57.9	50.4
India	10751439 (100)	11479288 (100)	7927003 (100)	8682573 (100)	73.7	75.6

Note : Figures in Parenthesis indicate share of the states

Source : Statistical Tables Relating to Banks in India, 2017-18, RBI

From Table 10.7, one can also note that, as in the previous years, the Credit-Deposit (CD) ratio of Scheduled Commercial Banks in Bihar in 2017-18 was the third lowest (32.0 percent) among all the major states, after Jharkhand (27.4 percent) and Himachal Pradesh (30.9 percent). It was nowhere near the national average of 75.6 percent, not to mention the high CD ratios of Andhra Pradesh (112.3 percent), Tamil Nadu (108.0 percent) or Maharashtra (105.0 percent). The CD Ratio of Bihar has marginally improved from 30.7 percent in 2016-17 to 32.0 percent in 2017-18.

Chart 10.1 : CD Ratio of Major Indian States (2016-17 and 2017-18) based on RBI data



The CD ratios in Bihar since 2012-13, according to data released by the State Level Bankers' Committee (SLBC), are presented in Table 10.8. As per this data, as on September 2018, the aggregate deposits of all banks in Bihar were Rs 3,22,392 crore, against a credit of Rs 1,42,736 crore, resulting in a CD ratio of 44.3 percent, a little lower than 45.4 percent in March 2018. Even though there has been some improvement in the CD ratio in recent years, its low level continues to plague the banking scenario in Bihar.

Table 10.8 : Credit-Deposit (CD) Ratio of All Banks in Bihar

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 (upto Sep 2018)
Deposit (Rs. crore)	161036	183458	211302	240288	280370	312829	322392
Credit (Rs. crore)	65364	85334	100261	103238	129969	141967	136781
CD Ratio	40.6	46.5	47.4	43.0	46.4	45.4	42.4

Note : As per the RBI data given in Table 10.7, CD Ratio of Bihar was 32.0 percent as of March, 2018, whereas the SLBC data presented in this table depicts the same as 45.4 percent. The difference is mainly due to the inclusion of funds loaned by banks under the RIDF Scheme (discussed in Section 10.6). Also Table 10.7 contains data only for the commercial banks in Bihar, while Table 10.8 contains data for all banks in Bihar including RRBs and Cooperative Banks. However, even for the Commercial Banks, there is serious discrepancy between the figures reported by RBI and SLBC, which needs to be reconciled. As per the SLBC data, the CD ratio for commercial banks as of March 2018 stood at 45.4 percent compared to 32 percent reported by the RBI.

Break-up of the advances (Rs. crore) as of March 2018 as per SLBC are as follows :

Commercial Banks	116222
Co-Op. Banks	2570
RRBs	16205
RIDF	6970
Sub-Total	141967
Investments	5830
Total	147797

Source : State Level Bankers' Committee

In absolute terms, the low CD ratio means that if the current CD ratio in the state were to increase to match the national level of around 76 percent, investments in the state would have gone up substantially to provide the much-needed impetus to productive economic activities. The low disbursement of credit also indicates that either the industrial activities are stagnating or the credit requirements of the enterprises are being met at higher rates of interest from private lending agencies, eating into their profitability. This, naturally, is a serious hindrance to industrial growth in the state. Further, this also indicates the flight of capital away from an already disadvantaged state. However, it is to be mentioned that improvement in the CD ratio will depend on the credit demand which is dependent on a number of factors, like availability of infrastructure, market, entrepreneurial skill and business atmosphere, for most of which Bihar remains seriously disadvantaged.

Chart 10.2 : Growth of Deposits and Credits in Bihar based on SLBC data

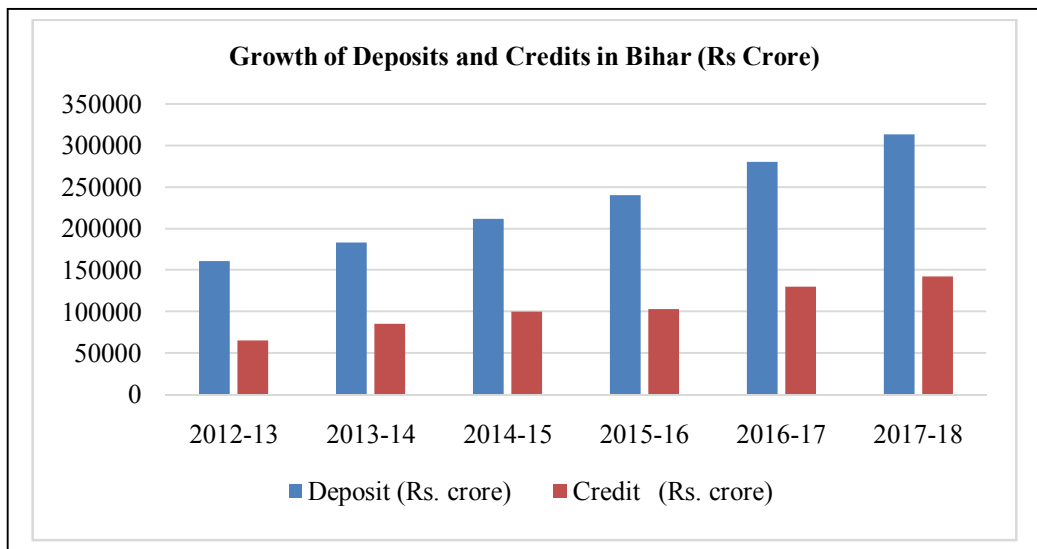
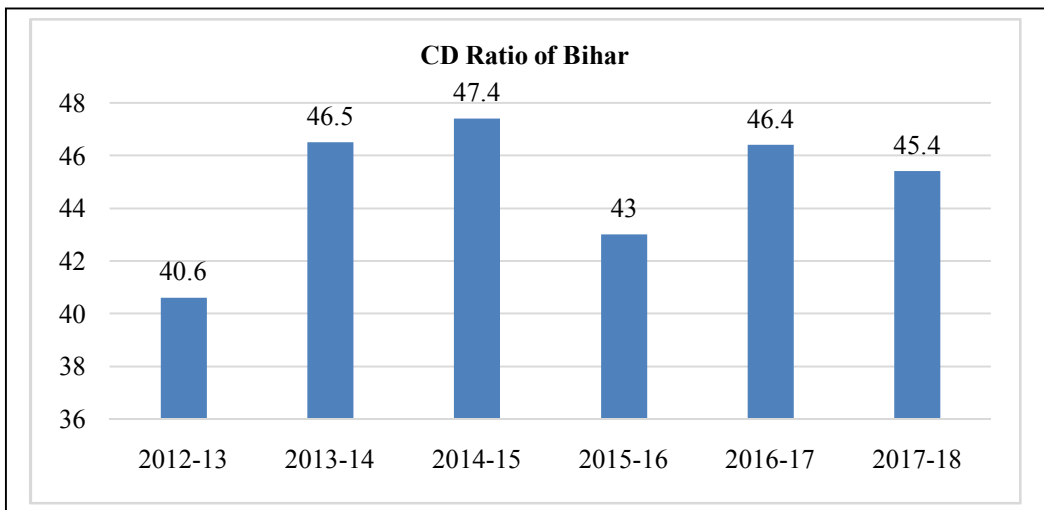


Chart 10.3 : CD Ratio of Bihar based on SLBC data



The CD ratios in Bihar in 2017-18 by the bank groups and their locations are shown in Table 10.9. The CD ratio was the highest for Cooperative Banks (86.9 percent), followed by the Regional Rural Banks (52.3 percent) and Scheduled Commercial Banks (38.8 percent). The shares of these banks in the total deposits were: Regional Rural Banks (9.9 percent), Cooperative Banks (0.9 percent), and Scheduled Commercial Banks (89.2 percent); for credit, the respective shares were 12.8 percent, 2.0 percent and 85.2 percent. The combined credits or deposits of the Regional Rural Banks and Cooperative Banks were a fraction of the total credits and deposits of the Scheduled Commercial Banks; consequently, unless the CD ratio of the Scheduled Commercial Banks improves significantly, the overall CD ratio in the state is unlikely to improve.

Table 10.9 : Bank Group-wise and Area-wise Credit-Deposit Ratio (2017-18)

Bank Groups	Area	Deposits (Rs. crore)	Credits (Rs. crore)	CD Ratio	Investment (Rs. crore)	ICD Ratio
Commercial Bank	Rural	52204	22566	43.2	--	--
	Semi-Urban	71083	26451	37.2	--	--
	Urban	155605	59256	38.1	--	--
	Total	278892	108273	38.8	5464	40.8
RRB	Rural	20680	11829	57.2	--	--
	Semi -Urban	6547	3097	47.2	--	--
	Urban	3750	1279	34.1	--	--
	Total	30977	16205	52.3	361	53.5
Cooperative Bank	Rural	1131	1051	92.9	--	--
	Semi-Urban	935	891	95.2	--	--
	Urban	894	629	70.3	--	--
	Total	2960	2570	86.9	5	87.0
All Banks	Rural	74015	35446	47.8	--	--
	Semi-Urban	78565	30438	38.7	--	--
	Urban	160249	61164	38.1	--	--
	Total	312829	127048	40.6	5830	45.0

Note : The CD Ratio of commercial banks as per this table stands at 38.8 percent as compared to 45.4 percent reported under Table 10.8; the difference is due to outstanding credit of the previous years disbursed during 2017-18.

Source : State Level Bankers' Committee

Investment Plus Credit to Deposit (ICD) Ratio

The banks assist the economy not simply by giving credit, but also by investing in state government securities and in shares and bonds of state undertakings, quasi-government bodies and joint stock companies. Therefore, the total involvement of banks in the economic activities

of a state is truly reflected not by CD ratios alone, but by the Investment plus Credit to Deposit (ICD) ratios. From Table 10.9, it is seen that if the ICD ratio is taken into account, there is not much improvement in the performance of all categories of banks.

CD Ratio as per Sanction and Utilisation

The CD ratio is conventionally calculated on the basis of credit sanctions in a state. A low CD ratio, based on credit sanctions, would indicate the migration of deposits from one state to another. On the other hand, a CD ratio based on credit utilization takes into account the actual location where the credit is utilised and is a better indicator of the migration of deposits. A comparison between these two ratios, therefore, assumes importance in the context of inter-state comparison of CD ratios. For the country as a whole, these two ratios would evidently be identical, but the utilization ratios may be higher in some states. This was indeed the case in Bihar, as the CD ratio based on utilisation was a little higher than the same based on sanction in all the three years, 2015, 2016 and 2017 (Table 10.10).

Table 10.10 : Credit-Deposit (CD) Ratio of the Scheduled Commercial Banks as on March 31

	2015		2016		2017	
	As per Sanction	As per Utilization	As per Sanction	As per Utilization	As per Sanction	As per Utilization
Andhra Pradesh	105.3	108.3	106.0	109.6	101.1	104.4
Bihar	33.6	34.3	33.4	34.5	30.9	32.0
Gujarat	72.7	79.0	75.4	82.4	68.9	75.2
Haryana	75.8	85.2	69.9	82.6	59.1	69.1
Himachal Pradesh	35.3	36.6	32.9	33.6	29.7	31.1
Jharkhand	29.6	30.6	29.6	30.7	27.1	29.1
Karnataka	67.7	72.6	70.1	75.4	67.0	71.2
Kerala	64.6	65.4	62.1	63.0	59.8	61.2
Madhya Pradesh	54.8	57.6	61.2	63.5	60.9	63.4
Maharashtra	92.0	82.7	102.9	91.4	106.0	94.0
Odisha	41.9	43.9	40.8	43.3	38.1	40.5
Punjab	75.1	76.8	69.8	71.7	69.0	71.2
Rajasthan	86.2	90.1	72.4	76.3	67.8	71.6
Tamil Nadu	119.0	117.5	113.7	112.4	105.8	103.8
Uttar Pradesh	45.4	48.9	44.6	49.6	40.0	43.0
Uttarakhand	34.5	35.2	34.9	35.8	34.3	35.3
West Bengal	57.8	60.3	55.1	57.3	50.3	52.5
India	77.1	77.1	78.4	78.4	73.8	73.8

Source : Report on Trend and Progress of Banking in India 2017-18, RBI

CD Ratio of Districts

Table 10.11 depicts the CD ratios of all Scheduled Commercial Banks as well as Regional Rural Banks in all 38 districts of Bihar during 2017-18 and 2018-19 (upto September 2018). From the table, it can be seen that the CD ratios showed a wide variation across the districts, from a low 28.5 percent in Bhojpur to a high 71.6 percent for Purnea. The CD ratio was less than 30 percent in 3 of the 38 districts (Bhojpur, Saran and Siwan). The better performers (with CD ratios more than 50 percent) were Sheohar, Begusarai, West Champaran, Khagaria, Supaul, Purnea, Kishanganj and Araria. However, the high CD ratios in some districts are sometimes related to high Non-Performing Assets (NPA) of many banks, including cooperative banks; they do not necessarily reflect the banks' increased credit flow in the districts.

Table 10.11 : District-wise Credit-Deposit (CD) Ratio

District	2017-18	2018-19 (Sep 18)	District	2017-18	2018-19 (Sep 18)
Patna	38.7	31.8	Darbhanga	32.5	32.0
Nalanda	37.9	34.2	Madhubani	33.6	34.8
Bhojpur	30.1	28.5	Samastipur	47.7	48.5
Buxar	42.8	41.9	Begusarai	49.5	50.3
Rohtas	46.6	43.0	Munger	30.3	31.8
Kaimur	57.8	46.6	Sheikhpura	40.3	41.6
Gaya	36.6	35.6	Lakhisarai	37.0	36.9
Jehanabad	34.5	33.5	Jamui	40.9	43.5
Arwal	38.5	33.8	Khagaria	55.1	55.8
Nawada	42.9	38.5	Bhagalpur	53.2	50.9
Aurangabad	42.0	40.5	Banka	43.8	45.5
Saran	28.4	28.6	Saharsa	44.6	44.1
Siwan	28.9	29.9	Supaul	52.8	50.2
Gopalganj	29.4	33.0	Madhepura	47.6	49.0
West Champaran	48.7	55.4	Purnea	65.1	71.6
East Champaran	44.0	46.6	Kishanganj	59.2	56.7
Muzaffarpur	46.3	46.6	Araria	51.0	53.1
Sitamarhi	35.6	39.4	Katihar	45.7	46.7
Sheohar	47.5	52.4			
Vaishali	39.1	39.6	Bihar	40.6	38.3

Source : State Level Bankers' Committee

CD Ratio of Nationalised Commercial Banks

Tables 10.12 shows the CD ratios of nationalized commercial banks in Bihar. Among the Lead Banks, Canara Bank had the highest CD ratio of 48.7 percent as on September 2018, followed by UCO Bank (46.0 percent) and Bank of Baroda (40.3 percent). Among the other banks, Vijaya

Bank had the highest CD Ratio of 71.2 percent, followed by Bank of Maharashtra (62.5 percent) and Corporation Bank (60.2 percent). Out of 21 nationalised banks in Bihar, only 5 had registered improvement in the CD ratios in 2018-19.

Table 10.12 : Credit-Deposit (CD) Ratio of Nationalised Commercial Banks

Banks	No. of Branches	2014-15	2015-16	2016-17	2017-18	2018-19 (upto Sep 18)
Lead Banks						
State Bank of India	960	37.5	36.0	35.5	35.2	29.9
Central Bank of India	439	37.2	33.0	35.2	35.2	31.2
Punjab National Bank	574	40.6	41.9	34.4	37.8	34.0
Canara bank	246	40.2	43.7	40.0	49.2	48.7
UCO Bank	229	39.3	40.7	42.8	43.1	46.0
Bank of Baroda	240	34.8	41.6	40.2	40.5	40.3
Union Bank of India	158	41.1	42.1	45.7	41.1	36.4
Other Banks						
Bank of India	345	38.5	40.3	40.2	40.3	37.6
Allahabad Bank	244	41.8	42.8	38.2	40.4	41.2
Andhra Bank	46	16.8	20.7	63.0	45.9	33.2
Bank of Maharashtra	13	32.5	67.4	50.2	59.6	62.5
Corporation Bank	43	89.2	72.0	90.9	70.2	60.2
Dena Bank	45	30.3	33.1	40.0	40.2	33.3
Indian Bank	66	68.8	79.4	70.6	33.3	32.7
Indian Overseas bank	60	60.2	73.0	54.1	42.4	36.0
Oriental Bank of Commerce	52	39.9	47.3	47.0	42.3	41.7
Punjab and Sind Bank	16	108.7	21.8	9.8	36.2	28.7
Syndicate Bank	65	40.9	41.0	26.4	33.6	34.0
United Bank of India	92	53.9	52.1	50.9	49.8	47.2
Vijaya Bank	36	29.2	41.4	47.4	57.3	71.2
IDBI	70	36.0	36.0	35.8	37.3	32.6
All Banks	4039	41.9	43.0	41.9	43.1	40.4

Source : State Level Bankers' Committee

The CD ratios of private commercial banks in Bihar need a separate mention (Table 10.13). As of March 2018, there were 459 branches of 11 private commercial banks in Bihar, compared to 408 in March 2017. Their CD ratios varied from nil to as much as 207.6 percent. The combined CD ratio for these banks was 41.6 percent. Except for the 73 rural branches of only five banks (Bandhan Bank, Axis Bank, HDFC Bank, ICICI Bank and IndusInd Bank), all other branches of private commercial banks were either in the semi-urban or urban areas. Bandhan Bank, whose origin can be traced to a micro-finance company launched in 2001 and which started functioning

as a bank only from 2015, seems to have focussed on the rural areas much more than any other bank after Bandhan Bank (207.6). IndusInd Bank also has a high CD ratio of 180 percent. Karnataka Bank and Yes Bank had CD ratios below 20 percent.

Table 10.13 : Credit-Deposit (CD) Ratio of Private Commercial Banks (2017-18)

Banks	Rural			Urban and Semi-urban			Total			
	No. of branches	Deposit (Rs. lakh)	Advance (Rs. lakh)	No. of branches	Deposit (Rs.lakh)	Advance (Rs. lakh)	No. of branches	Deposit (Rs. lakh)	Advance (Rs. lakh)	CD Ratio
ICICI Bank	9	76662	50347	89	758107	497881	98	834769	548228	65.6
Federal Bank	0	0	0	8	35312	7451	8	35312	14914	42.2
Jammu Kashmir Bank	0	0	0	1	0	0	1	0	0	
South Indian Bank	0	0	0	1	0	0	1	0	0	
AXIS Bank	13	14078	4256	94	558583	227055	107	572661	254681	44.4
HDFC Bank	18	2188	1308	96	680055	439346	114	682243	440654	64.59
IndusInd Bank	5	2850	15935	22	61512	99934	27	64362	115869	180.0
Karnataka Bank	0	0	0	1	2343	446	1	2343	446	19.0
Kotak Mahindra Bank	0	0	0	16	42029	25143	16	42029	25143	59.8
Yes Bank	0	0	0	3	36963	3581	3	36963	3581	9.6
Bandhan Bank	28	25450	82656	55	126604	233132	83	152054	315788	207.6
All Private Bank	73	121228	154502	386	2301508	1533969	459	2422736	17179304	41.6

Source : State Level Bankers' Committee

Credit Deposit and Investment Credit Deposit Ratios of RRB

There are 3 Regional Rural Banks in Bihar, each serving a particular zone: Madhya Bihar Kshetriya Gramin Bank (sponsored by Punjab National Bank), Uttar Bihar Kshetriya Gramin Bank (sponsored by Central Bank of India) and Bihar Kshetriya Gramin Bank (sponsored by UCO Bank). Table 10.14 shows the CD and ICD ratios of these 3 Regional Rural Banks. Bihar Keshtriya Gramin Bank has the highest ICD ratio of 73.6 percent in September 2018, while Madhya Bihar Keshtriya Gramin Bank has the lowest ICD ratio of 46.8 percent. The overall ICD ratio of RRBs in the state in September 2018 was 54.3 percent. There was no difference between their CD and ICD ratios, except for Bihar Keshtriya Gramin Bank, indicating absence of investment by the other two.

Table 10.14 : Credit-Deposit (CD) and Investment Plus Credit-Deposit (ICD) Ratios of RRBs

RRBs	CD Ratio				ICD Ratio			
	2015-16	2016-17	2017-18	2018-19 (Sep 18)	2015-16	2016-17	2017-18	2018-19 (Sep 18)
Madhya Bihar KGB	41.0	40.1	46.4	46.8	41.0	40.1	46.4	46.8
Bihar KGB	71.6	67.5	65.8	67.0	79.6	75.1	72.5	73.6
Uttar Bihar KGB	57.8	52.2	51.7	53.0	57.8	52.2	51.7	53.0
All RRBs	53.9	50.3	52.3	53.2	55.2	51.6	53.4	54.3

Source : State Level Bankers' Committee

10.3 Sectoral Share in Priority Sector Advances

Achievement under Annual Credit Plan (ACP)

Table 10.15 presents the sectoral profile of credit deployment in 2016-17 and 2017-18. The priority sector advances constituted 75 percent of the total bank advances in the state in 2016-17 and 71.8 percent in 2017-18. The share of agriculture in the total advances in 2017-18 was 44.5 percent, as against 48.0 percent in the previous year; it has been showing a declining trend over the last three years. It can be seen that while advances to agriculture dominated the credit in the state, the advances made to the small and medium scale industries were only 15.5 percent of the total loans disbursed in 2017-18, almost the same share as in the previous year. This lower volume of credit to industry in Bihar is certainly a cause for concern. For augmenting the credit flow to this sector, development of infrastructure would be necessary, including the revival of Industrial Estates. The overall achievement under the Annual Credit Plan was 90.8 percent in 2017-18, which was higher than that achieved in 2016-17 (87.9 percent). Achievement in respect of credit to small and medium enterprises was 111.6 percent, and this improved from 99.1 percent recorded last year. This obviously indicates a growing demand for credit for small and medium enterprises and the need to enhance the allocation for this sector.

Table 10.15 : Sectoral Share of Advances under Annual Credit Plans (2016-17 and 2017-18)

Sector	ACP Target (Rs. crore)	Achievement (Rs. crore)	Achievement (percentage)	Share in Advances (percentage)
2016-17				
Agriculture	48000	41077	85.6	48.0
Small & Medium Enterprises	15000	14862	99.1	15.0
Other Priority Sector Advances	12000	8968	74.7	12.0
Total Priority Sector Advances	75000	64907	86.5	75.0
Non Priority Sector Advances	25000	23002	92.0	25.0
Total	100000	87909	87.9	100.0
2017-18				
Agriculture	49000	42161	86.04	44.5
Small & Medium Enterprises	17000	18985	111.6	15.5
Other Priority Sector Advances	13000	9781	75.2	11.8
Total Priority Sector Advances	79000	70927	89.8	71.8
Non Priority Sector Advances	31000	29007	93.6	28.2
Total	110000	99934	90.8	100.0

Source : State Level Bankers' Committee

The total credit flow in Bihar during the past six years is shown in Table 10.16. Under the Annual Credit Plan of all banks in Bihar, the total credit flow in the state has increased from Rs

87,909 crore in 2016-17 to Rs 99,934 in 2017-18, registering a 13.7 percent growth compared to 9.8 percent growth registered a year before. The achievement percentages have risen steadily from 86.6 percent in 2012-13 to 95.3 percent in 2015-16, before registering a decline in 2016-17 (87.9 percent). It is also seen that while there were some variations in achievement rates among various bank groups, all of them have performed well (Table 10.17). While Cooperative Banks (248.0 percent) have registered over-achievement, the performance of Scheduled Commercial Banks (90.2 percent) was also quite high. For Regional Rural Banks (86.3 percent), the achievement figures were higher compared to the last year (77.7 percent).

Table 10.16 : ACP Achievement - All Banks

Year	Target (Rs. crore)	Achievement (Rs. crore)	Achievement (percentage)
2012-13	51400	44521	86.6
2013-14	62000	57007	91.9
2014-15	74000	68797	93.0
2015-16	83999	80084	95.3
2016-17	100000	87909	87.9
2017-18	110000	99934	90.9

Source : State Level Bankers' Committee

Table 10.17 : Agency-wise Analysis of ACP Achievement

Agencies	Target (Rs. crore)	Achievement (Rs. crore)	Achievement (percentage)
2016-17			
Commercial Banks	76540	68632	89.7
Regional Rural Bank	22460	17452	77.7
Cooperative Banks	1000	1825	182.5
Total	100000	87909	87.9
2017-18			
Commercial Banks	86044	77594	90.2
Regional Rural Bank	22920	19970	86.3
Cooperative Banks	1036	2570	248.0
Total	110000	99934	90.9

Source : State Level Bankers' Committee

Outstanding Agricultural Advances

The data on credit flow to agriculture in Bihar during the six year period 2012-13 to 2017-18 is presented in Table 10.18. The agricultural credit flow has been expanding continuously over the

years, though its share in the total credit flow has declined substantially since 2015-16. In 2017-18, the overall achievement had been 86 percent in respect of all banks. It was, of course, the Commercial Banks that accounted for the major share in the total credit, which was almost 59 percent in 2017-18. The outstanding agricultural advances stood at Rs 45,706 crore at the end of 2017-18 (Table 10.19). This implied an annual growth of 9.3 percent in the outstanding credit to agriculture over the last year, compared to 17.3 percent in 2016-17.

Table 10.18 : Agriculture Credit Flow

(Rs. crore)

Year	Commercial Bank		RRBs		CCBs		Total	
	Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
2012-13	14674	13203 (90.0)	8407	8035 (95.6)	2319	328 (14.2)	25401	21566 (84.9)
2013-14	18709	17786 (95.1)	10777	10676 (99.1)	800	307 (38.4)	30286	28770 (95.0)
2014-15	22191	21260 (95.8)	12809	13058 (101.9)	1000	362 (36.2)	36000	34680 (96.3)
2015-16	26554	24957 (94.0)	14946	15135 (101.3)	1000	1258 (125.8)	42500	41350 (97.3)
2016-17	28317	25004 (88.3)	18682	14247 (76.3)	1000	1825 (182.6)	48000	41076 (85.6)
2017-18	29281	24734 (84.5)	18682	14879 (79.6)	1036	2548 (246.0)	49000	42161 (86.0)

Note : Figures in bracket indicate percentage of achievement

Source : State Level Bankers' Committee

Table 10.19 : Outstanding Agricultural Advances

(Rs. crore)

Year	Outstanding Agricultural Advances				Annual Growth Rate
	Commercial Banks	RRBs	Cooperative & LDBs	Total	
2012-13	15422	4219	2824	22538	23.2
2013-14	19231	5101	1047	25380	12.6
2014-15	23130	6311	1212	30652	20.8
2015-16	25281	8856	1536	35673	16.4
2016-17	27256	10938	3636	41830	17.3
2017-18	30932	12217	2557	45706	9.3

Source : State Level Bankers' Committee

Primary Agricultural Credit Societies (PACS)

Table 10.20 shows some selected indicators of functioning of Primary Agricultural Credit Societies (PACS) in different states, as of March 2017. With 8463 PACS in 2017 (same as last year), Bihar accounts for 8.9 percent of all PACS in India. Bihar is much behind the other states in terms of both deposits and borrowings. Also, out of the total 8463 PACS in Bihar, as many as 3962 societies are making losses with their total loss amounting to Rs 94 lakh, while 1180

societies have earned a total profit of Rs 6.04 crore. The total deposit of all PACS was Rs 175 crore, and their total borrowing amounted to Rs 501 crore. These figures have indeed remained unchanged for several years.

Table 10.20 : Selected Indicators of Primary Agricultural Credit Societies (March 31, 2017)

State	No. of PACS	Deposits (Rs crore)	Borrowing (Rs crore)	Loans and Advances Outstanding (Rs crore)		Societies in Profit		Societies in Loss	
				Agriculture	Non-Agriculture	No.	Amount (Rs lakh)	No.	Amount (Rs lakh)
Andhra Pradesh	2051	1855	10490	7070	687	1109	469447	927	87003
Bihar	8463	175	501	0	0	1180	604	3962	94
Chhattisgarh	1333	390	2083	1483	185	839	7412	494	13710
Gujarat	8484	804	10600	9132	350	6032	5306	1698	4684
Haryana	711	505	8134	10809	368	99	1231	612	35583
Himachal Pradesh	2127	471	766	1161	0	1853	47	209	3
Karnataka	5679	7497	11285	11213	3899	3858	6316	1457	3409
Kerala	1647	83194	6912	6900	48814	1020	78842	558	67138
Madhya Pradesh	4457	817	10524	3400	119	2153	13124	2129	17824
Maharashtra	21217	177	11202	10301	2326	8872	773	11895	766
Odisha	2701	1579	16870	4996	177	740	4443	1865	26615
Punjab	3543	2412	8076	8452	0	2140	NA	1403	NA
Rajasthan	6411	2692	9937	NA	NA	5040	12558	1371	4791
Tamil Nadu	4511	9460	10061	5235	9856	2357	20974	2096	26355
Uttar Pradesh	8929	68	971	800	0	4536	1774	1968	153
Uttarakhand	759	849	828	611	123	604	1248	146	411
West Bengal	7405	2042	1878	1451	289	2342	3094	3983	1465
India	95595	115884	124831	86072	67440	46586	647280	38036	320966

Source : National Federation of State Cooperative Banks Ltd.(NAFSCOB)

State Cooperative Banks

Table 10.21 shows the working results of State Cooperative Banks in major states for the years 2015-16 and 2016-17. The recovery percentage for these banks in Bihar was 45.5 percent in 2015-16; however, figure for 2016-17 is not available. The share of Non-Performing Assets (NPA) in the total outstanding loans in Bihar was only 4.5 percent in 2016-17, a significant improvement over 10.3 percent in 2015-16.

Table 10.21 : Working Results of State Cooperative Banks

State	Profit/Loss (Rs. crore)		NPA as percentage to Loans Outstanding		Collection as percent of Loans Outstanding	
	2015-16	2016-17	2015-16	2016-17	2015-16	2016-17
Andhra Pradesh	5076	6646	0.4	NA	68.2	12.4
Bihar	3597	3620	10.3	4.5	45.5	NA
Gujarat	2436	6496	2.4	2.0	66.3	39.4
Haryana	2380	3196	0	0.1	108.8	125.9
Himachal Pradesh	5390	9321	6.6	5.0	10.1	2.1
Karnataka	3145	3145	3.3	3.3	60.1	77.8
Kerala	34133	8947	35.7	8.4	133	0.0
Madhya Pradesh	5799	3258	4.2	4.8	0	0.0
Maharashtra	24285	24527	9.3	0.1	0	45.6
Odisha	1666	1770	2.4	2.1	71.7	0.0
Punjab	1253	3146	0.8	0.9	88.9	103.4
Rajasthan	5149	9329	0.3	0.3	99.7	82.7
Tamil Nadu	4331	7370	3.1	2.1	99	12.2
Uttar Pradesh	2006	5288	4.1	5.7	58.4	0.0
Uttarakhand	0	0	3.1	3.1	0.5	0.0
West Bengal	1003	1003	3.1	3.1	0.7	53.2
India	109655	112907	4.4	2.8	53.4	37.9

Source : National Federation of State Cooperative Banks Ltd. (NAFSCOB)

Kisan Credit Cards

The Kisan Credit Cards (KCC) scheme, introduced in 1998-99, aims at providing crop loans to farmers in a flexible and cost-effective manner. The scheme is implemented by all Scheduled Commercial Banks, Regional Rural Banks, State Cooperative Banks, Central Cooperative Banks, and Primary Agricultural Cooperative Societies. Beneficiaries under the KCC are issued with a credit card-cum-passbook, incorporating the borrowing limit and validity period. The credit limits are fixed, taking into account the production credit needs for a full year, plus ancillary activities relating to crop production. At the discretion of lending banks, sub-limits for credits are also fixed. The crop loan is provided in the form of a revolving cash credit facility, involving any number of withdrawals and repayments within the fixed limit.

The number of KCCs issued by banks in Bihar during the period 2012-13 to 2017-18 is shown in Table 10.22. The achievement percentage against total targets for all banks increased to 71.6

percent in 2013-14, after which there has been a steady declining trend. In 2017-18, the achievement was only 35.5 percent. While SCBs achieved only 45.6 percent of their target in 2017-18 compared to 46.9 percent a year before, RRBs registered a steep fall in achievement rate from 51.0 percent in 2015-16 to 20.9 percent in 2017-18. The Central Cooperative Banks also lagged way behind their targets, their achievement in 2016-17 being only 14.1 percent, the same as the last year. The absence of updated records of the applicants could be a reason for the lower achievement against a reduced target in 2017-18.

Table 10.22 : Number of Kisan Credit Cards (NEW) issued by Banks

	Target	Achievement	Percentage	Target	Achievement	Percentage
	Commercial Banks			RRBs		
2012-13	811207	600343	74.0	467081	246987	52.9
2013-14	909186	675107	74.3	535348	387658	72.4
2014-15	903944	628370	69.5	537590	353841	65.8
2015-16	918912	484543	52.7	527226	269047	51.0
2016-17	873362	409441	46.9	576187	163919	28.4
2017-18	896357	405366	45.6	571902	119355	20.9
	CCB			Total		
2012-13	221712	16492	7.4	1500000	863822	57.6
2013-14	55466	11325	20.4	1500000	1074090	71.6
2014-15	58466	13057	22.3	1500000	995268	66.4
2015-16	53860	10093	18.7	1500000	763683	51.0
2016-17	50451	7087	14.1	1500000	580447	38.7
2017-18	31742	4489	14.1	1500000	529210	35.5

Source : State Level Bankers' Committee

10.4 Non-Productive Assets of Banks

The total non-productive assets of all banks in Bihar amounted to an alarming 10.6 percent of total assets as on March 31, 2018, as shown in Table 10.23. Steps should be initiated urgently to bring this down to the safe level of around 3 percent. Their sectoral break-up, as shown in Table 10.24, reveals that the NPAs in agricultural loans were the highest, amounting to 17.1 percent of the total loans, followed by loans to MSME sector where the NPAs amounted to 13.9 percent of the total loans. NPAs in the total priority sector advances amounted to 14.1 percent, compared to only 2.1 percent for the non-priority sector.

Table 10.23 : NPAs of Banks in Bihar, March 2018 (Rs Crore)

Banks	Total Advances	Total NPA	% of NPA	Written off
Commercial Banks	108272	8770	8.1	953
Co-Operative banks	2570	250	9.7	
RRBs	16205	4461	27.5	
Total	127047	13481	10.6	953

Source : State Level Banker's Committee

Table 10.24 : Sectoral Break-up of NPAs in Bihar, March 2018 (Rs Crore)

	Total outstanding (Rs Crore)	Total NPA	% of NPA
Agriculture	45706	7812	17.1
MSME	27614	3848	13.9
Other Priority Sector	12943	948	7.3
Total Priority Sector	86263	12608	14.6
Non-Priority Sector	40786	874	2.1
Total NPA	127048	13482	10.6

Source : State Level Banker's Committee

10.5 Financial Institutions

National Bank for Agriculture and Rural Development (NABARD)

NABARD has a mandate for facilitating credit flow for development of agriculture, agro-industries, village and cottage industries, handicrafts and other rural crafts by providing refinance to lending institutions in rural areas. It also coordinates the operation of rural credit institutions and offers training and research facilities. In addition, it manages the Rural Infrastructure Development Fund (RIDF), created to compensate for the shortfall in lending by commercial banks to agriculture. NABARD also provides loans to state governments for projects relating to irrigation, soil conservation, watershed management, drinking water supply, cold storage chains, and other rural infrastructure projects.

The details of sector-wise refinancing by NABARD till March, 2018 are shown in Table 10.25. Total financial support provided during 2017-18 was Rs 5504.1 crore, almost the same as Rs 5448.9 crore provided in 2016-17. There was substantial decrease in crop loan refinance as well as some reduction in the investment credit refinancing which was compensated by increase in RIDF and other loans. During the year, the shares of different components were — crop loan

refinancing (18.0 percent), investment credit refinancing (38.0 percent) and RIDF loans (44.0 percent).

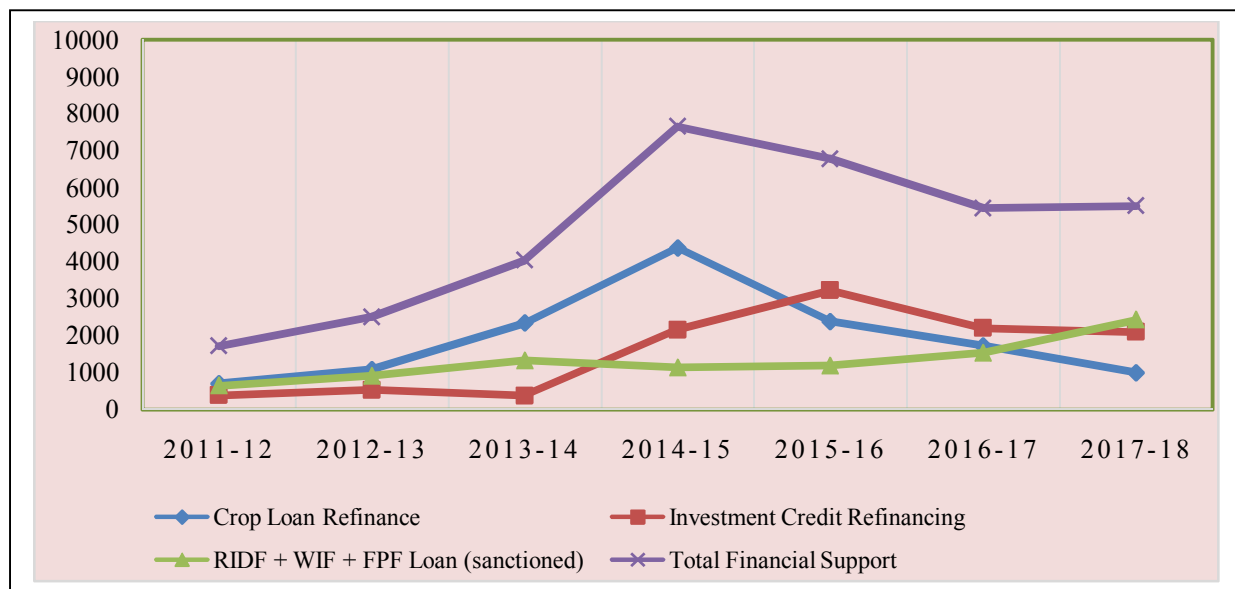
Table 10.25 : Sector-wise Refinancing by NABARD

(Rs crore)

Year	Crop Loan Refinance	Investment Credit Refinancing	RIDF + WIF + FPF Loan (sanctioned)	Total Financial Support
2011-12	700.0	376.5	638.0	1714.5
2012-13	1077.0	521.4	903.0	2501.4
2013-14	2338.0	370.6	1325.0	4033.6
2014-15	4370.0	2157.4	1128.0	7655.4
2015-16	2377.6	3219.7	1181.0	6778.3
2016-17	1720.7	2194.7	1533.5	5448.9
2017-18	989.13	2091.7	2423.3	5504.1

Source : NABARD

Chart 10.4 : Refinancing by NABARD (Rs crore)



Under the Investment Credit Refinancing, NABARD covers a number of activities and Table 10.26 presents the extent of refinancing for each of these activities during the last seven years. It emerges from the table that the shares of five listed activities in total refinancing of Rs. 1391.99 crore in 2017-18 were — minor irrigation (5.9 percent), farm mechanisation (26.7 percent), dairy (14.0 percent) and non-farm sector (3.5 percent). The remaining 50 percent of the credit was utilised for other activities.

Table 10.26 : Details of Sector-wise Investment Credit Refinance in Bihar by NABARD

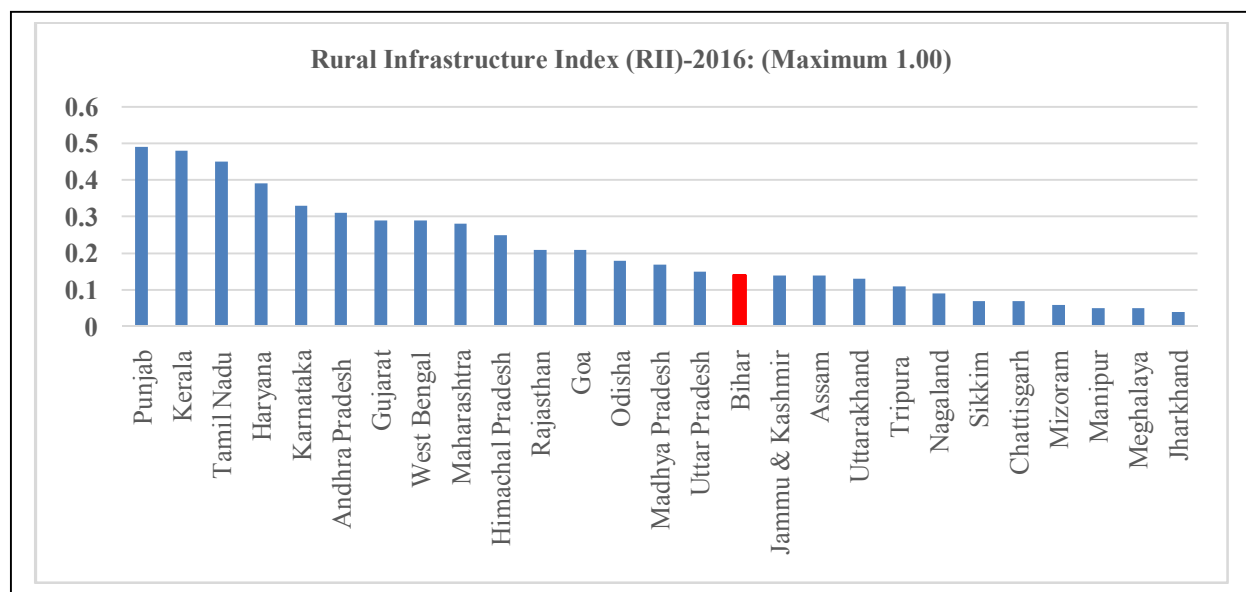
Sectors	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Minor Irrigation	32.72	46.57	17.89	25.25	43.44	34.99	80.74
Farm Mechanization	97.76	250.84	67.27	295.60	164.77	815.07	371.32
Dairy	70.62	-	31.11	104.59	333.68	69.95	194.44
Self-Help Groups	43.66	-	63.38	114.24	92.15	80.00	-
Non-Farm Sector	97.80	53.56	21.26	298.06	67.88	99.51	49.29
Others	33.98	170.46	169.73	1319.30	2517.75	1095.16	696.20
Total	376.54	521.43	370.64	2157.36	3219.66	2194.68	1391.99

(Rs. crore)

Source : NABARD, Bihar

10.6 Rural Infrastructure Development Fund (RIDF)

For creation of rural infrastructure, the central government has initiated a number of schemes like Bharat Nirman (which covers irrigation, drinking water, electrification, roads and housing), Accelerated Irrigation Benefits Programme, Pradhan Mantra Krishi Sinchayee Yojana, Deen Dayal Upadhyay Grameen Viduyutikaran Yojana, Pradhan Mantri Gram Sadak Yojana, etc. As a result of these programmes, over the last two and half decades, the rural infrastructure has significantly improved. A study executed by the EPW Research Foundation and commissioned by NABARD had computed the rural infrastructure indices across states, the results of which are shown in Chart 10.5. The index includes parameters related to rural roads, telecommunication, power and housing, and water and sanitation. Bihar's position is 16th among the 27 states.

Chart 10.5 : Rural Infrastructure Index, 2016

Source : NABARD Annual Report 2017-18

RIDF was set up by the central government in 1995-96 for financing ongoing rural infrastructure projects by providing low cost fund support to the state governments and state-owned corporations. The fund is managed by NABARD. The scheduled commercial banks contribute to the fund to the extent of their shortfall in stipulated priority sector lending to agriculture. The RIDF was created to provide the following benefits: (i) unlocking of sunk investment already made by the state governments, (ii) creation of additional irrigation potential, (iii) generation of additional employment for the rural people, (iv) contribution to the economic wealth of the state, (v) improved connectivity between villages and marketing centres, and (vi) improvements in quality of life through facilities in education, health and drinking water supply. At present, RIDF covers a wide range of 36 activities classified broadly under three categories — (i) Agriculture and Related sectors, (ii) Social Sectors and (iii) Rural Connectivity. For Agriculture and Related Sectors, loans are provided for 95 percent of the project cost; for Social Sectors, the limit is 90 percent for north-eastern region and 85 percent for other states; finally, for Rural Connectivity, the limits are 90 percent for north-eastern region and 80 percent for other states. Financing under RIDF has indeed emerged as an attractive financing option for state governments in directing credit to the rural economy to boost investments in rural infrastructure, thereby enabling expansion of rural financial markets and ushering in inclusive growth in the less developed regions of the country.

Altogether 23 RIDF tranches have been released by NABARD till March 2018. The cumulative countrywide disbursement under RIDF tranches I to XXIII has reached Rs 2,40,596 crore, which constituted 90 percent of the sanctioned amount. This includes Rs 18,500 crore (in four tranches from RIDF-XII to RIDF-XV) to fund rural roads under the Bharat Nirman Programme. During the three years (2015-18), agriculture and irrigation cumulatively had the highest share followed by rural connectivity (including rural roads and rural bridges) and social sector projects. RIDF Tranches I-XVI stand closed with a funding of Rs 1,24,418 crore with an overall utilisation of 91 percent. Rest of the tranches are still ongoing in respect of which the utilization has been 89 percent.

The total disbursements made by NABARD to Bihar under 23 tranches of the RIDF loan are shown in Table 10.27. For many tranches, there is a considerable gap between sanction and disbursement. Till March 2018, the total disbursement was Rs 10,701 crore, against a total sanction of Rs 15,220 crore (70.3 percent).

Table 10.27 : Sanctions and Disbursements in Bihar under RIDF till March, 2018

(Rs. crore)

RIDF Tranche	Sanction	Disbursement	Disbursement Percentage
RIDF I - X	509.00	170.00	33.4
RIDF XI (2005-06)	459.00	79.00	17.2
RIDF XII (2006-07)	305.00	201.00	65.9
RIDF XIII (2007-08)	578.00	297.00	51.4
RIDF XIV (2008-09)	752.00	495.00	65.8
RIDF XV (2009-10)	674.00	542.00	80.4
RIDF XVI (2010-11)	1090.00	640.00	58.7
RIDF XVII (2011-12)	1049.00	638.00	60.8
RIDF XVIII (2012-13)	1490.00	903.00	60.6
RIDF XIX (2013-14)	1764.00	1325.00	75.1
RIDF XX (2014-15)	1085.00	1128.00	104.0
RIDF XXI (2015-16)	2025.00	1181.00	58.3
RIDF XXII (2016-17)	1836.00	1454.00	79.2
RIDF XXIII (2017-18)	1604.00	1648.00	102.7
Total	15220.00	10701.00	70.3

Source : NABARD, Bihar

10.7 Micro-Finance in Bihar

The conventional anti-poverty programmes suffer from problems of delivery and are often unsuccessful in making a serious dent on poverty, especially the kind of poverty caused by the absence of a credit support for the poor households. This is particularly true in Bihar. In this scenario, microfinance is a potent alternative for poverty alleviation, through affordable, timely and adequate credit and other financial services for the poor people. In this background, the Self Help Groups (SHGs) and the SHG-Bank Linkage Programme (SHG-BLP), implemented by Scheduled Commercial Banks, Regional Rural Banks and Cooperative Banks, have emerged as the major microfinance programme in the country.

NABARD has taken initiatives for digitization of SHGs through an electronic platform, E-shakti, with a view to facilitate credit linkage of SHGs. SHG digitisation was started in Muzaffarpur district and now being extended to five more districts. A total of 38,346 SHGs has been digitized and the same is being utilized by bankers for rating and credit linkage of SHG.

Table 10.28 shows the status of SHG-Bank Linkage Programme (BLP) in major Indian states in terms of the number of credit-linked SHGs till 2017-18. As of March 2018, there were 87.44

lakh SHGs in India linked to the formal banking system with their savings balance of nearly Rs. 19,592 crore, compared to Rs. 16,114 crore in the previous year. The total bank loan disbursed to 22.61 lakh of these SHGs during 2017-18 amounted to Rs 47,186 crore. In other words, the SHG-BLP has so far been one of the most preferred and viable models for financial inclusion of the hitherto unreached rural poor.

Table 10.28 : SHG-Bank Linkage in Selected States of India

State	No. of SHGs ('000) with Bank Linkage	Savings of SHGs with Banks (Rs crore)	Bank loans disbursed during the year (Rs crore)	No. of SHGs ('000) with Bank Linkage	Savings of SHGs with Banks (Rs crore)	Bank loans disbursed during the year (Rs crore)
	2017			2018		
Andhra Pradesh	849	5291.2	10347.1	928	6682.4	10652.0
Bihar	441	626.6	1323.1	595	983.8	2343.6
Chhattisgarh	179	200.9	225.3	191	225.4	230.8
Gujarat	247	262.5	214.7	240	273.5	152.4
Haryana	41	34.3	58.5	38	32.3	37.1
Himachal Pradesh	46	50.6	50.1	49	66.8	50.2
Jharkhand	130	149.9	103.7	153	448.7	338.8
Karnataka	1032	1311.8	5722.0	836	1147.0	8196.8
Kerala	280	512.7	2226.5	296	562.3	2728.6
Madhya Pradesh	238	273.1	296.2	256	300.7	179.8
Maharashtra	885	1103.4	1255.1	848	949.8	1381.5
Odisha	431	627.5	961.0	530	924.8	1516.7
Punjab	31	31.4	25.0	38	32.2	19.7
Rajasthan	317	346.4	406.5	331	319.4	325.9
Tamil Nadu	909	1065.8	4625.9	1047	1077.9	5360.6
Uttar Pradesh	384	321.5	133.7	407	347.9	122.9
Uttarakhand	47	43.5	24.4	48	79.9	25.9
West Bengal	945	1952.7	2335.8	847	2050.5	4883.7
Total	7433	14205.8	30334.7	7679	16505	38547.0
All India	8577	16114.2	38781.2	8744	19592.1	47185.9

Source : Status of Micro Finance in India, 2016-17 and 2017-18, NABARD

Bihar, a slow starter, is gradually matching with other states in both formation of SHGs and ensuring their bank linkages. Bihar had 5.95 lakh bank-linked SHGs at the end of 2017-18, about 6.8 percent of the country's total bank-linked SHGs. In 2017-18, the share of Bihar was lower at 5.1 percent and this share has been improving gradually over the years. The performance of SHGs in Bihar till 2017-18 is shown in Table 10.29. As of March, 2018, bank-linked SHG

coverage in rural Bihar was 77.35 lakh households, up from 57.33 lakh a year before (35 percent increase). The total savings of these SHGs were Rs 983.8 crore and total bank credit of Rs 2343.6 crore was made available to these SHGs during 2017-18 as given in Table 10.28. The average savings of Rs 16,540 per SHG in Bihar was still well below the national average of Rs 22,405, and the gap has widened in 2017-18. The average credit of Rs 67 thousand per SHG in Bihar was again far below the national average of Rs 1.5 lakh. The total loans disbursed during 2017-18 to the SHGs by banks amounted to Rs 2343.61 crore, which was much higher than Rs 1323.06 crore disbursed in the previous year. Their outstanding loans at the end of 2016-17 stood at Rs 3173.48 crore, more than twice the corresponding figure one year earlier. The non-productive assets (NPA) of SHGs in Bihar increased from Rs 207.0 crore in 2016-17 to Rs 241.2 crore in 2017-18. But NPA as percentage of total outstanding loan indeed decreased from 13.1 percent in 2016-17 to 7.6 percent in 2017-18, indicating improvements in the repayment behaviour.

Table 10.29 : Performance of SHGs in Bihar

Indicator		Unit	March 2016	March 2017	March 2018
Rural Household covered bank-linked SHGs		Lakh	36.21	57.33	77.35
No. of bank-linked SHGs		Lakh	2.78	4.41	5.59
Average Savings / SHG	Bihar	Rupees	12924	14198	16540
	India	Rupees	17324	18787	22405
No. of SHGs provided with bank loan	Total	Lakh	267338	364169	474913
	Current Year	Lakh	98608	156165	226645
Amount of bank loan outstanding		Rs. Lakh	100248	158486	317348
Amount of bank loan provided during the year		Rs. Lakh	61056	132306	234361
Average bank loan per SHG	Bihar	Rupees	0.62	0.85	0.67
	India	Rupees	2.03	2.04	1.505
Gross Non-Performing Asset (NPA)		Rs. Lakh	13280	20700	24119
Gross NPA as percentage of outstanding loan		Percentage	13.2	13.1	7.6

Source : NABARD Bihar

10.8 Mudra Loans

The Pradhan Mantri Mudra Yojana (PMMY) was launched in April 2015 with the objective to “create an inclusive, sustainable and value-based entrepreneurial culture”, especially for encouraging and supporting small entrepreneurs. Under this scheme, MUDRA loans (upto Rs. 10 lakh) are provided to the non-corporate, non-farm small/micro enterprises. These loans are given by Commercial Banks, RRBs, Small Finance Banks, Cooperative Banks, MFIs and NBFCs. The

borrower can approach any of these lending institutions or apply online through the Mudra portal. MUDRA has three products, viz. 'Shishu', 'Kishore' and 'Tarun', 'to signify the stages of growth/development and funding needs of the beneficiary micro unit/entrepreneur'. This classification also provides a 'reference point for the next phase of graduation/growth'. The amounts available under each category are as follows — Shishu (covering loans up to Rs. 50,000), Kishore (covering loans above Rs. 50,000 and upto Rs. 5.00 lakh) and Tarun (covering loans above Rs. 5.00 lakh and up to Rs. 10.00 lakh).

Table 10.30 : Performance of PMMY in Bihar during 2017-18

Category	Number of Loans (lakh)	Target Amount (Rs. crore)	Sanctioned Amount (Rs. crore)	Achievement (Percentage)
Shishu	8.69	2165	2887	133.3
Kishore	2.10	1908	5100	267.3
Tarun	0.22	1301	1611	123.8
Total	1100773	5374	9598	178.0

Source : SLBC

Focus of the scheme is however on the Shishu category Units, followed by Kishore and Tarun categories. The loans are given for income generating small business activity in manufacturing, processing, services or trading activities as well as agriculture (excluding crop loans and loans for land improvement). There is no need for collateral security under these loans, interest on which is charged according to the policy of the lender institution. The funding support from MUDRA involves (i) Micro Credit Scheme (MCS) for loans upto Rs. 1.00 lakh finance through MFIs; (ii) Refinance Scheme for Commercial Banks/Regional Rural Banks (RRBs)/Scheduled Co-operative Banks, (iii) Women Enterprise programme and (iv) Securitization of loan portfolio. During 2017-18, for the entire country, 2.9 crore PMMY loans were sanctioned for a total amount of Rs 1.54 lakh crore, of which Rs 1.47 lakh crore has been disbursed. For Bihar, the performance under PMMY is shown in Table 10.30, from which it can be seen that there has been over-achievement under Shishu (133.3 percent), Kishore (267.3 percent, Tarun (123.8 percent) and overall (178.0 percent).

APPENDIX

Table A 10.1 : District-wise Performance Under Annual Credit Plan as on 31.3.2018

(Rs. crore)

Districts	Agriculture			Small & Medium Enterprise			Other Priority Sector			Total Priority Sector		
	Target	Achievement	Achievement Percentage	Target	Achievement	Achievement Percentage	Target	Achievement	Achievement Percentage	Target	Achievement	Achievement Percentage
Patna	3004	2953	98.3	2754	5050	183.4	3148	2232	70.9	8906	10235	114.9
Nalanda	1651	1654	100.2	378	345	91.4	270	256	94.9	2298	2255	98.1
Bhojpur	1502	1274	84.8	410	348	84.8	317	349	109.9	2230	1971	88.4
Buxar	1148	974	84.9	315	351	111.4	216	199	91.8	1680	1524	90.7
Rohtas	1532	1653	107.9	513	522	101.8	514	426	83.0	2558	2601	101.7
Kaimur	951	963	101.3	314	252	80.3	264	262	99.2	1529	1477	96.6
Gaya	1864	1496	80.3	693	608	87.8	857	744	86.8	3413	2848	83.4
Jehanabad	742	558	75.2	164	162	99.1	107	120	112.7	1012	840	83.0
Arwal	482	378	78.5	79	72	91.4	58	66	114.3	619	517	83.5
Nawada	1084	964	88.9	158	173	110.0	141	181	128.7	1382	1319	95.4
Aurangabad	1377	1348	97.9	233	299	128.1	330	294	88.9	1941	1941	100.0
Saran	1667	1402	84.1	640	596	93.2	553	409	74.1	2859	2408	84.2
Siwan	1526	1301	85.2	413	366	88.6	398	295	74.2	2337	1962	84.0
Gopalganj	1422	1080	76.0	139	135	96.8	200	121	60.4	1761	1336	75.8
W. Champaran	1427	1518	106.4	782	599	76.6	738	531	72.0	2946	2648	89.9
E. Champaran	2065	1713	83.0	731	718	98.2	260	201	77.1	3057	2632	86.1
Muzzaffarpur	2120	1950	92.0	1058	1179	111.5	364	302	82.9	3542	3431	96.9
Sitamarhi	1345	1069	79.5	583	411	70.6	230	137	59.8	2158	1618	75.0
Sheohar	385	277	72.0	63	51	80.8	54	32	60.0	502	361	71.8
Vaishali	1560	1241	79.5	203	320	157.6	201	166	82.5	1965	1728	87.9
Darbhanga	1548	918	59.3	277	442	159.4	257	208	81.0	2082	1568	75.3
Madhubani	2323	1422	61.2	428	726	169.5	331	208	62.8	3082	2356	76.4
Samastipur	2257	1968	87.2	516	624	120.9	709	412	58.0	3483	3004	86.3
Begusarai	1461	1401	95.9	1126	1040	92.4	407	253	62.1	2994	2693	89.9
Munger	760	633	83.3	235	227	96.8	127	126	99.5	1122	987	88.0
Sheikhpura	484	371	76.7	108	91	83.6	14	15	107.1	606	476	78.6
Lakhisarai	612	520	84.8	124	130	104.6	53	57	109.3	789	707	89.6
Jamui	907	704	77.6	120	153	127.2	138	101	73.2	1166	958	82.2
Khagaria	843	799	94.8	298	293	98.2	117	77	65.7	1258	1169	92.9
Bhagalpur	1379	1155	83.8	986	839	85.2	218	179	82.1	2582	2173	84.2
Banka	849	645	75.9	319	252	79.1	77	51	66.0	1245	947	76.1
Saharsa	671	567	84.5	208	160	77.2	214	96	44.7	1093	823	75.3
Supaul	987	703	71.2	216	166	76.9	198	108	54.3	1401	976	69.7
Madhepura	920	545	59.3	78	120	153.6	105	54	51.8	1103	719	65.2
Purnea	1172	1062	90.6	311	307	98.7	240	131	54.7	1723	1500	87.1
Kishanganj	674	809	120.1	279	199	71.2	119	79	66.5	1072	1087	101.4
Araria	1162	1071	92.2	321	318	99.0	188	133	70.6	1671	1522	91.1
Katihar	1137	1100	96.7	426	339	79.6	268	170	63.4	1831	1609	87.9
Bihar	49000	42161	86.0	17000	18985	111.7	13000	9781	75.2	79000	70927	89.8

Source : State Level Bankers' Committee

Table A 10.1 : District-wise Performance Under Annual Credit Plan as on 31.3.2018 (Contd.)

(Rs. crore)

Districts	Non-Priority Sector			Grand Total		
	Target	Achievement	Achievement Percentage	Target	Achievement	Achievement Percentage
Patna	5215	7718	148.0	14121	17953	127.1
Nalanda	744	614	82.6	3042	2869	94.3
Bhojpur	750	623	83.0	2980	2593	87.0
Buxar	576	417	72.4	2256	1941	86.1
Rohtas	792	644	81.4	3350	3245	96.9
Kaimur	465	356	76.5	1994	1833	91.9
Gaya	1224	1118	91.3	4637	3965	85.5
Jehanabad	406	297	73.2	1418	1137	80.2
Arwal	215	162	75.3	834	679	81.4
Nawada	388	301	77.6	1770	1620	91.5
Aurangabad	622	484	77.8	2563	2425	94.6
Saran	908	648	71.3	3767	3056	81.1
Siwan	763	571	74.9	3100	2533	81.7
Gopalganj	585	548	93.7	2347	1884	80.3
W. Champaran	733	720	98.2	3680	3368	91.5
E. Champaran	1041	940	90.4	4098	3573	87.2
Muzzaffarpur	1712	1568	91.6	5254	4999	95.2
Sitamarhi	670	484	72.2	2828	2102	74.3
Sheohar	199	110	55.0	701	470	67.0
Vaishali	972	727	74.7	2937	2454	83.6
Darbhanga	961	864	89.9	3043	2432	79.9
Madhubani	950	742	78.0	4033	3098	76.8
Samastipur	1107	996	90.0	4590	4000	87.1
Begusarai	932	747	80.2	3926	3440	87.6
Munger	546	562	103.1	1668	1549	92.9
Sheikhpura	229	207	90.3	835	683	81.8
Lakhisarai	260	207	79.6	1049	914	87.1
Jamui	371	369	99.4	1537	1327	86.3
Khagaria	464	322	69.3	1722	1490	86.5
Bhagalpur	1347	1466	108.8	3929	3639	92.6
Banka	535	370	69.2	1780	1318	74.0
Saharsa	492	287	58.3	1585	1110	70.0
Supaul	544	353	64.9	1945	1330	68.4
Madhepura	472	250	53.0	1574	969	61.6
Purnea	925	758	81.9	2648	2258	85.3
Kishanganj	419	298	71.1	1491	1385	92.9
Araria	660	489	74.1	2332	2011	86.3
Katihar	807	670	83.1	2638	2280	86.4
Bihar	31000	29007	93.6	110000	99934	90.8

Source : State Level Bankers' Committee

Table A 10.2 : District-wise Achievement of Kisan Credit Card (NEW and RENEW) Numbers (in '000)

Districts	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Patna	26.23	60.14	50.52	54.95	54.32	72.92	59.09	62.58	66.55	58.46
Nalanda	22.28	34.95	42.07	46.48	63.10	52.08	54.17	72.24	56.12	68.75
Bhojpur	27.58	50.76	59.02	84.54	86.53	96.03	90.50	83.70	50.31	99.98
Buxar	10.92	38.45	32.04	40.53	79.49	64.99	51.36	44.43	35.63	49.55
Rohtas	33.14	56.52	57.66	76.55	95.86	78.68	72.13	93.40	113.52	102.74
Kaimur	24.10	31.49	29.36	44.17	63.62	57.32	63.94	68.04	37.91	58.98
Gaya	52.57	40.10	41.01	60.65	85.44	95.49	86.97	104.28	93.17	90.73
Jehenabad	12.26	16.10	25.15	26.43	18.91	16.73	14.20	22.68	17.69	35.49
Arwal	4.44	6.69	8.36	12.75	13.46	11.10	13.47	18.68	13.99	21.65
Nawada	25.99	24.84	28.98	23.73	36.43	44.29	42.46	76.64	58.62	36.12
Aurangabad	28.08	42.49	42.35	54.79	67.64	31.70	54.10	73.83	75.75	55.18
Saran	24.23	32.71	34.84	39.06	66.26	72.48	61.32	91.86	82.06	76.91
Siwan	27.75	38.54	34.17	36.96	72.17	55.79	71.07	97.31	83.47	76.93
Gopalganj	29.82	42.89	53.93	60.45	82.85	97.37	98.80	88.55	109.34	88.95
W. Champaran	47.45	70.19	75.74	97.81	86.74	104.25	98.93	136.40	129.69	100.40
E. Champaran	45.14	74.33	82.86	104.24	129.86	147.01	156.80	160.34	153.66	142.86
Muzaffarpur	36.20	61.03	58.14	71.13	91.76	96.01	144.85	142.78	139.99	91.00
Sitamarhi	19.94	34.68	30.37	43.47	62.52	66.49	47.52	55.15	42.90	62.68
Sheohar	6.65	6.32	12.12	7.68	11.31	27.41	9.87	49.79	17.19	15.11
Vaishali	30.63	38.76	45.61	66.71	82.39	88.73	80.25	85.17	77.88	95.26
Darbhanga	20.74	43.99	26.36	41.68	56.13	52.02	39.35	41.38	48.46	47.24
Madhubani	35.42	38.58	55.26	72.37	101.07	95.60	97.56	129.11	95.02	136.74
Samastipur	38.36	79.08	80.40	95.79	94.51	155.58	154.74	173.89	170.53	206.55
Begusarai	20.69	57.13	72.81	89.80	111.45	152.53	134.32	134.01	119.82	122.00
Munger	10.76	16.56	16.70	28.05	19.33	36.37	36.22	44.20	46.09	57.42
Shiekhpora	7.88	6.04	5.22	12.74	13.62	12.60	21.87	13.45	26.97	37.24
Lakhisarai	10.05	11.40	15.85	18.07	16.62	35.84	39.83	37.07	38.71	44.76
Jamui	13.46	15.78	22.59	28.02	30.84	50.86	64.32	64.64	68.24	75.42
Khagaria	12.38	30.31	39.92	57.27	45.85	69.17	78.56	76.26	83.32	71.97
Bhagalpur	22.73	44.74	37.94	48.75	45.36	66.86	65.70	72.44	61.73	70.51
Banka	9.46	21.23	22.83	36.20	34.78	36.69	36.02	47.77	34.62	45.30
Saharsa	13.84	21.76	18.90	25.22	32.86	41.01	47.16	45.35	33.45	30.38
Supaul	57.13	22.83	16.79	27.26	40.51	45.48	46.71	43.30	42.94	44.73
Madhepura	11.62	12.31	14.71	24.80	29.93	36.54	25.39	20.35	28.71	22.02
Purnea	27.43	51.21	30.38	55.21	64.57	64.26	61.97	68.56	45.65	61.79
Kishanganj	13.68	14.65	20.79	36.76	44.19	51.11	46.03	54.16	40.50	57.60
Araria	16.38	20.23	29.47	47.76	54.05	82.37	53.92	60.22	42.71	54.50
Katihar	19.83	29.76	31.62	48.62	45.51	53.03	49.92	60.84	41.77	52.78
Bihar	897.25	1339.54	1402.83	1847.44	2231.79	2514.76	2471.35	2814.83	2524.66	2666.65

Source : State Level Banker's Committee

CHAPTER - XI

HUMAN DEVELOPMENT

Human development is a process of widening people's choices. These choices have many dimensions and can change over time. But, at all levels of development, three essential choices of a person are — to lead a healthy and long life, to acquire knowledge, and to have access to the resources needed for a decent standard of living. If these essential needs are not met, many other opportunities remain inaccessible. There are four major elements in the concept of human development — productivity, equity, sustainability and empowerment. To evaluate the progress of a state on these parameters, there is a need to create a comprehensive database on social statistics and new development measures. This chapter gives a detailed overview of developments in social sector in Bihar through the dimensions of — Health, Drinking Water and Sanitation, Education, Social Welfare, Women Empowerment and Social Security for Old and Disabled.

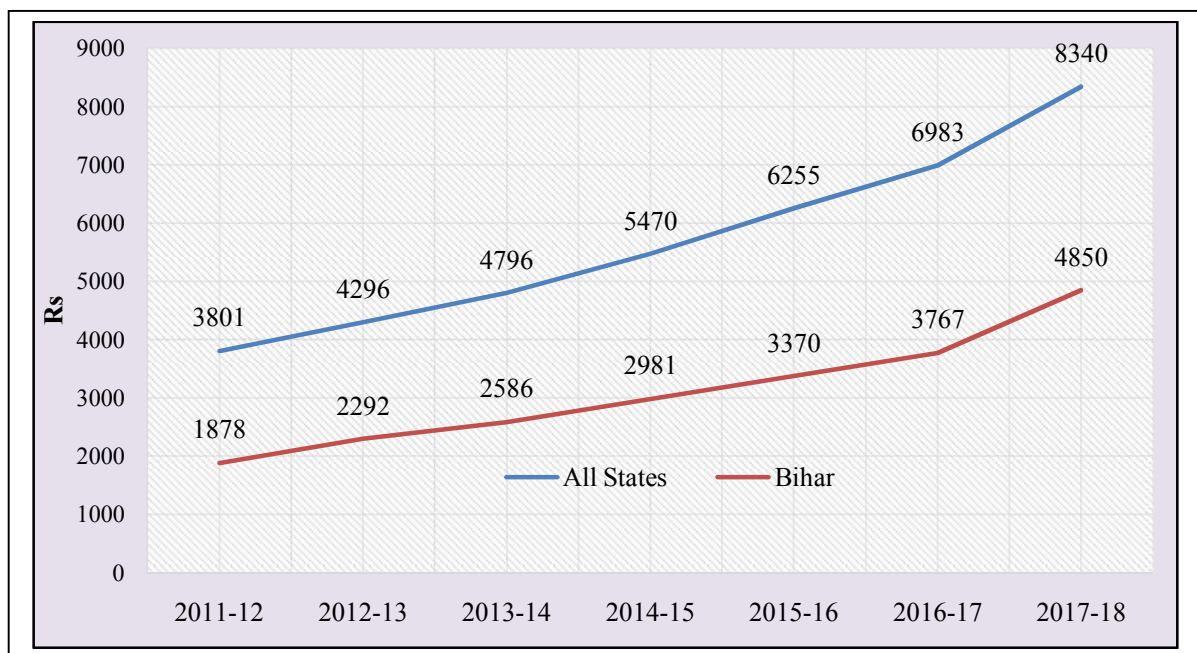
The state's economy has maintained a stable growth rate of double digit at 10.9 percent between 2011-12 and 2016-17. This indicates a state of sustainable and inclusive growth in the economy achieved during the recent past. Simultaneously, public spending on social sector has also been given due importance by the state government. The Per Capita Development Expenditure (PCDE) of the state government has grown steadily during 2011-12 to 2017-18. It is heartening to note that the PCDE in Bihar in these seven years has grown at an annual rate of 15.8 percent, compared to 13.7 percent for the country as a whole. It is also laudable that the expenditure on education in the state increased from Rs. 10,214 crore in 2011-12 to Rs. 26,394 crore in 2017-18, registering an annual increase of 14.4 percent, which is 1.9 percentage points higher than that of all-India average of 12.5 percent. During this period, expenditure on education at all-India level has increased from Rs. 2,20,648 crore (2011-12) to Rs. 4,49,201 crore (2017-18). Likewise, the rate of growth in health expenditure in Bihar during these seven years was also high at 22 percent (Table 11.1).

Table 11.1 : Trend of Education, Health and Social Services Expenditure

Year	Total Expenditure on Social Services (Rs. crore)		Expenditure on Education (Rs. crore)		Expenditure on Health (Rs. crore)	
	All States	Bihar	All States	Bihar	All States	Bihar
2011-12	459980	19536	220648	10214	9662	2125
2012-13	528655	24438	251169	14445	11902	2398
2013-14	600231	28253	280865	15047	15205	2574
2014-15	696207	33386	324187	16531	19590	3604
2015-16	809664	38684	360085	19155	23197	4571
2016-17	919225	44329	398607	20226	25399	5493
2017-18	1116512	58492	449201	26394	34635	6535
Year	Total Expenditure (Rs. crore)		Percentage share of Social Services in Total Expenditure		Per Capita Expenditure on Social Services (Rs.)	
	All States	Bihar	All States	Bihar	All States	Bihar
2011-12	1245816	60182	36.9	32.5	3801	1878
2012-13	1424883	69207	37.1	35.3	4296	2292
2013-14	1600303	80405	37.5	35.1	4796	2586
2014-15	1909198	94698	36.5	35.3	5470	2981
2015-16	2171650	112328	37.3	34.4	6255	3370
2016-17	2479080	126302	37.1	35.1	6983	3767
2017-18	2989510	160086	37.3	36.5	8340	4850

Source : State Finances, A Study of Budgets, RBI & Budget Documents, GoB

Note : The figures for All States include Revenue and Capital Expenditure.

Chart 11.1 : Trend of Per Capita Expenditure on Social Services

11.1 Health Scenario in Bihar

Health and socio-economic developments are so closely intertwined that it is impossible to achieve progress on one count, without progress on the other. During the recent past, there has been a tremendous improvement in the quality of healthcare services in Bihar. This is illustrated by the significant improvement in healthcare indicators such as Life Expectancy at Birth (LEB), Infant Mortality Rate (IMR), and Maternal Mortality Rate (MMR) over the period. This section will present the relevant information on various initiatives taken by the state government to improve the health services in the state.

Healthcare is one of the largest service sectors. The challenges the sector faces are substantial — reduce mortality rates, improve physical infrastructure, necessity to provide health insurance, ensuring availability of trained medical personnel and some more. In recent years, there has been a rise in both communicable diseases and non-communicable diseases in Bihar. While ailments such as poliomyelitis, leprosy, and neonatal tetanus will soon be eliminated, some infectious diseases have returned in force or have developed a stubborn resistance to existing drugs. Two of these diseases which were once thought to be under control are tuberculosis and malaria. The healthcare services in the state is mainly based on Primary health care, which envisages attainment of healthy status for all. Also being holistic in nature, it aims to provide preventive, curative and rehabilitative services. In this section, all these aspects of healthcare will be discussed.

Selected Health Indicators in Bihar

Due to focused nature of health services, Bihar has achieved substantial progress in health outcome in the recent years. Life Expectancy at Birth (LEB) reflects the average number of years a newly born baby is expected to survive under the current schedule of mortality. It is a proxy measure for several dimensions like adequate nutrition, good health, education and other valued achievements. Table 11.2 shows the values of LEB for India and Bihar for the periods 2006-10 and 2012-16. The LEB for the state has increased substantially from 65.8 years in 2006-10 to 68.7 years in 2012-16, registering an increase of 2.9 years over a period of 6 years. It is also worthy to mention that, in these 6 years, the gap between India and Bihar which was 0.3 year in 2006-10 has vanished for the period of 2012-16. Now, the overall LEB of Bihar is equal to that of India (68.7 years). In 2006-10, the LEB of Bihar for female (66.2 years) was higher compared to that of male (65.5 years) by about 0.7 year. Similarly, for the country as a whole the female

LEB (67.7 years) was also higher than that of male (64.6 years) by about 3.1 years. In 2012-16, however, the LEB for males (68.9 years) was marginally higher than that of female (68.5 years) by about 0.4 year for Bihar. Contrary to this, for India as a whole, there is a difference of 2.8 years between the LEB of females (70.2 years) and that of males (67.4 years). As regards urban-rural gap, there is a marginal increase of 0.1 year between 2006-10 and 2012-16 for India as a whole; but for Bihar, this increase is of 0.8 year.

Along with LEB, a few other indicators of health for which there exists comparable data are — Crude Birth Rate (CBR), Infant Mortality Rate (IMR), Child Mortality Rate (CMR), Under Five Mortality Rate (U5MR), Neo-Natal Mortality Rate (NMR), Peri-Natal Mortality Rate (PMR) and Total Fertility Rate (TFR). The relevant data for these indicators, for both Bihar and India, is presented in Table 11.3, covering the period 2013 to 2016. For Crude Birth Rate (CBR), the figures are consistently higher for Bihar; in 2016, it was 26.8 for Bihar, compared to 20.4 for India, indicating a difference of 6.4. This high growth rate of population can be said to be an outcome of consistently high birth rate and a relatively faster declining death rate. When one compares the IMR, it emerges that the state figures have declined substantially in Bihar from 42 in 2013 to 38 in 2016, although the decline for India is even higher, from 40 in 2013 to 34 in 2016. As regards CMR, it again declined in Bihar from 11 in 2013 to 10 in 2016, whereas for all-India this decline was of 2, from 11 in 2013 to 9 in 2016. This is commendable. While comparing the TFR, it is noticed that there is a marginal decline in TFR in Bihar from 3.4 children in 2013 to 3.3 children per woman in 2016, a drop of 0.1 child per woman. However, for all-India, the TFR for 2013 and 2016 remains same at 2.3 children per woman. Giving a look at NMR, one could see that, between 2013 and 2016, the decline in Bihar is only 1, compared to 4 for India.

Table 11.2 : Life Expectancy at Birth

State/India	2006-10			2012-16		
	Male	Female	Total	Male	Female	Total
Bihar	65.5	66.2	65.8	68.9	68.5	68.7
India	64.6	67.7	66.1	67.4	70.2	68.7
State/India	Rural	Urban	Total	Rural	Urban	Total
Bihar	65.6	67.9	65.8	68.4	71.5	68.7
India	64.9	69.6	66.1	67.4	72.2	68.7

Source : Sample Registration System (SRS), Office of the Registrar General, India

Table 11.3 : Selected Health Indicators for Bihar and India

Year	Indicators	Crude Birth Rate	Infant Mortality Rate	Child Mortality Rate	Under-Five Mortality Rate	Neo-Natal Mortality Rate	Peri-Natal Mortality Rate	Total Fertility Rate
India								
2016	Total	20.4	34	9	39	24	23	2.3
	Rural	22.1	38	11	43	27	26	2.5
	Urban	17.0	23	6	25	14	14	1.8
2015	Total	20.8	37	10	43	25	23	2.3
	Rural	22.4	41	12	48	29	26	2.5
	Urban	17.3	25	7	28	15	15	1.8
2014	Total	21.0	39	11	45	26	24	2.3
	Rural	22.7	43	12	51	30	27	2.5
	Urban	17.4	26	6	28	15	15	1.8
2013	Total	21.4	40	11	49	28	26	2.3
	Rural	22.9	44	12	55	31	28	2.5
	Urban	17.3	27	6	29	15	16	1.8
Bihar								
2016	Total	26.8	38	10	43	27	24	3.3
	Rural	27.7	39	10	44	28	25	3.4
	Urban	21.1	29	8	34	17	13	2.5
2015	Total	26.3	42	12	48	28	24	3.2
	Rural	27.1	42	12	48	29	24	3.3
	Urban	20.6	44	11	47	20	20	2.5
2014	Total	25.9	42	12	53	27	22	3.2
	Rural	26.9	43	13	54	29	24	3.3
	Urban	19.9	37	9	43	13	9	2.4
2013	Total	27.6	42	11	54	28	23	3.4
	Rural	28.3	42	12	56	29	25	3.5
	Urban	21.5	33	8	37	11	7	2.5

Source : Office of the Registrar General, India.

Health Infrastructure

Under the Indian Constitution, health is a state subject. Each state has its own healthcare delivery system in which both public and private sectors operate. While states are responsible for the functioning of their respective healthcare systems, certain responsibilities like policy-making, planning, and funding to implement national programmes fall under the purview of the central government. The healthcare infrastructure consists of primary, secondary, and tertiary health care. At the primary level of health care, it includes Community Health Centers (CHC), Primary

Health Centers (PHC), and Sub-Centers (SC) and Additional PHCs (APHC). The sub-divisional hospitals come under the category of secondary health care and, finally, the tertiary level of health care includes the district hospitals and medical colleges.

To access preventive and protective health care, majority of the population in Bihar depend upon public health services. Recently, the state government has taken pragmatic steps to improve the functioning of the public health institutions. The recent improvement in the functioning of health care system in Bihar is indicated by the average number of patients visiting government hospitals per month (Table 11.4). In 2017-18, the number of patients visiting hospitals per month was 10,446, compared to 9871 in 2014, implying an increase of 5.8 percent in patient footfalls in hospitals. Between April-September, 2018, the average number of patients visiting hospital per month is only marginally lower at 9952. Such large number of footfalls in recent years is the result of comprehensive health services, with provision of free medicines and quality care. The state government is also organising a large number of health camps to raise awareness about health among the masses.

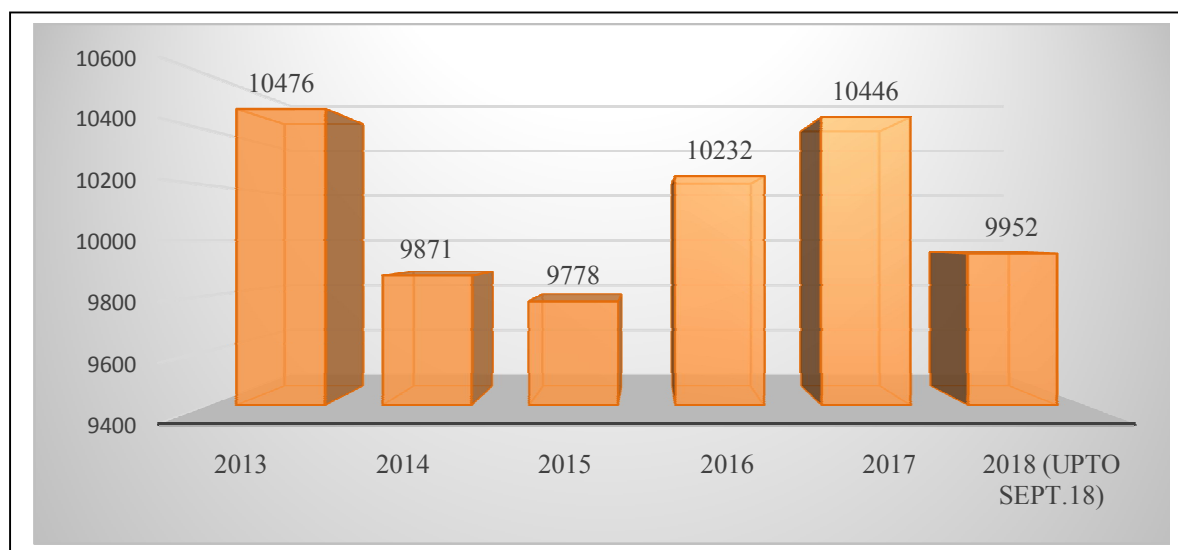
Table 11.4 : Monthly Average Number of Patients Visiting Government Hospitals

Year	2014	2015	2016	2017	2018 (upto Sept.18)
No. of patients visiting government hospitals per month	9871 (-5.8)	9778 (-0.9)	10232 (4.6)	10446 (2.1)	9952

Note : Figures in the parenthesis represent annual increase

Source : State Health Society, GOB

Chart 11.2 : No. of Patients Visiting Government Hospitals Per Month



The government health care services are organised at different levels. The Primary Health Centre (PHC) is the core of the rural health services infrastructure. It has both outpatient and outreach services. These outreach services are provided by Sub-Centres and staffed by multipurpose health workers. In-patient and more specialised services are provided at the Community Health Centres (CHC). Each Sub-Centre is expected to cater to a population of 5000, each PHC to a population of 30,000 and a CHC serves a population of 1,00,000. District hospitals and medical college hospitals, along with specialized institutions, provide referral care. At present, there are 37 district hospitals, 70 referral hospitals, 55 sub-divisional hospitals (SDH), 533 PHCs, 9949 Sub-Centres and 1379 APHCs. The last three types add up to 11,861 health centres. Thus, per ten lakh of population, there are about 99 health centres in the state (Table 11.5). To meet the challenge of infrastructural deficiency in healthcare facilities, out of 533 PHCs, the target is to upgrade 399 six bedded PHCs to thirty-bedded Community Health Centres (CHC) and 167 of them are already functional. Out of 70 referral hospitals, 67 have both Outpatient Department (OPD) and Inpatient Department (IPD) facility, whereas the remaining three are having only OPD facility. Correspondingly, 55 SDHs have been sanctioned by the state government, out of which 46 are fully functional and 9 more are being opened in Teghra and Bakhri (Begusarai), Haveli Kharagpur (Munger), Benipatti (Madhubani), Marhourah (Saran), Belsand (Sitamarhi), Mahnar (Vaishali), Piro (Bhojpur) and Baisi (Purnea).

Table 11.5 : Overall Status of Health Infrastructure

(Figures in Number)

Year	District Hospital	Referral Hospital	Sub Divisional Hospital	Health Centres				Health centres per ten lakh population
				PHC	Sub Centre	APHC	Total	
2012	36	70	55	533	9696	1330	11559	109
2013	36	70	55	533	9696	1330	11559	106
2014	36	70	55	533	9729	1350	11612	104
2015	36	70	55	533	9729	1350	11612	102
2016	36	70	55	533	9729	1350	11612	100
2017	36	70	55	533	9949	1366	11848	99
2018	37	70	*55	**533	9949	1379	11861	99

Note : ** 399 PHC will be upgraded to 30 bedded CHC, 216 of which has been constructed and 167 are functional

* 46 SDH are fully functional and 9 more are being opened

Source : State Health Society, GOB

One of the major challenges to the health sector in Bihar is to respond to demographic phenomena. Since Bihar is home to diverse socio-cultural groups, the health needs of people also

vary from region to region. Given the size of state's population and the burden of disease, the challenge of attaining good health for people is a daunting one. To meet the overall health requirements of the state, the inter-district disparity in terms of availability of health institution should also be addressed. As on September 2018, three best districts in terms of health institutions per ten lakh population were — Jamui (1523), Sheikhpura (1512) and Sheohar (1416). The district-wise data is presented in Statistical Appendix (Table A11.1).

The efficiency of public health facility can be assessed on the basis of outpatient and inpatient services. In 2017-18, Khagaria (489), Madhepura (449) and Muzaffarpur (443) are the three districts with the highest average number of outpatients visiting hospitals per day. Contrary to this, three worst performing districts are — Sheohar (145), West Champaran (151) and Buxar (186). For the state as a whole, there has been a marginal decrease in the average number of outpatient visits from 323 in 2015-16 to 298 in 2017-18. The Bed Occupancy Rates and length of stay are also two measures that reflect the functional ability of a hospital. The fall in overall Bed Occupancy Rate of Bihar, from 84 percent in 2015-16 to 62 percent in 2017-18, indicates the prevailing gaps in public health services and the growing participation of private health care facilities. Among the districts, the Bed Occupancy Rate varied between 329 percent in Muzaffarpur to 16 percent in Sheohar. In 2017-18, three best performing districts with the highest Bed Occupancy Rate are — Muzaffarpur (329 percent), Bhagalpur (181 percent) and Madhepura (159 percent), while three worst performing districts are — Sheohar (16 percent), Nawada (20 percent) and Patna (22 percent). The Bed Occupancy Rate exceeds 100 percent in 4 districts which is indicative of high demand for public health services. Statistical Appendix (Table A11.2) presents the Average Number of Outpatients Visiting per Day and in-patient Bed Occupancy Rate for four years — 2015-16, 2016-17, 2017-18 and 2018-19.

The problem of non-availability and uneven distribution of skilled health care providers is the central challenge towards meeting the health goals in Bihar. As regards the human resources, for health services, the infrastructure consists of — doctors, nurses, Auxiliary Nurse-Cum-Mid-wife (ANM), and Accredited Social Health Activist (ASHA). The availability of manpower is one of the important prerequisites for the efficient functioning of the health infrastructure. The availability of such personnel for the entire state is presented in Table 11.6. The district-wise data is presented in Statistical Appendix (Tables A11.3 to A11.5). As regards doctors, there are now 3146 regular doctors in Bihar, against 7249 sanctioned posts, indicating a high vacancy ratio of 57 percent. In addition, there are also sanctioned posts for 2314 contractual doctors, of which only 533 posts have been filled up, representing again a high vacancy ratio of 77 percent. To overcome this infrastructural deficit, the recruitment process is going on for all the posts.

However, the situation is better for contractual ASHA workers, where about 93 percent of the sanctioned posts (93,687) have been filled up in 2017-18, representing a vacancy ratio of only 7 percent. Infrastructure is the basic support for the delivery of public health activities. Unless the five pillars of this infrastructure (skilled workforce, integrated electronic information systems, public health organizations, resources and research) are strengthened, the outcomes will not be as per expectation. To cater to the demand of large and needy population of Bihar, particularly in rural areas, the public services should be expanded and strengthened.

Table 11.6 : Number of Health Personnel

Name of the Post	Regular			Contractual		
	Sanctioned Posts	Working		Sanctioned Posts	Working	
		2016-17	2017-18		2016-17	2017-18
Doctors	7249	3183	3146	2314	923	533
Grade A Nurse	4704	2032	2096	1719	383	412
ANM	21859	12205	12134	12587	6848	6867
ASHA	-	-	-	93687	85708	87424

Source : Health Department and State Health Society, GOB

Institutional Delivery

The Janani Suraksha Yojana (JSY), launched in April, 2005, is a centrally sponsored scheme which is being implemented with the objective of reducing maternal and infant mortality by promoting institutional delivery of children. Under the JSY, eligible pregnant women are entitled for cash assistance, irrespective of the age of mother and number of children, for giving birth in a government or accredited private health facility. This central scheme focuses on poor pregnant women, with a special provision for low performing states (LPS) that have low institutional delivery rates. These states are — Uttar Pradesh, Uttarakhand, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Assam, Rajasthan, Odisha, and Jammu and Kashmir. The scheme also provides performance-based incentives to women health volunteers, known as Accredited Social Health Activist (ASHA) for promoting institutional delivery. The women in rural areas in LPS are given a cash assistance of Rs. 1400 for an institutional delivery. ASHAs are given a performance linked fee of Rs. 600 for each woman they motivate, which includes Rs. 300 for ante-natal care (ANC) component and Rs. 300 for facilitating institutional delivery. Similarly, in urban areas of the LPS, an amount of Rs. 1000 is given to mothers and Rs. 400 is given to ASHA (Rs. 200 for ANC and Rs. 200 for facilitating institutional delivery). ASHAs receive an initial training of three weeks in various aspects of maternal and child care. Under this scheme, ASHAs are required to identify pregnant women, facilitate at least four antenatal check-ups for them, and motivate them for institutional delivery. They are also required to visit the mother and newborn for a postnatal check-up within seven days of delivery and counsel them on early breastfeeding.

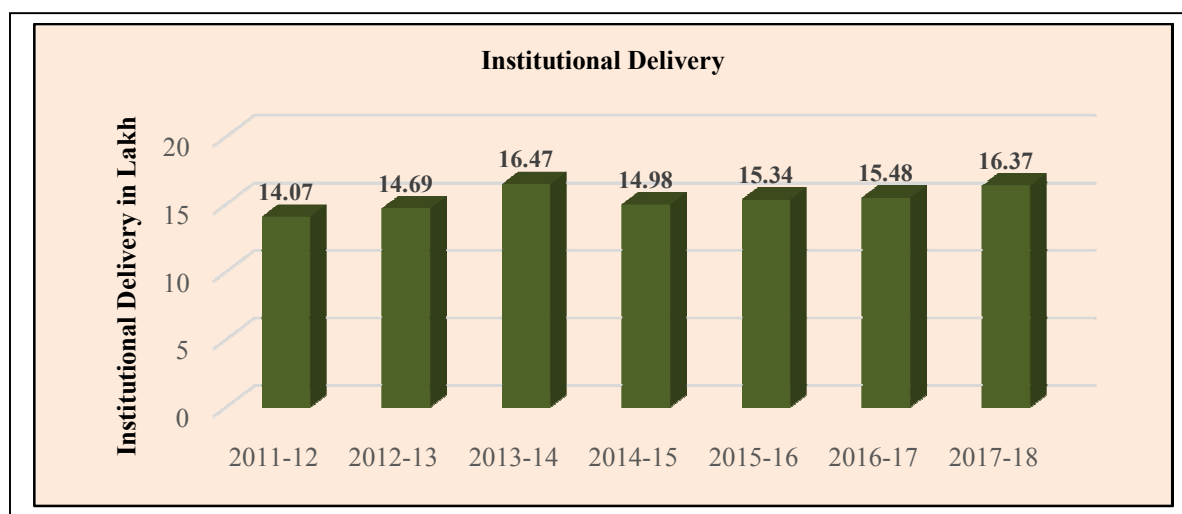
Further, in all the states, the scheme provides Rs. 500 to BPL women, who prefer to deliver at home regardless of age and number of children. The state government has started providing assistance to JSY beneficiaries through the Direct Benefits Transfer (DBT) model from 2013. In recent years, the number of institutional deliveries in Bihar has increased phenomenally — from 14.07 lakh in 2011-12 to 16.37 lakh in 2017-18, registering a growth of 16.3 percent (Table 11.7).

Table 11.7 : Number of Institutional Delivery under JSY

Year	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Institutional Delivery (lakh)	14.07	14.69	16.48	14.94	15.33	15.45	16.37

Source : State Health Society, GOB

Chart 11.3 : Number of Institutional Delivery under JSY



In Statistical Appendix (Table A11.6), the information is presented for number of institutional deliveries in different districts of Bihar. The level of institutional deliveries is comparatively higher in Samastipur (94 thousand), Purnea (78 thousand) and West Champaran (70 thousand). It is interesting to observe from the table that as many as 8 districts of Bihar have registered institutional delivery of more than 60 thousand, but all these districts are in north Bihar, except Patna. In contrary, it may be noted that except Sheohar (11 thousand), other two worst performing districts lie in south Bihar — Arwal (10 thousand) and Jehanabad (14 thousand).

Immunisation

Immunization Programme was introduced in the country in 1978 as ‘Expanded Programme of Immunization’ (EPI) by the Union Ministry of Health and Family Welfare. In 1985, the programme was modified as ‘Universal Immunization Programme’ (UIP), to be implemented in phased manner to cover all districts of the country by 1989-90. Despite being operational for

many years, UIP was able to immunize only 65 percent children in the first year of their life. Mission Indradhanush (MI) was then launched in December, 2014 to reach out to the children for whom routine vaccination could not reach before. The objective of MI is to increase immunization coverage in India to at least 90 percent children by 2020. As of now, out of 640 districts as per 2011 census, 505 districts have been covered under various phases of MI. The programme gives special attention to unserved or low coverage pockets in sub-centres and urban slums with migratory population. The focus is also on the urban settlements and cities identified under National Urban Health Mission (NUHM). The MI provides for life-saving vaccines against Tuberculosis, Diphtheria, Pertussis, Tetanus, Polio, Hepatitis B, Pneumonia and Meningitis due to Haemophilus Influenzae type B (Hib), Measles, Rubella, Japanese Encephalitis (JE) and Rotavirus diarrhoea. Under MI, the government has identified 216 high focus districts across the country, of which 55 are in Uttar Pradesh and 19 are in Bihar. Table 11.8 shows the coverage of MI in major states of India in 2017-18. In 2017-18, a total of 106 lakh children and 25 lakh pregnant women were immunized in the country. Better performing states where the coverage of beneficiary is more than 3 lakhs are — Madhya Pradesh, Bihar, Maharashtra and Karnataka.

Table 11.8 : State-wise Children and Women Vaccinated in Mission Indradhanush (2017-18)

(in Lakh)

State	No. of Children Immunised			No. of Pregnant Women Immunised		
	MI	IMI	Total	MI	IMI	Total
Andhra Pradesh	0.34	0.22	0.56	0.05	0.03	0.08
Bihar	1.61	2.69	4.30	0.36	0.47	0.83
Chhattisgarh	0.61	0.00	0.61	0.17	0.00	0.17
Gujarat	0.46	0.32	0.78	0.78	0.14	0.92
Haryana	0.52	0.87	1.39	0.21	0.23	0.44
Jharkhand	1.28	0.61	1.89	0.37	0.13	0.50
Karnataka	2.08	0.70	2.78	0.31	0.13	0.44
Kerala	0.33	0.05	0.38	0.03	0.01	0.04
Madhya Pradesh	4.00	2.83	6.83	1.38	0.60	1.98
Maharashtra	1.18	2.10	3.28	0.13	0.27	0.40
Odisha	0.02	0.16	0.18	0.01	0.03	0.04
Punjab	0.27	0.00	0.27	0.07	0.00	0.07
Rajasthan	1.51	0.72	2.23	0.40	0.15	0.55
Tamil Nadu	0.71	0.00	0.71	0.19	0.00	0.19
Uttar Pradesh	0.01	0.09	0.10	0.00	0.01	0.01
West Bengal	0.38	0.40	0.78	0.12	0.11	0.23
India	46.65	59.50	106.15	13.18	11.86	25.04

Note : MI : Mission Indradhanush, IMI: Intensified Mission Indradhanush
Source : Ministry of Health and Family Welfare

Table 11.9 : Antigen-wise Immunisation Coverage in Bihar

Antigen name	2016-17		2017-18		2018-19 (Up to September, 2018)	
	Target ('000)	Achievement ('000)	Target ('000)	Achievement ('000)	Target ('000) for 6 months	Achievement ('000)
TT 2 + Booster (PW)	3261	2467 (75.7)	3340	2665 (79.8)	1712	1599 (93.4)
BCG	3080	1268 (41.2)	3158	2722 (86.2)	1619	1286 (79.4)
OPV 0	3080	1836 (59.6)	3158	1861 (58.9)	1619	885 (54.7)
OPV 1	3080	2733 (88.7)	3158	2719 (86.1)	1619	1248 (77.1)
OPV 2	3080	2708 (87.9)	3158	2666 (84.4)	1619	1317 (81.3)
OPV 3	3080	2682 (87.1)	3158	2559 (81.0)	1619	1374 (84.9)
PENTA-1	3080	2750 (89.3)	3158	2726 (86.3)	1619	1253 (77.4)
PENTA-2	3080	2736 (88.8)	3158	2672 (84.6)	1619	1322 (81.7)
PENTA-3	3080	2712 (88.1)	3158	2565 (81.2)	1619	1380 (85.2)
Measles	3080	2714 (88.1)	3158	2627 (83.2)	1619	1449 (89.5)

Note : 1. DPT has been replaced by Pentavalent in 2015-16
2. Figures in parenthesis indicate achievement in percentage
Source : State Health Society, GOB

Table 11.9 refers to six components of immunisation in Bihar — TT (Anti-tetanus), BCG, OPV, DPT, PENTA and measles. It is observed that, in 2017-18, the coverage of BCG and Penta-1 is as high as 86 percent. For polio oral OPV 1,2 and 3, pentavalent and measles, the achievement rate is again more than 80 percent. These coverages are much higher than what they were a few years ago. For OPV zero dose which is given at birth up to 14 days the present coverage is around 60 percent. The immunization coverage for fully immunised children in the age bracket of 12-23 months has improved considerably by 29 percentage points between NFHS-3 (32.8 percent) and NFHS-4 (61.7 percent).

Prevalence of Main Diseases

Estimations of disease burden based on sound epidemiological research provides the foundation for effective public policy. Communicable and non-communicable diseases are still persisting in Bihar and India as major health problems, in spite of having national programmes for the control of most of these diseases for almost half a century now. Thus, a disaggregated understanding of the disease burden in the state is needed to run an effective health system that improves the health of the population. The information on main diseases in Bihar is presented in Table 11.10. It is evident from the table that, in 2017-18, it was the Acute Respiratory Infection (ARI) that was the most important cause of illness in Bihar, accounting for 12.8 lakh patients. The next dominant category was Fever of Unknown Origin, accounting for 9.0 lakh patients. Other important diseases as per their occurrence in 2017-18 are — Acute Diarrhoea (4.2 lakh) and Dysentery/ Enteric Fever (2.1 lakh). Along with these diseases, rabies caused by dog bite is another reported disease accounting for 3.7 lakh patients. It is also evident from the table that,

due to considerable improvements in healthcare services, the total number of patients has declined from 52.4 lakh in 2014-15 to 35.5 lakh in 2017-18, registering a decline of 32 percent. The district-wise figures for the same are provided in Statistical Appendix (Table A11.7).

Table 11.10 : Prevalence of Main Diseases in Bihar

(No. of patients in lakh)

Diseases	2014-15	2015-16	2016-17	2017-18
Acute Diarrhoea	6.9 (13.1)	5.1 (13.0)	2.7 (13.2)	4.2 (11.8)
Bacillary Dysentery	3.6 (6.9)	2.8 (7.2)	1.4 (6.9)	2.1 (5.9)
Viral Hepatitis	0.3 (0.5)	0.3 (0.7)	0.2 (1.0)	0.3 (0.9)
Enteric Fever	3.1 (5.9)	2.6 (6.7)	1.3 (6.9)	2.1 (5.9)
Malaria	0.3 (0.6)	0.3 (0.8)	0.2 (1.0)	0.3 (0.7)
Fever of Unknown Origin	13.2 (25.2)	10.3 (26.6)	5.1 (25.0)	9.0 (25.2)
Acute Respiratory Illnesses	17.3 (33.0)	13.5 (34.7)	6.9 (33.8)	12.8 (36.2)
Pneumonia	0.5 (0.9)	0.4 (1.1)	0.2 (1.0)	0.4 (1.0)
Dog Bite	6.3 (12.0)	2.7 (7.0)	1.9 (9.3)	3.7 (10.4)
Any other State Specific disease	0.3 (0.6)	0.3 (0.8)	0.2 (1.0)	0.2 (0.7)
Unusual Syndromes not captured above	0.7 (1.4)	0.6 (1.5)	0.2 (1.0)	0.5 (1.3)
Total	52.4 (100.0)	38.8 (100.0)	20.4 (100.0)	35.5 (100.0)

Note : Figures in the parenthesis denote percent share to total

Source : State Health Society, GOB

National Health Mission

The National Health Mission (NHM), which was first launched in 2005 as National Rural Health Mission (NRHM), now encompasses its two Sub-Missions — the NRHM and the National Urban Health Mission (NUHM). The main programmatic components include — Health Systems Strengthening in rural and urban areas, Reproductive-Maternal-Neonatal Child and Adolescent Health (RMNCH+A) and Communicable and Non-Communicable Diseases. The NHM envisages achievement of universal access to equitable, affordable and quality health care services that are accountable and responsive to people's needs. A total sum of Rs. 7373.85 crore was disbursed under NRHM to different district health societies to strengthen public health services with a focus on primary health care between 2011-12 and 2017-18. The NRHM funds have been released to districts through the health societies under seven components. They are — Reproductive and Child Health (RCH) flexi-pool (NRHM-A), Mission flexi-pool (NRHM-B), Immunization (including Pulse Polio) (NRHM-C), National Disease Control Programmes (NRHM-D), National Urban Health Mission (NUHM) (NRHM-E), Integrated Disease Surveillance Programme (ISDP) (NRHM-F) and Revised National Tuberculosis Control Programme (RNTCP) (NRHM-G). In 2017-18, fund allocation was the highest for Mission Flexi-pool (NRHM-B) (44 percent), followed by RCH flexi pool (NRHM-A) (43 percent). For all other heads together, it was about 12 percent. The details are given in Table 11.11. The details of district-wise fund disbursement to health societies are given in Statistical Appendix (Table A11.8).

Table 11.11 : Fund Disbursed to Health Societies

(Rs. lakh)

Year	NRHM A	NRHM B	NRHM C	NRHM D	NRHM E	NRHM F	NRHM G	Total
2011-12	43853.5	24994.7	8792.1	–	–	–	525.5	78165.8
2012-13	60305.2	29520.9	7948	–	141.8	2590.1	–	100506
2013-14	68535.1	17995.8	9045.7	–	178.7	1774.7	92.7	97622.7
2014-15	67011.5	25135.5	9243.1	192.0	61.5	2785.1	542.6	104971.3
2015-16	72371.2	21000.1	11251	2.0	552.3	5694.1	860.9	111731.6
2016-17	77868.9	42949.9	7869.8	15.5	282.3	3542	834.4	133362.8
2017-18	51823.69	45011.60	8904.61	1.5	5.3	4831.49	447.29	111025.5

Source : State Health Society, GOB

Pradhan Mantri Jan Arogya Abhiyaan – Ayushman Bharat Yojana

This scheme is a project initiated by the central government to transform the healthcare industry. The Ayushman Bharat programme is one of the major policy initiatives of the central government for the vulnerable section of the Indian population. If implemented effectively, it will help the nation move closer to the Sustainable Development Goal of ‘Universal Health Coverage’. Under this programme, the central government has decided to cover 10 crore poor BPL families, which implies approximately 50 crore beneficiaries with an insurance coverage upto Rs. 5.00 lakh per family per year for secondary and tertiary care hospitalization. The fundamental objective is to strengthen the primary, secondary and tertiary health care systems in India, and it also focuses on offering financial protection during an emergency situation for all needy families. Some of the remarkable points in the scheme are:

- Benefits of the scheme are portable across the country and a beneficiary covered under the scheme will be allowed to take cashless benefits from any public/private empanelled hospitals across the country.
- An entitlement-based scheme where entitlement is decided on the basis of deprivation criteria as in the database of Socio-economic and Caste Census (SECC).
- To control costs, the payments for treatment will be done on package rate (to be defined by the government in advance) basis.
- One of the core principles of Ayushman Bharat is co-operative federalism and flexibility to states.
- For giving policy directions and fostering coordination between central and state governments, it is proposed to set up Ayushman Bharat National Health Protection Mission Council (AB-NHPMC) at apex level, chaired by Union Health and Family Welfare Minister.
- States would need to have State Health Agency (SHA) to implement the scheme.
- To ensure that the funds reach SHA on time, the transfer of funds from central government to State Health Agencies may be done through an escrow account directly.
- In partnership with NITI Aayog, a robust IT platform will be made operational which will entail a paperless, cashless transaction.

11.2 Drinking Water Supply and Sanitation

Access to safe drinking water and sanitation is not only an important indicator of the socio-economic status of the households, it is also fundamental to safeguard the health of their members. Better water supply and sanitation services have important externalities in terms of improved public health. To provide every person with adequate safe water for drinking, cooking and other domestic basic needs on a sustainable basis and to achieve universal sanitation coverage, the centre and the state governments together have taken several pragmatic steps.

As per census 2011, only 4.4 percent of households in the state have access to tap water connection, of which only 3.1 percent households use tap water from treated sources. As high as 89.6 percent households of the state depend on hand pump/tube-well/bore-well for drinking water. Regarding sanitation coverage, 76.9 percent of the state's households do not have a latrine within their own premises, as per 2011 census. In urban areas, this figure is 31.1 percent and, in rural areas, it is 82.4 percent. Consequently, 75.8 percent of the total households defecate in the open; the proportions are 81.4 percent in rural areas and 28.9 percent in urban areas.

The central government has introduced National Rural Drinking Water Supply Programme (NRDWP) in 2009 to address water supply problems in rural areas. The goal of NRDWP is to ensure that, by 2022, every rural household in the country has access to at least 70 litres of water per capita per day (lpcd), within their household premises or at a distance of less than 50 meters. Along with this, a sub-mission programme is being implemented since March 22, 2017 that aims to eliminate the problems of water quality by 2020, in about 28,000 habitations affected by Arsenic and Fluoride across the country, out of which in Bihar around 2000 habitations are being targeted. In the next phase, the Ministry of Drinking Water and Sanitation (MoDWS) will focus on other contaminants such as nitrate, salinity and iron.

In order to provide clean drinking water and proper sanitation facility to every citizen of Bihar, Har Ghar Nal Ka Jal (every household should have running tap water) and Sauchalaya Nirman Ghar Ka Sammaan (construction of toilets enhance the prestige of the home) are the two resolves made by the state government, under its ambitions programme of Saat Nishchay. To fulfill the first goal, the state government has launched three schemes, of which two are meant for rural areas and the third one for the urban area. In the rural areas, two of these schemes, Mukhyamantri Gramin Peyajal Nischay Yojana (Quality Affected Areas) and Mukhyamantri Gramin Peyajal Nischay Yojana (Non-quality Affected Areas) are being implemented, the first one covering those areas where the quality of water is infected by arsenic, fluoride or iron and the other covering non-quality affected areas. The programme is being executed through Public

Health and Engineering Department (PHED) and Panchayati Raj Department. The task will be accomplished through combined efforts of 8391 Gram Panchayats and 140 Municipalities. Out of 38 districts, 33 districts in Bihar are affected by arsenic, fluoride and iron. Table 11.12 shows the number of wards in different districts where work has been started for elimination of contamination in domestic water.

Table 11.12 : Districts Mapping of Contamination

Contaminants	Affected Districts
Arsenic (14 Districts)	Begusarai (270), Bhagalpur (278), Buxar (96), Darbhanga (31), Katihar (43), Khagaria (206), Lakhisarai (147), Munger (75), Samastipur (181), Saran (46), Sitamarhi (4), Patna (26), Bhojpur (27), Vaishali (63)
Fluoride (11 Districts)	Aurangabad (26), Banka (690), Bhagalpur (234), Gaya (187), Jamui (444), Kaimur (99), Munger (158) Nalanda (208), Rohtas (333), Sheikhpura (135), Nawada (235)
Iron (11 Districts)	Araria (145), Begusarai (234), Bhagalpur (100), Katihar (407), Khagaria (43), Kishanganj (136), Madhepura (222), Munger (0), Purnea (610), Saharsa (217) and Supaul (149)

Note : 1. The figures in bracket represent the number of wards in which the work has started

2. Till date, 5.23 lakh households have been provided connection by PHED

Source : Public Health Engineering Department; GoB

Lohiya Swachh Bihar Abhiyan (LSBA)

To achieve universal sanitation coverage, improve cleanliness and eliminate open defecation, Swachh Bharat Mission was started by the central government in October, 2014. The mission covers all rural and urban areas under Swachh Bharat (Gramin) and Swachh Bharat (Shahri) Mission. The urban component of the mission is implemented by the Ministry of Urban Development, and the rural component by the Ministry of Drinking Water and Sanitation. However, under the Swachh Bharat Mission (Gramin) of the central government, the APL families are not covered. Thus, to have universal coverage, two more schemes were started by the state government under the ambitious banner of Sauchalaya Nirmaan Ghar ka Samman. These were (1) Lohiya Swachh Bihar Abhiyan and (2) Sauchalaya Nirmaan (Shahri Khetra) Yojana. Under Lohiya Swachhata Yojana, the state government has decided to cover all APL families in rural areas, wherein an incentive amount of Rs. 12,000 is given to all families, APL or BPL. In the urban areas, an incentive amount of Rs. 4000 is given by the central government under the Swachh Bharat Mission (Shahri). The state government has decided to give an additional Rs. 8000 under Sauchalaya Nirmaan (Shahri Khetra) Yojana as an incentive from its own funds so that all households in towns get Rs 12,000 as the total incentive money. The implementation of LSBA was transferred to the Rural Development Department from the Public Health Engineering Department (PHED) in June 2016. Since then, Jeevika is also working in a mission mode which ensures a beneficiary-led and demand-driven model through behavioural

change. The large SHG-base of Jeevika is being utilised to bring about the desired behavioural change.

The aggregated figures for the coverage of water supply and sanitation and handpumps for the entire state are presented in Table 11.13. The annual achievement under water supply and sanitation varies from year to year. The highest achievement was made in 2013-14, when 12.8 thousand habitations were covered under the scheme. As regards the number of handpumps installed under NRDWP, there is a steady progress till 2015-16, followed by a slight decline in 2016-17 and 2017-18. In 2017-18, as many as 8.9 thousand handpumps were installed and 0.3 thousand slipped-back habitations were covered under the National Rural Drinking Water Programme (NRDWP). A major accomplishment is recorded in the construction of Individual Household Latrine (IHHL) in all these seven years. In 2017-18, out of the total of 3.43 lakh IHHL constructed, 1.2 lakh (36.3 percent) latrines are for APL families and 2.2 lakh (63.7 percent) latrines are for BPL families. The district-wise coverage of habitations for water supply and sanitation through central schemes is presented in Statistical Appendix (Table A11.9 and Table A11.10). In 2017-18, three best performing districts in construction of IHHL were — East Champaran (7.5 percent), Sitamarhi (6.9 percent) and Rohtas (6.5 percent), whereas Arwal (0.3 percent), Sheohar (0.4 percent) and Jehanabad (0.6 percent) were the worst performers.

Table 11.13 : Achievement under Water Supply and Sanitation

(Figures in Number)

Year	Handpumps Installed	Slipped back Habitations/ Water quality problems covered	Individual Household Latrine (IHHL) constructed		
			APL	BPL	Total
2011-12	28286	11243	193875 (23.1)	646052 (76.9)	839927 (100)
2012-13	31926	10960	236021 (29.6)	560678 (70.4)	796699 (100)
2013-14	34289	12787	63190 (39.1)	98456 (60.9)	161646 (100)
2014-15	24287	12236	47056 (28.4)	118401 (71.6)	165457 (100)
2015-16	26691	7189	145766 (34.1)	281268 (65.9)	427034 (100)
2016-17	6373	1289	551999 (63.3)	320332 (36.7)	872331 (100)
2017-18	8899	266	124666 (36.3)	218799 (63.7)	343465 (100)

Note : Figures in the parenthesis represent share of APL and BPL

Source : Public Health Engineering Department, GOB and JEEViKA

The annual financial progress under National Rural Drinking Water Programme (NRDWP), during the period 2011-12 to 2017-18 is shown in Table 11.14. In these 7 years, the utilisation of fund has increased gradually from 82.6 percent in 2011-12 to 95.6 percent in 2017-18,

registering an increase of 12.9 percentage points. This substantial increase in fund utilisation will have a definite impact in the coming years on the coverage of wholesome sanitation facility throughout the state.

Table 11.14 : Financial Progress under NRDWP

(Rs. crore)

Year	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Outlay	440.8	351.0	353.8	426.3	296.1	340.0	400.0
Expenditure	364.2	283.5	299.0	375.4	269.2	340.0	382.3
Percentage of Utilisation	82.6	80.8	84.5	88.0	90.9	100.0	95.6

Source : Public Health Engineering Department, GOB

The financial and physical progress for water supply and sanitation schemes under State Plan are presented in Tables 11.15 and 11.16. There has been steady increase in outlay and expenditure in these 5 years (2013-14 to 2017-18). The annual growth rate in expenditure in the past five years was 15.8 percent, while the rate of growth in outlay was 9.8 percent. As regards the financial progress, it is noted that the utilisation of funds has been quite high in all the years. In 2017-18, it was as high as 100.0 percent. Although the financial progress has been satisfactory, unfortunately, the physical progress has not matched the financial progress in terms of rural piped water supply scheme and coverage of uncovered tolas. For rural piped water supply scheme, the achievement rate has been fluctuating between 22.2 percent and 16.7 percent. However, in 2017-18, the rate of achievement against target was 22.2 percent, a little higher than last year when it was 18.2 percent. In these subsequent years, more than 50 rural piped water supply schemes have been completed. The coverage of installation of new handpumps against old handpumps scheme has increased from 47 percent of the target in 2013-14 to 73 percent in 2017-18. It is heartening to note that, in the last two years, the achievement rate has been above 70 percent.

Table 11.15 : Financial Progress in State Plan Schemes for Water Supply and Sanitation

(Rs. crore)

Year	2013-14	2014-15	2015-16	2016-17	2017-18
Outlay	745.6	793.7	679.8	844.91	1153.82
Expenditure	645.9	604.9	574.2	824.98	1153.53
Outlay as Percent of Expenditure	86.6	76.2	84.5	97.6	99.9

Source : Public Health Engineering Department, GOB

Table 11.16 : Physical Achievements in State Plan Schemes for Water Supply and Sanitation

(Figures in Number)

Years/Schemes		Rural Piped Water Supply Scheme	Installation of New instead of Old Hand Pumps	Uncovered Tolas (Habitations)
2013-14	Target	14	94526	13832
	Achievement	3 (21.4)	44066 (46.6)	12787 (92.4)
2014-15	Target	12	105688	13000
	Achievement	2 (16.7)	43783 (41.4)	12236 (94.1)
2015-16	Target	14	127449	7493
	Achievement	3 (21.4)	49331 (38.7)	7189 (95.9)
2016-17	Target	11	3139	7777
	Achievement	2 (18.2)	2316 (73.8)	1289 (16.6)
2017-18	Target	9	11720	9263
	Achievement	2 (22.2)	8591 (73.3)	266 (2.9)

Note : Numbers in parentheses indicate achievement percentage.

Source : Public Health Engineering Department, GOB

11.3 Education, Art, Culture and Youth

Good quality education is the foundation of growth and prosperity of a nation. The educational needs cover accessibility, equity and quality of educational institutions. In Bihar, thrust on providing primary education has yielded good results across social categories and gender as well. Over the years, remarkable progress is also noticed in respect of female participation in secondary level education, where gross enrolment ratio of girls has exceeded that of boys. Such progress in girls' participation in elementary and secondary education is mainly attributed to such state government programmes like setting up of residential schools, and other kinds of physical and financial incentives to girls.

The Indian education system has three main layers — Elementary, Secondary and Higher. The children in the age group of 6-14 are covered under the elementary level of education, ranging from Grades I-VIII, and are entitled to free and compulsory education as mandated by the Right to Education (RTE) Act (2009). The elementary level is divided into 2 sub-categories — Primary School (Grades I-V) and Upper Primary School (VI-VIII). In Post-Elementary level, a youngster undergoes secondary education for four years (Grades IX-XII) which again is split into Secondary (Grades IX-X) and Higher Secondary (Grades XI-XII). The last stage is of Higher

Education which is divided into two streams — the academic stream and the vocational stream. The academic stream is intended to prepare pupils for further study at a university or other higher educational institution, while the vocational stream prepares pupils for work or further vocational education. In this section, the initiatives of the state government to expand education in Bihar is analysed, taking into consideration both the educational inputs (number of educational institutions and financial expenditure) and the outputs (literacy rate, enrolment ratio and dropout rates).

Literacy Rate

In India, literates in 2011 constituted 74 percent of the total population aged seven and above, as compared to 65 percent in 2001. While comparing decadal variation in literacy rates of Hindi heartland states, one could see that Bihar has shown lower literacy rate throughout except in 1961 when the state had the highest literacy rate among Hindi-heartland states. All states of Hindi-heartland have shown higher literacy rates in past decades as compared to Bihar. Fortunately, during the last decade the literacy rate of the state has improved significantly, from 47.0 percent in 2001 to 61.8 percent in 2011. This implies an increase of 14.8 percentage points. It is worthy to note that this decadal increase is not only the highest among all decadal growth rates in Bihar since 1961, it is also the highest among all the states for the decade 2001-11. Table 11.17 presents trend of literacy rates in Hindi heartland states between 1961 and 2011.

Table 11.17 : Trend of Literacy Rates in Hindi Heartland States (1961-2011)

Hindi Heartland States	1961	1971	1981	1991	2001	2011
Bihar	21.95	23.17	32.32	37.49	47.00	61.80
Chhattisgarh	18.14	24.08	32.63	42.91	64.66	70.30
Haryana	—	25.71	37.13	55.85	67.91	75.60
Jharkhand	21.14	23.87	35.03	41.39	53.56	66.40
Madhya Pradesh	21.41	27.27	38.63	44.67	63.74	69.30
Rajasthan	18.12	22.57	30.11	38.55	60.41	66.10
Uttar Pradesh	20.87	23.99	32.65	40.71	56.27	67.70
Uttarakhand	18.05	33.26	46.06	57.75	71.62	78.80
India	28.30	34.45	43.57	52.21	64.84	74.04

Source : Census of India

Elementary and Secondary Education

The educational progress of the state is dependent on parallel developments in its elementary, secondary and higher education sectors. However, for a socially disadvantaged state like Bihar, it is the elementary education sector that commands the highest importance, since it is this sector which feeds students for the secondary sector which, in turn, feeds students for the higher education sector. The progress in elementary education sector also implies that the process is an inclusive one, since it is more relevant for a large number of students who are first generation learners coming from disadvantaged sections of society. The total number of primary schools in Bihar is 42,825, while the number of upper primary schools stands at 30,156 taking the total number of elementary education schools to 72,981. The status of elementary education is indicated by two crucial indices — enrolment ratio and dropout rate. The performance on these two indicators, in turn, is most influenced by the availability of educational infrastructural facilities (schools, teachers) and pedagogy (theory and practice of education). This is particularly important for Bihar where most of the families reside in rural areas and depend entirely on government schools.

Enrolment Ratio

The progress of total enrolment in elementary education, both for primary and upper primary classes, is presented in Table 11.18. During 2012-13 to 2016-17, total enrolment in elementary classes has increased at an annual rate of 2.3 percent from 214.87 lakh in 2012-13 to 235.64 lakh in 2016-17. Bihar has now reached a stage where enrolment in elementary classes for the children in age-group 6-14 years is universal. In the past, there was a problem when the children passing out of primary classes were not able to get admitted in the upper primary classes, because of non-availability of upper primary schools within a reasonable distance from their residence. During 2007-08 and 2008-09, this deficiency was removed by the state government by upgrading many of the primary schools to upper primary level. As such, the enrolment in upper primary classes has also been growing at an annual rate of 5.0 percent from 60.36 lakh in 2012-13 to 73.33 lakh in 2016-17. These developments have considerably changed the status of elementary education in Bihar. The annual growth rate of enrolment at primary level over this period was 1.1 percent. The total enrolment in primary level was 162.32 lakh in 2016-17, increasing from 154.51 lakh in 2012-13. It is interesting to note that the total enrolment for SC and ST students during this period has also grown at the rate of 4.2 and 5.0 percent respectively. As regards the total enrolment for boys and girls, it is again observed from Table 11.18 that the enrolment of girl students is increasing at a faster rate than for the boys. For example, during 2012-13 to 2016-17, the enrolment of boys and girls in primary schools has grown at an annual rate of 1.2 percent and 1.1 percent respectively. The difference in the annual rate of increase in

enrolment for boys and girls is much wider for upper primary classes. For this part of elementary education, the enrolment of boys has grown at 4.8 percent, compared to a much higher rate of 5.2 percent for girl students. A similar trend of higher rate of increase for enrolment of girl students is also observed for students belonging to disadvantaged categories like SC and ST. Overall, the gender gap in elementary education is decreasing gradually, as the growth rate of enrolment of girls was 2.3 percent during 2012-13 to 2016-17, compared to 2.2 percent for the boys.

Table 11.18 : Total Enrolment in Primary and Upper Primary Levels

(Number in lakh)

Level/Type of Students		2012-13	2013-14	2014-15	2015-16	2016-17	CAGR
Primary							
Boys	Combined	79.74	83.34	83.72	84.4	83.97	1.2
	SC	14.5	15.81	15.58	16.01	15.98	2.1
	ST	1.59	1.64	1.7	1.81	1.83	3.9
Girls	Combined	74.77	77.86	77.63	78.96	78.35	1.1
	SC	13.21	14.47	14.39	14.8	14.89	2.7
	ST	1.33	1.36	1.4	1.5	1.48	3.2
All	Combined	154.51	161.2	161.35	163.36	162.32	1.1
	SC	27.71	30.29	29.97	30.81	30.87	2.4
	ST	2.92	3.01	3.11	3.31	3.31	3.5
Upper Primary							
Boys	Combined	31.34	33.66	34.77	37.08	37.83	4.8
	SC	4.81	5.59	6.12	6.47	6.75	8.6
	ST	0.55	0.58	0.61	0.72	0.74	8.4
Girls	Combined	29.02	31.75	33.14	35.23	35.5	5.2
	SC	4.23	5.11	5.47	5.92	6.31	9.9
	ST	0.46	0.48	0.53	0.64	0.64	9.9
All	Combined	60.36	65.41	67.91	72.31	73.33	5.0
	SC	9.04	10.71	11.59	12.39	13.06	9.2
	ST	1.01	1.07	1.15	1.36	1.37	8.9
Total							
Boys	Combined	111.08	117	118.49	121.48	121.8	2.2
	SC	19.31	21.4	21.7	22.48	22.73	3.8
	ST	2.14	2.22	2.31	2.53	2.57	5.1
Girls	Combined	103.79	109.61	110.77	114.19	113.85	2.3
	SC	17.44	19.58	19.86	20.72	21.2	4.6
	ST	1.79	1.84	1.93	2.14	2.12	5.0
All	Combined	214.87	226.62	229.26	235.68	235.64	2.3
	SC	36.75	41.01	41.56	43.2	43.93	4.2
	ST	3.93	4.08	4.26	4.67	4.68	5.0

Source : Department of Education, GOB

The data on district-wise total enrolment for all, SC and ST categories in all 38 districts is given in Statistical Appendix (Table A11.11 to A11.13). There exists wide variation in districtwise enrolment among the districts at both primary and upper primary levels in 2016-17. Muzaffarpur (14.84 lakh) has registered the highest enrolment at both the levels, followed by East Champaran (12.29 lakh) in 2016-17. Conversely, Sheohar (1.21 lakh) and Sheikhpura (1.41 lakh) have registered the lowest enrolment in primary and upper primary in 2016-17. Regarding SC students, the best performing district at both the levels was Gaya (3.28 lakh) and the worst performing district was Sheohar (0.21 lakh). For ST students, the best performing district in primary education was Katihar (0.57 lakh) and in upper primary, it was West Champaran (0.21 lakh).

Dropout Rate

The success with respect to high enrolment becomes meaningful only when the enrolled children are retained in the school. The factors behind dropout may be broadly clubbed into some categories — social, economic, cultural, pedagogical practices, administrative procedures and infrastructure. In case of Bihar, all these factors are operative in varying degrees. It is important to carefully design preventive measures and intervention strategies that could be adopted in order to help the students who are likely to dropout.

Table 11.19 : Dropout Rates at Primary, Upper Primary, Secondary and Higher Secondary Levels

Year		2012-13	2013-14	2014-15	2015-16	2016-17
Primary	Girls	26.3	23.6	24.0	24.2	22.4
	Boys	36.0	33.6	29.2	25.6	22.0
	Combined	31.7	29.1	26.8	25.0	22.2
Upper Primary	Girls	38.7	34.7	38.9	36.3	38.1
	Boys	52.4	52.4	49.9	47.0	46.8
	Combined	46.7	46.5	45.1	42.2	42.9
Secondary	Girls	59.5	57.6	53.9	52.5	53.1
	Boys	65.2	64.7	61.2	61.5	59.4
	Combined	62.8	61.8	58.2	57.7	56.6

Source : Department of Education, GOB

The dropout rates at primary, upper primary and secondary levels during 2012-13 to 2016-17 in Bihar is presented in Table 11.19. These rates at all the levels have continuously declined over the period. At the primary level, dropout rate recorded a decrease of 9.5 percentage points between 2012-13 (31.7 percent) and 2016-17 (22.2 percent). At the upper primary level, this decrease was 3.8 percentage points, from 46.7 percent in 2012-13 to 42.9 percent in 2016-17. This implies that even now about half of the students leave school before entering the secondary classes. The dropout rates at secondary level was 56.6 percent in 2016-17, implying a decrease of

6.2 percentage point from 62.8 percent in 2012-13. It is heartening to note that, at all levels of education (primary, upper primary and secondary), the dropout rate of girl students is lower than that of the boys. As the goals of elementary education have almost been achieved, universalisation of secondary education should now be promoted in Bihar. This will generate human capital to accelerate growth and social development in the state.

Table 11.20 presents the dropout rate of SC and ST students at the primary, upper primary and secondary levels during 2012-13 to 2016-17 in Bihar. Fortunately, the SC and ST dropout rates have also decreased progressively during this period. The dropout rate of SC girls has been lower than that of SC boys throughout the period, at primary, upper primary and secondary stages. Same was the case for ST girls at secondary level.

Table 11.20 : Dropout Rates (SC & ST) at Primary, Upper Primary and Secondary Levels

Year	Primary			Upper Primary			Secondary		
	Girls	Boys	Combined	Girls	Boys	Combined	Girls	Boys	Combined
Scheduled Caste									
2012-13	24.3	36.3	31.2	49.0	61.4	56.5	65.1	70.6	68.4
2013-14	13.3	30.4	23.2	40.5	54.7	48.9	64.3	69.8	67.7
2014-15	25.5	32.9	29.6	39.7	47.1	44.0	61.5	67.8	65.3
2015-16	25.3	28.0	26.7	38.5	50.1	45.2	53.4	62.9	59.1
2016-17	23.6	23.9	23.8	34.5	49.0	42.9	51.9	60.3	56.7
Scheduled Tribe									
2012-13	NA	NA	NA	NA	23.8	13.1	26.6	38.2	33.9
2013-14	15.1	23.8	10.0	2.0	21.7	12.7	23.5	37.6	32.3
2014-15	21.2	0.9	8.3	3.2	27.8	18.0	31.8	45.7	40.5
2015-16	2.8	2.3	2.6	NA	19.9	19.9	22.7	41.1	34.1
2016-17	15.0	11.8	13.3	31.0	39.8	37.1	34.5	47.4	42.3

Source : Department of Education, GOB

Number of Schools

The total number of primary and upper primary schools in Bihar increased to 72,981 in 2016-17, from 69,911 in 2012-13. During this period, many primary schools have been upgraded to upper primary schools. In 2016-17, three best performing districts in terms of number of schools were East Champaran (3486), Patna (3366) and Muzaffarpur (3359). In contrast, three districts with the least number of schools were Sheohar (417), Arwal (526) and Sheikhpura (581). The district-wise number of primary and upper primary schools is presented in Statistical Appendix (Table A 11.14a).

The Right to Education (RTE) Act 2009 lays down in its Schedule the Pupil Teacher Ratio (PTR) for both primary and upper primary schools. At primary level, the PTR should be 30:1 and at the upper primary level it should be 35:1. The Rashtriya Madhyamik Shiksha Abhiyan (RMSA) framework stipulates that the PTR at secondary level should be 30:1. The total number of teachers at primary and upper primary schools was 3.9 lakh in 2016-17. Patna (20,483), East Champaran (18,583) and Muzaffarpur (17,198) were the best performers in 2016-17, whereas Sheikhpura (2264), Sheohar (2298) and Arwal (3227) were the worst performers. The district-wise number of teachers at primary and upper primary schools is presented in Statistical Appendix (Table A11.14b).

Expenditure on Education

In Bihar, the level of expenditure on education has steadily increased in the last five years. Table 11.21 shows the expenditure on education, along with its share in total budget and in total expenditure on social services. The total expenditure on education has increased from Rs. 14,946 crore in 2013-14 to Rs. 24,856 crore in 2017-18. The growth rate of total expenditure on education has been as high as 11.6 percent during this period. As regards its share in total expenditure and social services expenditure, it has remained nearly unchanged — around 17 to 18 percent of total expenditure and around 50 percent for social sector expenditure. Table 11.21 also presents the breakdown of total expenditure on education in three components (elementary, secondary and higher) from 2013-14 to 2017-18. It is evident that in all these years, primary education has the highest share of the total expenditure, compared to other two categories. Out of total expenditure, 64.8 percent was spent on elementary education in 2017-18, and the rest 35.2 percent was spent on secondary and higher education.

Table 11.21 : Expenditure on Education

Year	Expenditure on Education (Rs. crore)			Expenditure on Education as percentage of	
	Primary	Secondary	Higher	Total Budget	Expenditure on social services
2013-14	7764	2987	4195	18.7	53.3
2014-15	12140	3368	2325	17.5	49.5
2015-16	13327	3677	2382	17.1	49.5
2016-17	13327	3677	2382	16.0	45.6
2017-18	16109	4655	4092	16.5	45.1

Source : State Government Finances, GOB

Mid-Day Meal Scheme (MDMS)

The Mid-Day Meal Scheme (MDMS) is an important intervention in the elementary education sector for promoting higher enrolment of the children in the age group 6-14 years and their retention in the school. The scheme also has substantial implications for the nutrition status of the children and social equity. Mid- Day Meal in schools has had a long history in India. In 1925, a Mid -Day Meal Programme was introduced for disadvantaged children in Madras Municipal Corporation. By the mid-1980s, three states (Gujarat, Kerala and Tamil Nadu) and the UT of Pondicherry had universalised a cooked Mid- Day Meal Programme with their own resources for children studying at the primary stage. By 1990-91, the number of states implementing the Mid-Day Meal programme with their own resources on a universal or a large scale had increased to 12 (Goa, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Mizoram, Nagaland, Sikkim, Tamil Nadu, Tripura and Uttar Pradesh). In another three states (Karnataka, Odisha and West Bengal), the programme was being implemented with state resources, in combination with international assistance. Another two states (Andhra Pradesh and Rajasthan) were implementing the programme entirely with international assistance. Finally, the central government launched National Programme of Nutritional Support to Primary Education (NP-NSPE) (Commonly known as Mid-Day Meal Scheme) on August 15, 1995 to provide mid-day meal to the children studying at primary stage. In 2002, the Supreme Court directed the government to provide cooked Mid-Day Meals in all government and government-aided primary schools. In 2005, it was universalized covering all primary schools, including learning centres. The scheme was extended in October, 2007 to cover children of upper primary classes and the name of the scheme was changed as National Programme of Mid-Day Meal in Schools. From 2015-16, the cost sharing pattern of MDMS is in the ratio of 60:40 for the central and state government. To achieve the objectives of the scheme, the guidelines prescribe the nutritional content in the mid-day meal (Table 11.22).

Table 11.22 : Food, Nutritional and Calorific norms under MDMS

Items	Primary (I-V)	Upper Primary (VI-VIII)
A. Nutritional Norms (Per child per day)		
1. Calorie	450	700
2. Protein	12 gms	20 gms
B. Food Norms (Per child per day)		
1. Food – grains (Rice/Wheat)	100 gms	150 gms
2. Pulses	20 gms	30 gms
3. Vegetables	50 gms	75 gms
4. Oil & fat	5 gms	7.5 gms
5. Salt & condiments	As per need	As per need
6. Micro-nutrients	Adequate qualities of micro-nutrients like iron, folic acid, vitamin-A etc. in convergence with NHM	

The overall position regarding the coverage of the scheme is shown in Table 11.23 for the years 2012-13 to 2017-18. In 2012-13, the coverage of MDMS for primary schools was 57.7 percent. Five years later, it has increased to 62.9 percent (2017-18), registering an increase of 5.0 percentage points. The coverage of MDMS at upper primary level has remained nearly the same at about 57 percent in both 2012-13 and 2017-18. Overall, the coverage of MDMS at both the levels have increased in the recent years, with some fluctuations in the intermediary years.

Table 11.23 : Coverage of MDMS

Year	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Class I-V						
Total Enrolment (in lakhs)	147.7	141.62	143.18	144.68	141.70	126.59
No. of Children Availing MDMS (per day) (in lakhs)	85.22	94.89	94.36	99.28	89.70	79.55
Coverage Percentage	57.7	67.0	65.9	68.6	63.3	62.9
Class VI-VIII						
Total Enrolment (in lakhs)	52.87	57.57	60.59	62.67	66.27	62.84
No. of Children Availing MDM (per day) (in lakhs)	30.32	38.57	36.99	40.02	37.80	36.24
Coverage Percentage	57.3	67.0	61.0	63.9	57.0	57.7

Source : MDMS, GoB

The district-wise coverage of MDMS at primary and upper primary levels is presented in Statistical Appendix (Table A11.15 and Table 11.16). In 2017-18, it is also observed that there are 21 districts where the coverage of MDMS is more than the state average of 62.9 percent at the primary level, compared to 16 districts in the preceding year. The lowest coverage of MDMS is recorded in Vaishali (56.5 percent). At the upper primary level, there are 20 districts where the MDMS coverage was above the state average of 57.7 percent. The best three districts in terms of coverage are — Sheohar (66.0 percent), Begusarai (65.5 percent) and Sheikhpura (64.1 percent). The three lowest performing districts are — Arwal (45.3 percent), Purnea (49.7 percent) and Katihar (49.7 percent).

Sarva Shiksha Abhiyan (SSA)

The central government has realised long back that it is not possible to improve human development in the country without strengthening the elementary education system which forms

the base for all education at higher levels. To achieve the goal of Universal Elementary Education, Sarva Shiksha Abhiyan (SSA) was launched in 2001 to ensure quality elementary education to all children in the age group of 6-14 years by 2010. The commitment got further reinforced by the Right to Education Act (2010). According to this Act, every child in the age group of 6-14 years will be provided 8 years of elementary education in the vicinity of child's neighbourhood. Under SSA, the central government provides special assistance to all the states for strengthening their elementary education system. The funding pattern of SSA has undergone some change during recent years. In 2007-08 and 2008-09, the shares of central and state governments were 65:35; for 2009-10, it was 60:40; and for 2010-11 it was 55:45 and since 2015-16, it is again 60:40 respectively.

To treat school education holistically without segmentation from pre-school to Class XII, the Department of School Education and Literacy has launched the Samagra Shiksha (SS), an Integrated Scheme for School Education as a Centrally Sponsored Scheme with effect from 2018-19. This programme subsumes the three erstwhile Centrally Sponsored Schemes — Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and Teacher Education (TE). Samagra Shiksha is, therefore, an overarching programme for the school education sector extending from pre-school to Class XII and aims to ensure inclusive and equitable quality education at all levels of school education. It envisages the 'school' as a continuum from pre-school to senior secondary levels. The scheme would lead to an optimal utilization of budgetary allocations and effective use of human resources and institutional structures created for the earlier schemes. An allocation of Rs 75,000 crore over the period April, 2018 to March, 2020 has been approved for the scheme, which implies a 20 percent increase over the current allocations.

Kasturba Gandhi Balika Vidyalayas (KGBVs) were sanctioned under the erstwhile Sarva Shiksha Abhiyan (SSA) as residential schools at upper primary level for girls belonging to disadvantaged groups, such as SC, ST, OBC, Minority and Below Poverty Line (BPL) families. The Girls Hostel Component of Rashtriya Madhyamik Shiksha Abhiyan (RMSA) which was operational till the year 2017-18 provided hostel facility for girl students in the age group of 14-18 years, studying in classes IX to XII and belonging to disadvantaged groups. Under the newly launched Samagra Shiksha, effective from 2018-19, provision has been made to upgrade the existing KGBVs at upper primary level to senior secondary level with a capacity of 150-250 girls in

convergence with the erstwhile Girls' Hostel Scheme. The scheme envisages to provide access and quality education to girls from disadvantaged groups by setting up residential schools from upper primary to senior secondary level. Wherever possible, the scheme would ensure the facility of at least one residential school in every Educationally Backward Block, for girls in Classes VI-XII. Till date, 535 KGBVs are operational in the state, enrolling 49,810 girls. Out of 49,810 girls enrolled, 23,828 are SC, 4179 are ST, 17,424 are OBC, 1503 are BPL and 2876 are Muslim.

The Rashtriya Madhyamik Shiksha Abhiyan (RMSA), a flagship scheme of the central government, was launched in March, 2009, to enhance access to secondary education and improve its quality. The implementation of the scheme started from 2009-10 to generate human capital and provide favourable conditions for accelerating growth and quality of life for every citizen. RMSA leverages support from a wide range of stakeholders, including multilateral organisations, NGOs, advisors and consultants, research agencies and institutions. The scheme involves multidimensional research, technical consulting and funding support. Currently, RMSA covers 50,000 government and local body secondary schools. Besides this, an additional 30,000 government-aided secondary schools can also access selected benefits of RMSA. It aims towards universal retention by 2020. The other objectives include (a) improving quality of education imparted at secondary level through making all secondary schools conform to prescribed norms, and (b) removing all barriers related to gender, socio-economic status and disability. With a view to ensure efficient utilization of funds and greater coordination, other centrally sponsored schemes of secondary education have been subsumed under the RMSA scheme. The funding pattern under RMSA between central and state governments in respect of general states is 75:25. The scheme is being implemented by the State Implementation Society.

Rashtriya Uchchatar Shiksha Abhiyan (RUSA), a Centrally Sponsored Scheme (CSS), was launched in 2013, which aims at providing strategic funding to eligible state higher educational institutions. The central funding (in the ratio of 60:40 for central and state governments) would be norm based and outcome dependent. The funding would flow from the central ministry through the state governments to the State Higher Education Councils, before reaching the identified institutions. The funding to states would be made on the basis of critical appraisal of State Higher Education Plans, which would describe each state's strategy to address issues of equity, access and excellence in higher education. A separate component to synergise vocational

education with higher education has also been included in RUSA. Besides these, RUSA also supports reforming, restructuring and building capacity of institutions in participating states.

Table 11.24 presents the approved budget and total expenditure for 2016-17 for RUSA, RMSA, SSA and KGBV. It is evident from the table that, out of the four programmes, a major share of expenditure is on SSA. In 2016-17, the expenditure on SSA was Rs. 6504.5 crore, which is about 96 percent of the total expenditure. The actual expenditure as a percentage of budget was also the highest for SSA (68.9 percent). For both RMSA and RUSA, this ratio was much lower.

Table 11.24 : Status of Fund Received and Expenditure under Different Schemes

(Rs. crore)

Programmes	APPROVED AWP & B	Fund Released			Total Expenditure	Expenditure as Percentage of AWP & B
		GOI	GOB	Total		
2016-17						
RUSA	120.0	6.6	4.4	11.0	11.0	9.2
RMSA	1523.2	200.7	123.3	323.9	171.3	11.3
SSA	9445.1	2649.1	3866.8	6515.9	6504.5	68.9
KGBV	220.2	57.8	37.8	95.6	78.0	35.5
Total	11308.4	2914.1	4032.3	6946.4	6764.9	60.4

Note : AWP&B = Annual Work Plan and Budget
Source : Bihar Education Project, GOB

Higher Education

The higher education sector in Bihar has witnessed a tremendous expansion in terms of the number of universities, university level institutions and colleges over the years. The importance of higher education in contributing towards the development of human potential is even more for disadvantaged states like Bihar. The progress of higher education in any state is assessed in terms of its institutional capacity. The educational institutional capacity is measured by the number of educational institutions — universities and colleges, number of teachers and number of students seeking higher education. The apex institutions for higher education are the universities in the state (Table 11.25). Presently, 24 universities are in existence in Bihar, of which 22 are traditional universities, one is an open university and another one a state private university. There are also 15 research institutes in the state. In 2017, there were 277 government colleges and 496 local body colleges. Providing professional training to prospective school teachers is

another component of the higher education system. There were 60 teacher training institutes in Bihar in 2017, compared to 43 such institutions in 2014. In 2017, there were 28 engineering colleges in the state, compared to 24 colleges in 2014. Presently, 87 colleges and 7 universities have NAAC accreditation in the state.

Table 11.25 : Institutions of Higher Education

Type of Institutions/Year	2014	2015	2016	2017
Universities				
Central University	2	2	4	4
State Public University	14	14	13	13
Institute of National Importance	3	3	3	3
State Open University	1	1	1	1
Institute Under State Legislative Act	1	1	1	1
Deemed University	1	1	1	1
State Private University	-	-	-	1
Total	22	22	23	24
Research Institute	15	15	15	15
Colleges				
Government Colleges/ Constituent College	278	276	276	277
Local Body Colleges/ Affiliated College	416	468	478	496
P G Center/Off-Campus Center	9	9	9	9
Recognized Centre	13	16	18	18
Total	716	769	781	800
Teacher Training Centre / Engineering Colleges				
Education/ Teacher Training Centre (Primary)	43	60	60	60
Engineering College	24	23	28	28
Total	67	83	88	88

Source : Department of Education, GOB

The district-wise details of affiliated and constituent colleges and technical colleges for 2014-15 to 2017-18 are given in Statistical Appendix (Table A11.17 and A11.18).

School Education Outcomes

- Bihar has made remarkable progress in bringing out-of-school children of 6-14 age group into schools. In 2017-18, approximately 89 thousand children were included in school network by direct admission and 63 thousand were covered through special training. Now, the number of out of school children has come down to 1 percent.
- Under Mulyankan Hastak Programme of the state government, the process of monthly, half yearly and annual evaluation of students in elementary education has been started from 2016.
- For the students enrolled in government schools, the provision of Direct Benefit Transfer is being developed and till date bank accounts of 72 lakh students have been opened.
- Kilkari, a new cultural initiative of the state government, was started in 2008. In this institution, children in the age group of 8-16 years can get free training of 22 types of traits like painting, dancing, photography etc. Presently, Kilkari is running in 8 districts (Patna, Gaya, Bhagalpur, Darbhanga, Kaimur, Jamui, Muzaffarpur and Saharsa). For students living in slums, 8 centres are presently running in slum areas of the state.
- To connect 8 lakh Mahadalit and extremely backward women and 4 lakh women belonging to minority community, in the age group of 15-35 years, with the main stream through basic education and developmental programmes, Akshar Aanchal Yojana is operational with an estimated expenditure of 318.37 crore. This programme also aims to connect children (6-14 years) from Mahadalit, minority and extremely backward caste households to school education.

Art, Culture and Youth

The youth population constitute a critical segment of society, as the future social, economic and political developments depend on them. India is one of the youngest nations in the world, with 27.5 percent of its population belonging to the age-group 15-29 years; in Bihar, the corresponding share is 24.2 percent. The National Youth Policy, 2014 (NYP-2014) proposes a holistic vision to empower the youth of the country to achieve their full potential, and through them enable India to find its rightful place in the community of nations. For overall development of art, culture and youth, the state government has taken several steps:

- (i) The total outlay of the Department of Art, Culture and Youth in 2017-18 was Rs. 137.55 crore, out of which 71 percent (Rs. 97.8 crore) was spent on various programmes of the department.
- (ii) The interior decoration work of the newly constructed Loknayak Jaiprakash Narayan Memorial-cum- Library Building in Sitab Diara village has been started and Rs. 113.82 lakh has been earmarked for the same.
- (iii) To organize Foundation Day, Bihar Diwas and youth festivals in all 38 districts of the state, an amount of Rs. 2.66 crore has been allotted .
- (iv) In 19 extremist affected districts, the programme ‘Aapki Sarkar, Aapke Dwar’ has started to connect those affected habitations with the mainstream. A provision of Rs. 2.00 lakh is made for each such district.
- (v) A new construction for developing a multipurpose cultural premise has been started at Bhartiya Nritya Kala Mandir, Patna at a cost of Rs. 461.00 lakh.
- (vi) To construct Mithila Art Organisation, an amount of Rs. 2748.58 lakh has been provided by the Building Construction Department of the state.
- (vii) An Artist Welfare Fund (Kalakaar Kalyan Kosh) has been developed to help the artists for treatment of disease, purchase of musical instruments, visits to different parts of the country or abroad to perform on invitation, and higher education and research. The fund can also be used for display of artistic work or organising lectures and seminars.
- (viii) The state government is planning for theme parks at the Jananayak Karpoori Thakur Smriti Sanghralaya, Patna and at the archaeological site at Taradih (Bodh Gaya). The schemes for development of the Budhha Smriti Stupa and Samyak Darshan Museum in Vaishali have been approved. An amount of Rs. 152.37 crore has been sanctioned for the scheme and 72.94 acres of land has also been allotted for the construction of the building.
- (ix) About 15 sites were inspected and evaluated for their archaeological potentials which include — Jamaluddin Chak (Patna), Aldhanna (Nalanda), Eksara (Nalanda), Pastan Navtoli (Madhubani), Lorikdih (Darbhanga), Raj Parisar (Darbhanga), Rajnagar (Madhubani), Bhauragarhi (Madhubani), Kali Mandir (Gaya), Umga (Aurangabad), Sitathapa (Aurangabad), Satchandi (Aurangabad), Jain Mandir, Pachar Pahad (Aurangabad), Chakka (Darbhanga) and Maheshia (Sitamarhi).

11.4 Social Welfare

The state government is making concerted efforts to ensure that the weaker sections of society are able to get the benefits of various social welfare programmes. Major public schemes are being implemented for the women, children and other disadvantaged groups. In this section, the information is provided for various schemes in Bihar which cover Dalits, Mahadalits, Backward Classes, Extremely Backward Classes, Minorities, Women and other weaker sections of society.

Welfare of Scheduled Caste and Scheduled Tribe

The welfare of Scheduled Castes (SC) and Scheduled Tribes (ST) is essential for holistic development of society. Towards this, the state government has formed a separate Department in April, 2007. The scheduled castes and scheduled tribes together constitute about 17.3 percent of the state's total population, according to 2011 census — Scheduled Castes (15.9 percent) and Scheduled Tribes (1.3 percent). The districts with a share of more than 20 percent for scheduled caste and scheduled tribe population are — Nalanda, Kaimur, Gaya, Arwal, Nawada, Aurangabad, Vaishali and Sheikhpura. The major schemes run by the Department of SC and ST Welfare for their social advancement are :

- In 2017-18, under scholarship scheme for Musahar and Bhuyia, an amount of Rs. 10.66 crore was approved under State Scheme, out of which Rs. 2.40 crore was meant for committed and establishment expenditure. For 2018-19, the allocation is higher at Rs. 13.06 crore.
- Under the Chief Minister Merit Scholarship Schemes which started in 2008-09, a scholarship of Rs. 10,000 is given to SC/ST students, who have passed matric examination of Bihar School Examination Board with first division. From 2016-17, those SC/ST students who have passed board examination with second division, also get a scholarship of Rs. 8000. Further, for Higher Secondary education, those passing with first division get Rs. 15,000 and those passing with second division get Rs. 10,000 as a merit scholarship. In 2017-18, an amount of Rs. 62.73 crore for SC students and Rs. 7.66 crore for ST students was allotted for those passing matric examinations. For higher secondary, the allotment was Rs. 17.09 crore for SC/ST students.
- Under centrally sponsored Babu Jagjeevan Ram Hostel Construction scheme, an amount of Rs. 8.50 crore was approved for 2017-18.
- The Scheduled Caste and Scheduled Tribe (Prevention of Atrocity) Act, 1989 is being successfully implemented in Bihar to provide relief to the victims of atrocity. An expenditure of Rs. 24.62 crore has been incurred in 2017-18, benefitting 3503 persons with relief grant.

- Presently, 7 pre-exam coaching centres (Patna, Bhagalpur, Darbhanga, Gaya, Muzaffarpur, Saran and Ara) for SC students are being run, where about 1000 candidates are trained for different examinations. An approval has been given for establishment of three more pre-exam training centres in Munger, Purnea and Saharsa. In 2017-18, a sum of Rs. 1.82 crore has been allotted and 543 students benefitted. The total provision for the scheme in 2017-18 was Rs. 2.62 crore.
- Under the Integrated Tharuhat Development Project, an amount of Rs. 27.61 crore has been approved for Bettiah city for construction of hostels, connecting road, irrigation scheme, drinking water scheme, youth development and commercial training in 2017-18.
- Currently, 65 Residential Schools for Scheduled Castes and 20 for Scheduled Tribes are being run by the state government. A decision has been taken to convert Residential Schools into Model Schools. In 2017-18, an amount of Rs. 113.35 crore was approved for SC/ST students.

Table 11.26 presents the total budget for the welfare of SC/ST in the last two years (2016-17 and 2017-18). This budget has increased from Rs. 1743.88 crore in 2016-17 to Rs. 1844.71 crore in 2017-18. However, the actual expenditure against the budgeted amount remains unchanged at 73.9 percent in both the years. Fortunately, the expenditure against capital outlay for SC/ST welfare has increased from 73.2 percent in 2016-17 to 98.6 percent in 2017-18, indicating an increase in the construction of fixed assets. The district-level data on physical and financial progress under major SC/ST welfare schemes in the state is presented in Statistical Appendix (Table A11.19). This data reveals considerable variation across the districts for both physical and financial progress.

Table 11.26 : Overview of Outlay Allocation of SC and ST Welfare

(Rs. crore)

Item	2016-17			2017-18		
	Budget	Actual Expenditure	Utilisation Percentage	Budget	Actual Expenditure	Utilisation Percentage
SC & ST	1563.63	1154.22	73.8	1388.17	920.38	66.3
Secretariat Service	4.87	3.56	73.1	5.22	3.85	73.8
Capital Outlay	165.44	121.03	73.2	434.21	428.06	98.6
Capital Outlay on Co-operatives	9.89	9.89	100.0	16.61	12.61	75.9
Other Administrative Service	0.05	0	0	0.05	0	0.0
Total	1743.88	1288.7	73.9	1844.71	1364.92	73.9

Source : Department of SC/ST Welfare, GOB

Mahadalit

The state government has undertaken several targeted schemes based on the report of the State Mahadalit Commission for the development of the most deprived amongst the scheduled castes. The Commission observed that, out of 22 scheduled castes in Bihar, 21 are acutely deprived in terms of educational, economic, socio-cultural and political status, as the population belonging to these castes have not benefited from affirmative actions meant exclusively for them. The Bihar Mahadalit Vikas Mission has been registered under the Societies Registration Act, 1860 for implementation of welfare schemes for the upliftment of Mahadalits in keeping with the reports of the State Mahadalit Commission. The idea of Bihar Mahadalit Vikas Mission (BMVM) is to fulfill the basic necessities of all Mahadalit communities through a number of specific schemes. Some of the schemes of the mission are:

- Vikas Register is maintained online by Bihar Mahadalit Vikas Mission through Vikas Mitras to keep the record of different government welfare schemes through which Mahadalit families have been benefited. Till date, a database of 34.55 lakh families has been prepared by Vikas Mitras.
- Dashrath Manjhi Kaushal Vikas Yojana has been started with an objective to improve the economic condition of Mahadalit Community through skill development training in different trades and thereby increase their employability. Till date, sixteen batches have been started and four of these sixteen batches has been already completed.
- To work as a link between the state government and Mahadalit community, Vikas Mitras have been selected in each panchayat/ward having a minimum of 50 families for effective implementation of different welfare schemes of the state government. A reservation of 50 percent is given to women in the selection of Vikas Mitras. An amount of Rs. 10,000 is being paid as honorarium to Vikas Mitras. There are 9875 posts of Vikas Mitras, out of which 9559 are presently working.
- Between 2010-11 and 2018-19, under Community Hall-cum-Workshed scheme, out of a target of constructing 5135 units, 3324 units have started functioning in different districts. For 2018-19, there is a target for 441 more units.
- Under Special School-cum-Hostel scheme, 150 girls in Patna and 100 girls in Gaya are being given benefit. Both formal and informal education is being given to the beneficiaries. The school is receiving appreciation at the national as well as international level.

- To eradicate child marriage and dowry and increase social responsiveness, a wall writing task on these issues is being carried out on wide scale in all the panchayats through Vikas Mitras.
- With active support of WDC, BMVM is making group of adolescent through Vikas Mitras as platform to create awareness regarding social issues.

The Bihar State Scheduled Caste Cooperative Development Corporation (BSSCCDC) was established in 1978 for all-round development of scheduled castes. The district offices of the Corporation are working in 36 districts of Bihar. Between 2013-14 and 2017-18, the corporation benefited 9315 people through its subsidy scheme. The total assistance provided was Rs. 2717.5 lakh, of which Rs. 931.5 lakh was given as subsidy. The details are given in Table 11.27.

Table 11.27 : Subsidy Scheme of BSSCCDC

(Amount in Rs. lakh)

Year	No. of Beneficiaries	Bank Loan	Subsidy	Total
2013-14	3301	627.90	330.10	958.00
2014-15	1806	343.50	180.60	524.10
2015-16	2921	555.61	292.10	847.71
2016-17	2827	537.75	282.70	820.45
2017-18	2279	433.50	227.90	661.40
Total	13134	2498.26	1313.40	3811.66

Source : Department of SC/ST Welfare, GOB

Welfare of Backward and Extremely Backward Classes

The state government had constituted the Department of Welfare of Backward and Extremely Backward Classes for overall development of these communities in 2007-08. The backward classes are those castes that are notified by the state government. In Bihar, there are 131 backward castes and they account for 60 percent of the population. The summary of financial progresses from 2012-13 to 2017-18 for the welfare of backward and extremely backward population is presented in Table 11.28. In the last six years, there has been an increase in the expenditure for the welfare of backward classes, with slight fluctuations in some years. Between 2012-13 and 2015-16, the utilization percentage for welfare schemes has been as high as 90 percent. However, there was a decline in the utilization percentage in 2016-17 and 2017-18, compared to the previous years.

Table 11.28 : Financial Progress of BC and EBC Welfare

(Rs. crore)

Details	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Total Outlay	825.92	1375.79	1477.97	2975.3	1927.8	1591.72
Total Expenditure	817.48	1193.1	1445.4	2695.07	1459.6	1223.16
Utilisation percentage	99.0	86.7	97.8	90.6	75.7	79.8

Source : Department of BC and EBC Welfare, GOB

The welfare measures taken for Backward Classes (BC) and Extremely Backward Classes (EBC) are as follows:

- Under Chief Minister Backward Classes Merit Scholarship Scheme, 70,037 students were awarded scholarships in 2016-17 at the rate of Rs. 10,000 per student.
- Under Pre-Matric Scholarship Scheme, 125.89 lakh backward students have been benefited in 2016-17. Similarly, under Post-Matric Scholarship Scheme, against 1.89 lakh application, scholarships were given to 1.78 lakh beneficiaries.
- Hostels are being constructed in all districts under Jananayak Karpuri Thakur Extremely Backward Class Welfare Hostels Scheme. Presently, these hostels are operational in 13 districts — Nalanda, Jehanabad, Supaul, Begusarai, Kaimur, Madhubani, Banka, Jamui, Katihar, Sheikhpura, Gaya, Bhagalpur and Kishanganj. Very soon, 8 hostels will be made operational.
- In 2017-18, 19 teachers and 23 retired teachers have been re-engaged on contractual basis in 12 OBC girls' residential higher secondary schools.
- Pre-Examination Training Centres have been established at 8 universities of the state in 2015-16 to provide free training for competitive examination to BC and EBC students. This facility has been extended to all 38 districts of Bihar and 1346 students have been benefited by this scheme in 2017-18.
- Under Chief Minister BC and EBC Skill Development Training Scheme, 1236 beneficiaries have been trained in 41 batches in 2017-18.

The physical and financial details of allocation for different welfare schemes for the backward and extremely backward population is presented in Table 11.29.

Table 11.29 : Physical and Financial Details of BC and EBC Welfare

Year	No. of Beneficiaries	Fund Allocation (Rs. lakh)	No. of Beneficiaries	Fund Allocation (Rs. lakh)	No. of Beneficiaries	Fund Allocation (Rs. lakh)
	Stipend for students of primary, middle and high school		Post-Matric Scholarship		OBC Girls' Higher Secondary Residential School (12 nos.)	
2011-12	323313	2517	126938	15206.9	3080	485
2012-13	4300000	58696	225000	24628.2	800	100
2013-14	9800000	116824	36368	5815	2019	585
2014-15	12200000	105470	244121	36997	2499	726
2015-16	18300000	225398	378544	61977	2499	977
2016-17	12589021	135920	177571	—	2642	1216
	Mukhyamantri Medhavriti Yojana for EBC students		Stipend for students in technical courses		Construction of 38 Jananayak Karpuri Thakur Hostels for EBC Students	
2011-12	53000	5300	850	17	21- Constructed 9- Under Construction	160
2012-13	42000	4200	1650	30		187
2013-14	35000	3500	1500	30		935
2014-15	40000	4000	1500	30		-
2015-16	144974	14497	3750	75		500
2016-17	70037	700.37	-	-		1000

Source : Department of Backward and Extremely Backward Class Welfare, GOB

Minority Welfare

According to 2011 census, the religious minorities constitute 17.3 percent of the population of Bihar, with 16.9 percent Muslims and 0.4 percent belonging to other religions like Buddhists, Jains, Sikhs, and Christians. Muslims constitute a large part of the population in Kishanganj (68.0 percent), Katihar (44.5 percent), Araria (42.9 percent) and Purnea (38.5 percent). Recognising the historical barriers and discrimination that the socially deprived groups have to face, the Constitution of India has various provisions for safeguarding their rights and addressing their development needs. The religious minorities are often such socially excluded groups. For the welfare of these minorities, the Department of Minority Welfare was established in Bihar in 1991. The achievements of the Department in recent years are as follows:

- **The state government provides free coaching** to Minority community for various competitive examinations. In 2017-18, a sum of Rs. 439.13 lakh was allotted for the same. In

the same year, coaching were given to 1485 students for various competitive examinations out of which 419 students have qualified. In 2018, to benefit 1015 aspirants, a sum of Rs. 16.03 lakh has already been spent out of Rs 2.90 crore sanctioned to the Nodal Agency i.e. Maulana Mazharul Haque Arabic and Persian University

- Under **Mukhyamantri Alpsankhayak Rojgar Rin Yojana**, a sum of Rs. 131.87 crore has been allotted for providing self-employment to 11478 minority people up to December, 2018.
- Under **Muslim Divorcee/Deserted Women Assistance Programme**, economic assistance has been given to 12,397 divorcee / deserted Muslim women so far. The scheme was started in 2006-07. From 2017-18, a revised sum of Rs. 25,000 per beneficiary is being given to each divorcee/ deserted woman in place of Rs. 10,000 through DBT mode.
- Under **Mukhyamantri Alpsankhyak Vidyarthi Protsahan Yojana**, a sum of Rs. 43.34 crore was sanctioned which has benefited 38,518 students in 2017-18. From 2017-18, the Madarsa students passing Fauqania and Maulvi(only female) examination with first division from Bihar State Madarsa Education Board are being covered in this scheme. In 2018-19, an amount of 33.00 crore has been sanctioned for 29715 students under the scheme.
- Under **Alpsankhayak Balak and Balika Chhatrawas Yojana**, till date 34 hostels are functional, There are about 1541 students are residing in these hostels. Under **Mukhyamantri Chhatrawas Anudan Yojana** and **Mukhyamantri Chhatrawas Khadyan Yojana** grant of Rs. 1000 and quota of 15 kg food grains every month are being given to each student.
- In 2017-18, 1326 minority candidates have been trained under **Mukhyamantri Shram Shakti Yojana**. Through this scheme, technical training is provided to the beneficiaries by Central Institute of Plastic Engineering Technology (CIPET), Hajipur, National Institute of Electronics and information technology (NIELIT), Patna, Tool Room and Training Centre (TRTC), Patna, Centre for Development for Advance Computing (C-DAC), Gaya and Institute of Driving & Traffic Research(IDTR), Aurangabad. A sum of Rs. 8.00 crore have been allotted under this scheme for the financial year 2018-19.

- Under **State Post Matric Scholarship scheme**, 7.99 crore has been allotted for providing scholarship to 16225 students in 2017-18 and 7.13 crore were allotted to provide scholarship to 14300 students in 2018-19
- The annual grant of Bihar Haj Committee has been increased from Rs. 40.00 lakh to Rs. 60.00 lakh to provide better facilities to pilgrims going to Mecca and Madina for Haj. In 2017, 6963 pilgrims and 27 Khadimul Hujjaj were sent to Saudi Arabia.

11.5 Women Empowerment

Inclusive development cannot be attained unless women participate equally in the development process. It was during the Eighth Plan when empowerment of women was recognized and accepted as a distinct strategy for the first time. This was taken forward further in the Ninth Plan with the introduction of the concept of Women's Component Plan, whereby identified ministries were required to indicate the flow of funds to the women's programmes. Later, the Twelfth Plan identified key indicators for gender equity to be addressed in the planning process through economic, social and cultural empowerment.

Bihar has shown a decrease in sex ratio from 919 in 2001 to 916 in 2011. In contrast, the sex ratio of India improved to 940 in 2011 from 933 in 2001. This drop in sex ratio is one of the serious concerns of the state government. Although the literacy rate for females has shown a sharp increase from 33.6 percent in 2001 to 51.5 percent in 2011 (an increase of 17.9 percentage points), the gender disparity still persists. Gender inequality arising out of social norms and cultural traditions is now being addressed directly or indirectly through efforts which would change attitude and perception towards women. Recently, the Gender Resource Centre, a cell of Women Development Corporation (WDC), has been nominated as a nodal agency for Gender Budgeting by the Department of Social Welfare. Since gender equality and women's empowerment is an important agenda, the state government has been publishing its gender budget since 2008-09. An overview of the gender budget for six years (2012-13 to 2017-18) is presented in Table 11.30. From the table, it emerges that the total outlay for women development has been increasing over the years, except in 2015-16, when it recorded a decrease. The total outlay for women has increased by 163.1 percent between 2012-13 and 2017-18. The share of the outlay for women in the total state budget has been about 11 percent, with some year-to-year variation. Similarly, outlays for women as percentage of GSDP have been around 3 percent.

Table 11.30 : Gender Budget Summary

(Amount in Rs. crore)

Details	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Category I schemes for Women (100% beneficiaries)	2293.8	2740.2	3920.1	2996.1	5564.8	8545.9
Category II schemes for Women (30% beneficiaries)	5541.8	7008.0	8658.3	8130.9	9512.2	12069.5
Total outlays for women	7835.6	9748.2	12578.3	11127.0	15077.0	20615.4
Total Outlays for related Departments	34615.4	19003.5	33703.7	31010.8	36411.5	46658.8
Outlays for women as a percent of total outlays of related Departments	22.6	51.0	37.2	35.9	41.4	44.2
Total size of the state budget	78687	92088	116886	120685	144696	160086
Share of outlays in the state budget (percent)	10.0	10.6	10.8	9.2	10.4	12.9
GSDP	282368	317101	342951	369469	425888	487628
Outlays for women as percent of GSDP	2.8	3.1	3.7	3.0	3.5	4.2

Source : Department of Finance, GOB

For a more comprehensive understanding of gender budgeting, it is desirable to see the expenditure levels in different departments of the state governments. From this perspective, Table 11.31 represents the data for the gender budget under different departments. Here, one can see the increase in outlays for both Category I and Category-II schemes in 2018-19, compared to 2017-18. Category I schemes are those which are provisioned entirely for women. The outlays for women under Category II schemes have been calculated on the assumption that all welfare schemes that are gender neutral would have at least 30 percent women beneficiaries. As of now, there is no process of verification of actual proportion of women beneficiaries for schemes listed in Category II. It is obvious from the table that there is substantial increase in outlays in Category I and Category II schemes between 2017-18 and 2018-19. The table also reveals that, except for 5 departments (Industry, Minority Welfare, Agriculture, Art, Culture and Youth and Revenue and Land Reforms), there are increases in the outlays of all departments between 2017-18 and 2018-19. For 3 departments (Social Welfare, Health and Rural Development), the outlays are very gender friendly, as outlays for women in these departments account for more than 50 percent of the total outlay.

Table 11.31 : Overview of Gender Budget

(Rs. crore)

Name of Department	2017-18				2018-19 (BE)			
	Total Budget	Expenditure for women			Total Budget	Expenditure for women		
		Under Category I	Under Category II	Total		Under Category I	Under Category II	Total
Social Welfare	5949.58	284.77	2664.24	2949.01	6460.35	1270.07	2325.51	3595.57
SC and ST welfare	1224.58	0.00	362.11	362.11	1297.30	0.00	389.19	389.19
Public Health Engineering	2001.39	0.00	600.42	600.42	2617.34	0.00	785.20	785.20
Minority Welfare	469.13	22.00	107.14	129.14	325.00	2.00	96.90	98.90
Education Department	18922.76	285.04	5693.14	5978.18	25549.04	714.31	5924.87	6639.18
Health	2712.66	1494.35	22.40	1516.75	2965.03	2372.95	68.12	2441.08
Rural Development	9282.97	6377.64	868.60	7246.24	14521.60	6842.03	2303.87	9145.90
Urban Development and Housing	303.00	0.00	4.00	4.00	713.00	0.00	215.50	215.50
Panchayati Raj	375.00	0.00	187.50	187.50	450.00	0.00	225.00	225.00
Labour Resource	149.93	4.50	0.00	4.50	399.52	10.50	116.70	127.20
BC and EBC Welfare	1532.82	10.73	445.95	456.68	1520.68	12.59	678.64	691.23
Revenue and Land Reforms	27.63	27.63	0.00	27.63	27.63	27.63	0.00	27.63
Art, Culture and Youth	48.45	0.00	14.54	14.54	47.59	0.00	14.28	14.28
Industry Department	571.14	0.00	171.34	171.34	412.18	0.00	117.07	117.07
Agriculture Department	2185.53	0.00	655.66	655.66	2171.35	0.00	651.40	651.40
Information & Technology	39.19	39.19	0.00	39.19	55.76	55.76	0.00	55.76
Building Construction	650.00	0.00	193.00	193.00	651.00	0.00	211.95	211.95
Home Department	141.53	0.00	58.03	58.03	266.70	0.00	109.35	109.35
Tourism Department	71.47	0.00	21.44	21.44	108.01	0.00	32.40	32.40
Total	46658.77	8545.86	12069.51	20615.37	60559.08	11307.84	14265.96	25573.80

Source : Department of Finance, GOB

Table 11.32 : Flagship Schemes to Address Gender Disparity

(Rs. crore)

Scheme	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (BE)
Lakshmibai Social Security Pension Scheme	106.43	41.06	32.51	357.48	213.86	260.47
Nari Shakti Yojana	0.00	0.00	0.00	11.20	24.60	61.52
Mukhyamantri KanyaVivah Yojana	92.90	108.26	143.54	26.85	21.59	38.16
Mukhyamantri Kanya Suraksha Yojana	6.56	0.00	90.00	0.00	6.15	76.27
Total	205.89	149.32	266.05	395.53	266.20	436.42

Source : Department of Social Welfare, GOB

The direct interventions by the state government to address gender disparity comprise two main heads: child protection (Kanya Suraksha Yojana to stop female foeticide) and social and economic security (Lakshmi Social Security Pension Scheme, Kanya Vivah Yojana and Nari Shakti Yojana) (Table 11.32). The Mukhyamantri Nari Shakti Yojana, launched in 2007-08, aims to empower women through a number of schemes. Besides this, the scheme also helps women by setting up Helpline Services, Short Stay Homes, Working Women Hostels, and Protection Homes. Mukhyamantri Kanya Vivah Yojana extends financial support of Rs. 5000 to girls of BPL families who get married at the age of 18 and above. The expenditure on flagship schemes has gradually increase between 2012-13 and 2017-18 by 111.97 percent.

The empowerment of women can be assessed by three criteria — economic, social and cultural. The steps of the state government under each of these criteria are listed below :

Economic Empowerment

- Mukhyamantri Nari Jyoti Programme is designed to empower the women of Mahadalit communities with the strategy of forming and nurturing of SHGs.
- In the farm sector, a total of 863 Mahila Producer Groups have been formed, benefitting 49,617 farmer members of SHGs in 8 districts (Khagaria, Katihar, Vaishali, East Champaran, Bhojpur, Samastipur, Supaul and Saharsa).
- The theme of SARAS Fair in December 2017 was ‘Entrepreneur Women, Developed Nation’. In this fair, 135 Jeevika groups and artisans from 21 other states participated to sell indigenous artefacts. In SARAS Fair 2017, the sales were as high as of Rs. 6.62 crore.
- Start-up Village Enterprise Programme (SVEP) supports rural start-up entrepreneurs by providing training and option to choose an enterprise. Self-Help Groups are provided loan for starting the enterprise and subsequently linked with banks for additional funds. Till date, 393 women entrepreneurs have been supported with a sum of Rs. 87.05 lakh to ensure their sustainability in the business.
- Mahila Samridhi Yojana aims at self-reliance of the women from scheduled castes and provides a grant of Rs. 10,000 to initiate self-employment and an additional loan of Rs. 15,000 at 4 percent interest rate.
- To diversify livelihood options and enhance income among rural poor, Jeevika signed MoU with Jaipur Rugs Foundation, under which 608 community members were mobilised and trained in carpet weaving in 2016-17. Till date, 1088 carpet weavers have been trained. The

maximum earning of trained members is recorded as Rs 4200 per month. A total of 20 centres with 80 looms in 22 villages have been established. The same project would be extended for two more years with the objective to include 1952 community members.

- Under the Saat Nishchay programme, ‘Aarakshit Rozgar Mahilaon Ka Adhikar’ is one of the commitments, and 35 percent reservation in recruitment is being given to women for all services of the state government from 2016.

Social Empowerment

- Mukhyamantri Kosi Mulberry Pariyojna is being jointly implemented by the Industry Department, MGNREGA wing of Rural Development Department, Rashtriya Krishi Vikash Yojana (Agriculture Department) and Jeevika in 8 districts (Saharsa, Supaul, Madhepura, Purnea, Araria, Kishanganj, Katihar and Bhagalpur) to support Bhagalpur Silk Cluster. Under this, 72 farmers and Village Resource Persons (VRPs) were connected to Kaliyachak Cocoon Market, West Bengal and Kesla, Madhya Pradesh.
- An intensive Behaviour Change Communication (BCC) campaign on Health, Nutrition, and WASH (Water, Sanitation and Hygiene) has been planned by the state government. Nearly 4.93 lakh SHGs have already been trained in 315 blocks under ‘Gram Varta’. These trainings aim at sensitizing the community on various aspects of Health, Nutrition and WASH. These trainings have proved to be highly effective in triggering demand for better services.
- In 2017-18, for ensuring nutritional food security of the SHG members, more than 2800 new Village Organisations (VO), fulfilling the criteria of minimum 40 percent SC and ST households, were given Food Security Fund. The VOs have started procuring nutritional food items like pulses, grams, oils, soya-bean, etc. besides foodgrains. In the same year, more than 19,500 VOs did procurement and 20,813 VOs initiated food security intervention.
- Under Solar Urja through Localization for Sustainability (SOULS) initiative, a flagship program of IIT Bombay, based on the ‘Power to All’ programme, solar study lamps were distributed by the Ministry of New and Renewable Energy (MNRE) and Jeevika. In 2017-18, a total of 5.50 lakh solar lamps were distributed in the districts of Gaya, Nawada and Bhojpur. Till date, more than 6.70 lakh lamps have been distributed under this scheme.
- To stop child marriage and encourage her higher education, Mukhyamantri Kanya Vivah Yojana provides financial assistance of Rs. 5000 to the family of the girl child at the time of her marriage. The benefit of this scheme is given to those girls whose marriage has been

registered and whose family income is not more than Rs. 60,000 per annum. In 2017-18, the budget provision for the scheme was of Rs. 4418.67 lakh, of which Rs. 3815.89 lakh was spent.

- For promotion of birth registration, balance of sex ratio and prevention of female foeticides, the state government has initiated Mukhya Mantri Kanya Suraksha Yojana. Under this scheme, an investment of Rs. 2000 is made in the name of the girl child from BPL families in specified bank, for a maximum of two girls. In 2017-18, against the budget outlay of Rs. 7627.28 lakh, the expenditure was almost 100 percent.
- For elimination of caste system in Hindu society, under Antarjatiya Vivah Yojana, a fixed deposit of Rs. 1.00 lakh is made in a nationalised bank in favour of the bride who marries a bridegroom of another caste. The lock-in period of the fixed deposit is three years. In 2017-18, the budget provision for the scheme was Rs. 700.00 lakh, out of which Rs. 109.75 lakh has been spent.
- The state government has launched the Mukhya Mantri Kanya Utthan Yojana which aims to eliminate the reasons behind girl child mortality, encourage birth of girl child and immunization of children. Apart from this, the scheme also aims at eliminating child marriage and early child pregnancy. The new initiative is a universal platform and will encourage protection of girl child, right from birth till adolescent age. The benefit will be offered to two girl children for each family. The girl child will be given Rs. 2000 as the installment at the time of her birth. On completion of first year, she will be offered another installment of Rs. 1000, once she completes linking her Aadhar Card. After completing the immunization, she would be offered the next installment of Rs 2000. This will be helpful for the state government towards achieving the targets of complete immunization. After that she will get benefit of Rs. 600 (class I-II), Rs. 700 (class III-V), Rs. 1000 (class VI-VIII) and Rs 1500 (class IX-XII) every year for dress. Apart from that girl student from class VII to XII will also get Rs 300.0 per year for sanitary napkin. Unmarried girl after intermediate will get Rs. 10,000 and graduate girl (both married and unmarried) will get Rs. 25000 once.
- Under ‘Aasra Scheme’, the operational cost for 50 bedded residential special home for women has been increased from Rs. 50.00 lakh to Rs. 76.70 lakh per year. Further, opening of two additional 50 bedded residential special homes has also been sanctioned by the cabinet.

- Through the Women Development Corporation (WDC), the state government is implementing various social empowerment schemes for women in the state. Under Mukhyamantri Nari Shakti Yojana, free socio-psychological support and legal aid are provided to the victims of domestic violence and trafficked women and adolescents. The WDC is running 38 Women Help Lines in different districts, in close coordination with respective District Magistrates. This is a family counseling centre. Every woman who is suffering from distress and domestic violence can consult the centre through the help line. Further, Union Ministry of Women and Child Development has also supported WDC for establishing one stop centres in 7 districts which render 24 hour service for victims of violence and abuse.

Table 11.33 : Number of Cases Registered and Disposed under Social Empowerment

Types of Cases	2016-17		2017-18		2018-19 (Up to Sept)	
	Registered	Disposed	Registered	Disposed	Registered	Disposed
Domestic Violence	3990	3284 (82.3)	4023	1651 (41.0)	1119	223 (19.9)
Dowry Abuse	629	469 (74.6)	766	267 (34.9)	203	31 (15.3)
Dowry Death	6	5 (83.3)	5	5 (100.0)	5	0 (0)
Second Marriage	88	92 (104.5)	101	27 (26.7)	30	2 (6.7)
Rape & Trafficking Cases	23	15 (65.2)	26	23 (88.5)	41	26 (63.4)
Sexual abuse at office/ other places	98	72 (73.5)	148	91 (61.5)	68	38 (55.9)
Others	1339	1152 (86.0)	3488	2509 (71.9)	1322	849 (64.2)
Total Cases	6183	5115 (82.7)	8557	4573 (53.4)	2788	1169 (41.9)

Note : Figures in parentheses denote the percentage of cases disposed
Source : Bihar State Women Development Corporation, GOB

Table 11.33 shows the number of cases registered and disposed off relating to offences against women. Out of all cases, in 2017-18, registration is the highest for domestic violence, followed by dowry abuse. In 2017-18, 53 percent of registered cases were disposed off; whereas it was 42 percent in 2018-19.

Cultural Empowerment

- On the occasion of the centenary of Champaran Satyagraha, about 30,000 members from Jeevika participated in ‘Champaran Satyagraha Celebration’.
- Sapno Ko Chali Chhooney (SKCC) project in Bihar is a joint initiative of Bihar State Women Development Corporation and Jagran Peהל, started in July 2009. It aims to build

capacities of young boys/girls, resulting in reduction of gender disparity and moving a step towards gender mainstreaming in the state. In a decade, the project has successfully sensitised 1.67 lakh girls directly on gender issues by covering 72 colleges of Bihar. The project has also built leadership capacities amongst 156 girls who have been recognized as Champions of Change (CoC). The champions were further provided with financial support and mentorship to enable them to develop leadership qualities.

- In order to promote awareness on gender issues in family and schools using cultural media like nukkad-natak, puppet shows etc., ‘Uthoo Saheli’ campaign has been launched in 7 blocks, one each in Samastipur, Vaishali, Rohtas, Nalanda, Aurangabad, Jehanabad and Patna. The issues covered by the campaign are — female foeticide, witch craft, child marriage, domestic violence, women’s rights and dowry.
- The community members were trained in bamboo craft, with the support of Khadi and Village Industries Commission (KVIC) in two batches in Darbhanga. Later, the same team visited Madhubani and Muzaffarpur to interact with community members. Till date, the producer groups have participated in 84 trade fairs in different states.
- A Concept Note on revival of traditional Art of Bihar has been prepared and a survey has also been completed. The state government has decided to scale up 3 gender-based art forms under its initiative.

11.6 Social Security for Old and Disabled

Inclusive development cannot be achieved without the welfare of the old and disabled. As per Ministry of Social Justice and Empowerment, the total population of senior citizens (people aged 60 years and above) in the country was 10.38 crore (2011 census). In Bihar, the population of senior citizens is 0.77 crore (2011 census). Further, the size of disabled population in Bihar is 23.31 lakh. These two population groups together demand considerable attention of the state government.

To meet this pressing demand, the state government, in alliance with the central government, is promoting several social security schemes for persons of old age, widows and disabled people. Table 11.34 shows the summary of these welfare schemes, implemented by the central and state governments. In 2017-18, the total expenditure on schemes for Old Age, Widow and Persons with Disabilities has been 85 percent of the total budget outlay and 64 lakh people were benefitted by these schemes, compared to 56 lakh in 2016-17. The total expenditure on different

pension schemes has increased from Rs. 2797.22 crore in 2016-17 to Rs. 3692.41 crore in 2017-18, registering an increase of 28 percent.

Table 11.34 : Schemes for Old Age, Widow and Persons with Disabilities

Name of the Scheme	2016-17			2017-18		
	Budget Outlay (Rs. lakh)	Expenditure (Rs. lakh)	No. of beneficiaries (in '000)	Budget Outlay (Rs. lakh)	Expenditure (Rs. lakh)	No. of beneficiaries (in '000)
Indira Gandhi National Old Age Pension Scheme	168750.00	120703.31	3698	165740.00	104967.69	4247
Indira Gandhi National Widow Pension Scheme			469			541
Indira Gandhi National Disability Pension Scheme			96			119
National Family Benefit Scheme			35			
NSAP (State Share)	93740.00	93740.00	-	183707.50	183707.50	-
Laxmibai Social Security Pension Scheme	21436.00	21386.00	481	26046.96	26046.96	575
Bihar Disability Pension Scheme	25557.00	25557.00	590	31732.18	31732.18	724
State Social Security Pension Scheme	2986.00	2986.00	58	4245.00	3000.00	62
Kabir Anthyesthi Anudan Yojana	5000.00	5000.00	167	4824.00	4824.00	144
Chief Minister Family Benefit Scheme	650.00	650.00	3	500.00	500.00	3
Bihar Shatabdi Leper Welfare Scheme	1500.00	1500.00	8	1260.00	1260.00	9
Mukhyamantri Bhikshavriti Nivaran Yojana	850.00	850.00	0	20.00	20.00	0
Old Age Home	100.00	100.00	0	1.00	1.00	0
Old Age Home Construction	100.00	100.00	0	3126.00	726.00	2 constructed
Bihar Aids Pirit Kalyan Yojana	1100.00	1100.00	0	1001.00	1001.00	0
BSIPS	8780.00	6000.00	0	11429.00	11429.00	0
Chief Minister Disabled Marriage Grant Scheme	50.00	50.00	0	26.00	26.00	0
Total	330599.00	279722.31	5604	433658.64	369241.33	6426

Note : National Social Assistance Programme (NSAP)

Source : Department of Social Welfare, GOB

Along with the above schemes, other new initiatives taken by the state government for social security of senior citizens and those suffering from physical disabilities are:

- To make the social security pension scheme easy, simple and transparent, the amount is being directly deposited in the account of beneficiaries through Direct Benefit Transfer (DBT), since 2016-17. Till October, 2018 out of 67.59 lakh pensioners, bank account has been

opened for 66.41 lakh pensioners. Of these 66.41 lakh bank accounts, 64.72 lakh accounts have been verified by Public Finance Management System (PFMS). Aadhar Number of 51.45 lakh pensioners has been uploaded on E-labharthi portal.

- Under Bihar Shatabdi Unorganised Sector Workers and Artisans Social Security Scheme 2011, Bihar State Labour Welfare Society has been formed with the objective to provide social security benefits to the unorganized workers and artisans of Bihar.
- A consistency is being maintained in all pension schemes by making the pension amount as Rs. 400 per month for every pensioner since July, 2014. The state government contributes from its internal resources to the national pension programmes – Rs. 200 in National Old Age Pension, Rs. 100 in National Widow Pension, and Rs. 100 in National Disability Pension Scheme. The state government also contributes the full pension amount for those pensioners in central pension scheme whose numerical ceiling exceed the ceiling fixed by the central government. This contribution implied an expenditure of Rs. 1837.07 crore in 2017-18 by the state government.
- The state government has initiated Chief Minister Family Benefit Scheme from 2012-13. This provides one time grant of Rs. 20,000 in case of death, due to either accident or criminal activity. An amount of Rs. 5.00 crore has been spent in 2017-18, compared to Rs. 6.50 crore in 2016-17.
- Land has been provided in Patna, Purnea and Gaya for construction of 3 Old Age Homes. The construction work has already started in Patna and Gaya. There are already 7 Old Age Homes (SAHARA) in Patna, Gaya, Begusarai, Rohtas, Purnea, Bhagalpur and West Champaran. These Old Age Homes are being managed by non-government voluntary organizations.

APPENDIX

Table 11.1 : Number of Health Institutions in Bihar (As on September, 2018)

Districts	District Hospital	Referral Hospital	SDH	PHC	Health Sub-Centre	APHC	DH+RH+SDH+PHC+HSC+APHC	Health Institution per ten lakh population
Patna	1	4	4	23	234	96	362	534
Nalanda	1	3	2	20	368	46	440	1335
Bhojpur	1	3	2	14	298	27	345	1102
Buxar	1	0	1	11	160	28	201	1027
Rohtas	1	2	2	19	251	32	307	909
Kaimur	1	2	1	11	175	19	209	1092
Gaya	1	2	2	24	469	38	536	1036
Jehanabad	1	2	0	7	107	34	151	1170
Arwal	1	0	0	5	65	27	98	1239
Nawada	1	2	1	14	174	36	228	891
Aurangabad	1	3	1	11	254	61	331	1107
Saran	1	3	2	20	414	41	481	1061
Siwan	1	3	1	19	378	44	446	1160
Gopalganj	1	3	1	14	185	24	228	788
W. Champaran	1	2	2	18	532	33	588	1248
E. Champaran	1	1	3	27	398	70	500	819
Muzaffarpur	1	2	0	16	499	83	601	1052
Sitamarhi	1	1	2	17	208	38	267	658
Sheohar	1	0	0	5	91	13	110	1416
Vaishali	1	4	2	16	334	35	392	941
Darbhanga	0	2	1	18	261	46	328	736
Madhubani	1	3	4	21	376	61	466	886
Samastipur	1	1	4	20	358	56	440	881
Begusarai	1	2	4	18	292	23	340	971
Munger	1	0	2	9	154	20	186	1195
Sheikhpura	1	1	0	6	85	17	110	1512
Lakhisarai	1	1	0	6	102	12	122	1044
Jamui	1	3	0	10	279	22	315	1523
Khagaria	1	1	0	7	186	23	218	1087
Bhagalpur	1	3	2	16	362	54	438	1231
Banka	1	3	0	11	239	31	285	1188
Saharsa	1	0	1	10	171	32	215	962
Supaul	1	2	1	11	181	23	219	824
Madhepura	1	0	1	13	272	21	308	1273
Purnea	1	2	3	14	312	33	365	
Kishanganj	1	1	0	7	156	10	175	860
Araria	1	2	1	9	242	29	284	840
Katihar	1	1	2	16	327	41	388	1061
Bihar	37	70	55	533	9949	1379	12023	986

Note : Estimated Population of 2018 has been used for calculation
Source : Bihar State Health Society, Patna; GoB

Table A 11.2 : District-wise Average Number of Outpatients Visiting per Day and In-patient Occupancy Rate

District	Average no. of Outpatient visits per day				In-patient Bed Occupancy Rate			
	2015-16	2016-17	2017-18	2018-19 (upto Sept. 18)	2015-16	2016-17	2017-18	2018-19 (up to Sept. 18)
Patna	235	269	359	355	73	74	22	27
Nalanda	391	448	301	300	119	121	52	48
Bhojpur	275	254	232	231	33	41	63	61
Buxar	213	219	186	176	62	50	28	33
Rohtas	290	259	237	261	70	66	73	52
Kaimur	301	297	254	286	82	54	91	93
Gaya	348	355	323	327	87	23	34	30
Jehanabad	377	354	309	311	72	44	40	24
Arwal	321	263	352	361	76	24	44	48
Nawada	167	180	188	194	77	85	20	15
Aurangabad	501	524	425	391	74	48	41	48
Saran	420	462	335	383	89	88	71	76
Siwan	292	326	286	280	99	73	55	56
Gopalganj	318	382	266	266	76	67	51	45
W.Champaran	255	275	151	217	52	41	31	39
E.Champaran	357	398	259	281	84	74	62	60
Muzaffarpur	502	514	443	487	60	18	329	334
Sitamarhi	240	217	244	226	94	81	56	42
Sheohar	159	148	145	163	78	48	16	14
Vaishali	402	432	395	417	101	93	68	59
Darbhanga	355	343	410	480	89	38	48	62
Madhubani	301	344	310	341	58	52	63	52
Samastipur	420	363	301	286	124	118	80	83
Begusarai	250	267	212	256	62	69	60	64
Munger	306	340	289	292	104	81	82	83
Sheikhpura	200	160	237	234	60	66	39	27
Lakhisarai	266	247	252	226	70	70	42	53
Jamui	199	217	242	186	46	36	48	38
Khagaria	401	555	489	476	130	108	110	101
Bhagalpur	310	318	266	262	130	126	181	186
Banka	350	440	322	348	76	65	77	78
Saharsa	229	207	237	240	71	87	80	81
Supaul	379	375	263	290	106	80	64	70
Madhepura	328	392	449	437	143	126	159	142
Purnea	523	467	308	291	122	90	73	69
Kishanganj	290	295	228	246	94	94	57	60
Araria	450	480	352	361	99	147	40	37
Katihar	306	364	319	326	78	81	67	66
Bihar	323	339	298	309	84	64	62	61

Source : State Health Society, GOB

Table A 11.3 : District-wise Employment of Grade A Nurses

District	No. of sanctioned post currently		Number of Grade A Nurses Employed				No. of Grade A Nurses / lakh population
	Regular	Contractual	Regular		Contractual		
			2016-17	2017-18	2016-17	2017-18	
Patna	161	46	158	134	23	23	2
Nalanda	129	59	88	98	32	32	3
Bhojpur	162	24	60	60	1	10	2
Buxar	85	74	45	42	2	2	2
Rohtas	88	20	54	54	18	18	2
Kaimur	38	44	29	28	9	9	1
Gaya	174	25	97	95	16	16	2
Jehanabad	85	34	76	77	3	3	6
Arwal	50	50	20	19	3	3	2
Nawada	82	175	75	75	13	13	3
Aurangabad	35	22	31	30	6	6	1
Saran	86	25	9	47	5	5	1
Siwan	147	16	14	35	2	2	1
Gopalganj	84	18	29	31	4	4	1
W. Champaran	108	37	39	39	5	8	1
E. Champaran	165	48	17	36	37	37	1
Muzaffarpur	152	54	39	39	0	1	1
Sitamarhi	116	17	33	33	14	14	1
Sheohar	59	9	11	9	5	5	1
Vaishali	258	51	69	69	49	49	2
Darbhanga	154	30	28	28	2	9	1
Madhubani	364	34	60	53	7	7	1
Samastipur	304	24	120	120	2	6	2
Begusarai	128	24	118	122	4	4	3
Munger	119	34	103	100	0	0	6
Sheikhpura	74	32	33	44	4	4	6
Lakhisarai	73	60	53	53	23	7	5
Jamui	75	13	40	38	8	12	2
Khagaria	61	13	57	59	2	6	3
Bhagalpur	108	165	75	76	7	7	2
Banka	67	18	59	59	7	7	2
Saharsa	167	30	47	49	38	38	2
Supaul	172	172	39	40	1	2	2
Madhepura	58	9	31	31	8	8	1
Purnea	110	112	79	75	9	9	2
Kishanganj	60	34	23	23	1	2	1
Araria	96	39	25	27	7	7	1
Katihar	250	28	49	49	6	17	1
Bihar	4704	1719	2032	2096	383	412	2

Source : Bihar State Health Society, Patna; GoB

Table A 11.4 : District-wise Employment of ANM

District	No. of sanctioned post currently		Number of ANM Employed				No. of ANM/ lakh population
	Regular	Contractual	Regular		Contractual		
			2016-17	2017-18	2016-17	2017-18	
Patna	1155	418	939	948	247	247	14
Nalanda	835	370	750	720	210	210	22
Bhojpur	706	350	377	377	172	228	12
Buxar	382	162	207	202	105	105	10
Rohtas	593	308	409	409	102	102	12
Kaimur	325	287	245	257	97	97	13
Gaya	1170	541	640	641	303	303	12
Jehanabad	351	151	243	173	195	195	13
Arwal	125	79	87	85	60	60	11
Nawada	443	525	221	214	91	87	8
Aurangabad	581	308	339	333	156	167	11
Saran	789	643	358	344	360	360	8
Siwan	501	370	329	295	122	122	8
Gopalganj	512	186	206	205	107	107	7
W. Champaran	535	895	295	295	570	582	6
E. Champaran	1017	503	242	228	399	399	4
Muzaffarpur	956	583	702	702	234	248	12
Sitamarhi	684	213	217	215	96	96	5
Sheohar	97	172	23	23	101	101	3
Vaishali	764	418	444	444	266	266	11
Darbhanga	585	419	301	269	248	248	6
Madhubani	1017	702	321	312	239	239	6
Samastipur	854	486	537	537	200	200	11
Begusarai	661	360	493	529	217	217	15
Munger	491	165	358	361	64	54	23
Sheikhpura	257	97	105	155	46	46	21
Lakhisarai	400	102	230	230	87	87	20
Jamui	609	212	211	257	182	82	12
Khagaria	362	193	228	273	110	110	14
Bhagalpur	567	362	618	614	247	247	17
Banka	406	265	361	353	125	142	15
Saharsa	350	152	152	140	137	137	6
Supaul	212	246	90	86	148	152	3
Madhepura	399	153	101	105	72	72	4
Purnea	655	370	280	268	184	182	7
Kishanganj	338	186	82	74	126	126	4
Araria	561	290	153	150	213	213	4
Katihar	614	345	311	311	210	231	9
Bihar	21859	12587	12205	12134	6848	6867	10

Source : Bihar State Health Society, Patna; GoB

Table A 11.5 : District-wise Employment of ASHA Worker

(Figures in No.)

District	2014-15		2015-16		2016-17		2017-18	
	Target	Selection	Target	Selection	Target	Selection	Target	Selection
Patna	5842	3018	3461	3043	3461	2992	3641	3104
Nalanda	2880	2316	2415	2316	2415	2316	2415	2316
Bhojpur	2731	2188	2331	2079	2331	2079	2331	2103
Buxar	1708	1474	1551	1474	1551	1494	1551	1494
Rohtas	2962	2454	2538	2465	2538	2465	2538	2466
Kaimur	1628	1462	1570	1483	1570	1509	1570	1563
Gaya	4395	3448	3878	3448	3878	3448	3878	3679
Jehanabad	1126	870	990	870	990	870	990	917
Arwal	773	750	749	749	749	747	749	704
Nawada	2221	1956	2004	1957	2004	1957	2004	1921
Aurangabad	2542	2142	2299	2213	2299	2243	2299	2299
Saran	3955	3402	3602	3406	3602	3408	3602	3410
Siwan	3334	2822	3136	2822	3136	2822	3136	2833
Gopalganj	2564	2374	2396	2390	2396	2395	2396	2392
W. Champaran	3935	3108	3644	3135	3644	3178	3644	3298
E. Champaran	5099	4060	4684	4060	4684	4060	4684	4401
Muzaffarpur	4805	3858	4510	3880	4510	3880	4510	3880
Sitamarhi	3424	2919	3259	2919	3259	2919	3259	2965
Sheohar	656	572	646	572	646	572	646	572
Vaishali	3498	3019	3265	3121	3265	3129	3265	3174
Darbhanga	3941	3118	3729	3192	3729	3242	3729	3323
Madhubani	4487	3853	4298	3902	4298	3910	4298	3995
Samastipur	4266	3794	4161	3798	4161	3798	4161	3948
Begusarai	2973	2403	2493	2410	2493	2410	2493	2410
Munger	1369	952	1014	953	1014	953	1014	957
Sheikhpura	637	476	526	476	526	478	526	499
Lakhisarai	1002	901	900	898	900	898	900	898
Jamui	1762	1505	1654	1509	1654	1509	1654	1509
Khagaria	1668	1468	1571	1499	1571	1501	1571	1526
Bhagalpur	3040	2232	2435	2236	2435	2236	2435	2258
Banka	2037	1809	1966	1819	1966	1819	1966	1820
Saharsa	1902	1471	1823	1471	1823	1471	1823	1471
Supaul	2229	2093	2140	2111	2140	2111	2140	2111
Madhepura	2004	1674	2049	1704	2049	1704	2049	1753
Purnea	3268	2709	2983	2817	2983	2833	2983	2966
Kishanganj	1690	1290	1585	1298	1585	1298	1585	1341
Araria	2812	2365	2637	2237	2637	2284	2637	2369
Katihar	3074	2720	2795	2770	2795	2770	2795	2779
Bihar	104239	85045	93687	85502	93687	85708	93867	87424

Note : Target and selection for 2014-15 also include urban ASHA while other years only represent rural ASHA, Target for 2015-16 , 2016-17 and 2017-18 are the same.

Source : Bihar State Health Society, Patna; GoB

Table A 11.6 : District-wise Coverage of Institutional Deliveries under Janani Suraksha Yojana (JSY)

(Figures in '000)

District	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 (Sept. 2018)
Patna	78	83	64	64	64	30
Nalanda	46	41	41	39	44	20
Bhojpur	43	39	38	36	39	18
Buxar	24	25	21	21	22	10
Rohtas	33	43	27	26	29	13
Kaimur	26	23	24	24	25	11
Gaya	52	63	49	47	51	23
Jehanabad	21	16	16	14	14	7
Arwal	10	10	9	9	10	5
Nawada	33	32	30	28	33	15
Aurangabad	36	36	33	31	33	15
Saran	52	57	48	50	53	26
Siwan	45	48	39	40	42	19
Gopalganj	40	37	38	38	40	18
W. Champaran	73	57	67	68	70	32
E. Champaran	67	73	62	62	67	31
Muzaffarpur	56	69	54	53	54	27
Sitamarhi	49	49	43	45	49	22
Sheohar	10	9	9	10	11	5
Vaishali	63	50	60	60	61	30
Darbhanga	51	57	48	50	53	25
Madhubani	54	65	54	59	60	26
Samastipur	94	61	88	89	94	44
Begusarai	57	43	55	54	57	26
Munger	23	20	21	21	22	10
Sheikhpura	13	9	13	12	14	6
Lakhisarai	16	14	16	15	16	7
Jamui	29	25	27	27	29	14
Khagaria	36	24	34	35	38	18
Bhagalpur	50	44	52	51	54	25
Banka	36	29	35	33	36	17
Saharsa	41	27	40	40	39	19
Supaul	46	32	46	47	48	23
Madhepura	38	29	37	42	47	22
Purnea	73	47	71	71	78	34
Kishanganj	27	24	21	23	25	11
Araria	51	40	51	54	55	25
Katihar	56	44	52	57	61	28
Bihar	1648	1494	1533	1545	1637	757

Source : Bihar State Health Society, Patna; GoB

Table A 11.7 : Prevalence of Diseases (2017-18)

(Figures in No.)

District	Acute Diarrhoeal Disease (including acute Gastroenteritis)	Bacillary Dysentery	Viral Hepatitis	Enteric Fever	Malaria
Patna	13545	3311	2085	2892	272
Nalanda	15460	7047	4003	3557	2828
Bhojpur	10548	5421	1	1484	0
Buxar	3441	1664	0	8529	336
Rohtas	14543	2979	419	6982	783
Kaimur	6076	4404	26	14838	389
Gaya	0	0	0	0	0
Jehanabad	8191	5117	29	3538	121
Arwal	2308	2721	0	3311	1
Nawada	7363	5182	11804	2539	4803
Aurangabad	4963	2417	1	1499	271
Saran	3338	1060	3	699	0
Siwan	8848	3850	0	9763	14
Gopalganj	11438	1125	13	591	15
W. Champaran	25900	1899	0	0	0
E. Champaran	0	0	0	0	0
Muzaffarpur	21854	5597	670	18269	340
Sitamarhi	24100	11910	0	5957	2
Sheohar	6640	2825	0	2348	3
Vaishali	26634	29381	12137	40754	981
Darbhanga	11007	5652	3	6563	674
Madhubani	27739	15639	309	17099	2606
Samastipur	28939	16153	0	3526	1849
Begusarai	21603	4742	0	21092	176
Munger	14483	9501	257	2347	3963
Sheikhpura	593	347	0	95	280
Lakhisarai	592	363	11	134	50
Jamui	7525	8779	0	4711	1326
Khagaria	2001	1941	0	55	5
Bhagalpur	2134	627	0	41	0
Banka	233	98	0	27	10
Saharsa	11150	7204	2	2543	0
Supaul	5648	4235	5	2437	247
Madhepura	2813	0	0	229	0
Purnea	27482	18755	180	8764	951
Kishanganj	15322	5262	30	6667	183
Araria	4948	4957	14	2390	2186
Katihar	18005	7252	0	3761	207
Bihar	417407	209417	32002	210031	25872

Source : State Health Society, Patna, GOB

(Contd.)

Table A 11.7 : Prevalence of Diseases (2017-18) (Contd.)

(Figures in No.)

District	Fever of Unknown origin	Acute Respiratory Infection / Influenza like Illness	Pneumonia	Dog bite	Any other State Specific Disease	Unusual Syndromes Not Captured Above
Patna	8668	20083	2548	22191	2864	6991
Nalanda	16179	23003	5877	19149	6376	4535
Bhojpur	7770	65027	90	33493	444	0
Buxar	9621	31784	25	7164	0	0
Rohtas	24345	52459	2279	13850	0	0
Kaimur	8861	15803	966	4214	7	3
Gaya	0	0	0	0	0	0
Jehanabad	23167	43522	689	14062	0	1
Arwal	10757	6019	395	5796	0	0
Nawada	32459	6328	2029	9519	3774	13413
Aurangabad	489	4624	1664	4286	511	0
Saran	4225	12878	211	3053	0	225
Siwan	51504	94013	2018	12953	372	0
Gopalganj	55483	58858	608	9479	530	0
W. Champaran	2994	30781	1755	9461	0	0
E. Champaran	0	0	0	0	0	0
Muzaffarpur	41417	33691	2120	32867	0	0
Sitamarhi	16822	35068	1667	16850	166	0
Sheohar	2902	3755	4	10388	0	0
Vaishali	48096	126104	4526	20472	0	0
Darbhanga	8336	39969	160	12616	510	6291
Madhubani	28251	40683	252	16028	1729	0
Samastipur	63997	79053	222	5437	1101	0
Begusarai	48942	48037	541	24114	0	0
Munger	19949	43120	934	8673	0	0
Sheikhpura	2165	2299	114	1503	0	0
Lakhisarai	219	1350	0	1407	515	1303
Jamui	95379	90885	1746	3830	0	0
Khagaria	84813	80212	6	5001	0	0
Bhagalpur	43672	13526	0	8477	0	756
Banka	95	483	0	228	0	0
Saharsa	18236	45614	114	2722	0	0
Supaul	19794	4853	81	5234	1277	3233
Madhepura	8397	4003	32	1731	0	0
Purnea	64289	65254	1625	10103	2729	540
Kishanganj	11498	13640	32	2919	487	0
Araria	2401	21827	478	3526	635	4122
Katihar	9175	25252	92	5208	293	5732
Bihar	895367	1283860	35900	368004	24320	47145

Source : State Health Society, Patna, GOB

(Concluded)

Table A 11.8 : District-wise Fund Disbursed to Health Societies

(Rs. lakh)

District	2013-14	2014-15	2015-16	2016-17	2017-18
Patna	4035.69	5293.20	3993.42	5550.03	5503.02
Nalanda	2963.24	3779.53	3237.22	3506.71	3287.11
Bhojpur	2058.36	2648.43	2715.25	2850.60	2238.42
Buxar	1382.92	1860.02	1762.66	1854.80	2059.53
Rohtas	1932.67	1923.70	2372.06	3293.57	2438.58
Kaimur	1703.82	1860.06	2079.02	2330.84	2284.25
Gaya	4460.10	4056.57	4118.13	4819.95	5288.70
Jehanabad	1329.96	1536.25	1173.85	1623.98	1396.33
Arwal	920.83	829.17	915.73	1229.81	978.29
Nawada	1742.69	2048.67	1909.12	2781.61	1957.87
Aurangabad	2594.13	2733.26	2288.90	3192.48	3209.76
Saran	2851.63	2650.22	3069.12	4476.20	4552.39
Siwan	2721.04	2537.74	3284.57	3021.85	2881.45
Gopalganj	2520.83	2409.59	2062.60	3186.89	2059.58
W. Champaran	3713.46	3834.59	5111.42	5483.08	4470.79
E. Champaran	3822.36	5555.89	3414.01	6127.74	4501.48
Muzaffarpur	3444.63	2848.42	3381.03	4200.25	2584.83
Sitamarhi	2506.62	2150.80	2620.85	3954.29	2786.69
Sheohar	646.29	779.95	720.14	1045.64	853.35
Vaishali	4011.61	3450.86	3925.29	4979.16	3570.40
Darbhanga	3113.09	2920.53	2466.06	3908.00	4164.87
Madhubani	3530.15	3091.18	3602.80	4503.06	3482.45
Samastipur	4714.65	3872.80	5684.70	5195.57	5454.49
Begusarai	3233.34	3552.20	3236.42	4195.12	4193.30
Munger	1945.43	1513.31	1712.30	1941.40	1771.89
Sheikhpura	814.86	965.65	1141.25	1136.28	1223.32
Lakhisarai	1046.17	1188.39	1362.40	1321.27	1471.34
Jamui	1621.89	2450.75	2090.60	2718.46	2421.34
Khagaria	1754.41	2322.32	1986.11	2481.58	1969.34
Bhagalpur	3327.31	3267.48	3729.52	3720.49	3976.07
Banka	2321.64	2594.63	2430.29	2701.92	3206.12
Saharsa	2093.93	1962.26	2409.91	2726.17	1856.54
Supaul	1858.28	2154.84	2689.32	3063.04	2329.24
Madhepura	1951.99	2264.27	1974.33	2718.04	3431.07
Purnea	3393.22	4414.50	3922.66	4776.00	3946.67
Kishanganj	965.72	1405.20	1327.24	2174.46	1347.40
Araria	1972.30	2726.41	2797.04	3974.42	4121.42
Katihar	3131.46	2742.98	4096.26	4530.91	3721.89
Bihar	94152.69	100196.61	102813.61	127295.69	112991.58

Note : The Fund has been disbursed by SHS to its implementing Agencies like DHS, RPMU, Medical Colleges, IGIMS and BMSICL, but in the above table fund disbursement shown only to DHS

Source : State Health Society, Patna, GOB

Table A 11.9 : District-wise Hand Pumps under National Rural Drinking Water Programme (NRDWP)

District	Number of Handpumps Installed					Slipped back Habitations /Water quality Problems Covered				
	2013-14	2014-15	2015-16	2016-17	2017-18	2013-14	2014-15	2015-16	2016-17	2017-18
Patna	1553	769	1000	220	98	666	725	373	0	0
Nalanda	998	976	1079	137	182	459	333	36	2	0
Bhojpur	840	514	669	82	4	221	285	244	0	0
Buxar	341	643	389	30	287	147	217	13	1	0
Rohtas	1185	1011	1066	19	250	227	316	253	1	0
Kaimur	452	578	761	58	302	158	234	91	38	15
Gaya	2105	1602	1739	148	0	511	449	469	34	46
Jehanabad	831	185	206	0	186	140	145	87	7	25
Arwal	259	141	196	0	52	81	107	92	13	0
Nawada	726	817	856	19	0	256	309	207	35	19
Aurangabad	789	898	994	0	366	202	248	250	37	27
Saran	953	603	771	34	291	591	407	305	15	30
Siwan	1643	693	736	441	300	379	346	337	15	0
Gopalganj	1165	553	497	74	234	350	275	269	11	0
W. Champaran	710	495	871	359	340	295	313	311	3	13
E. Champaran	1646	746	968	314	375	694	733	492	20	0
Muzaffarpur	2297	550	1179	782	475	153	395	222	5	0
Sitamarhi	979	440	1113	140	303	312	402	21	14	23
Sheohar	149	274	106	35	88	121	145	108	0	0
Vaishali	1534	844	255	414	307	427	314	0	0	0
Darbhanga	1160	989	588	339	410	412	398	0	5	0
Madhubani	1612	750	762	303	610	508	432	167	0	0
Samastipur	931	1052	937	237	431	157	398	336	96	0
Begusarai	810	564	695	54	4	564	383	58	0	0
Munger	253	588	453	78	376	223	249	301	38	25
Sheikhpura	189	239	230	0	86	146	50	0	0	0
Lakhisarai	828	462	485	12	133	409	243	174	122	0
Jamui	444	819	700	51	306	334	246	250	43	23
Khagaria	416	303	273	32	129	119	28	14	56	0
Bhagalpur	735	1159	1346	84	430	523	522	223	2	0
Banka	472	674	1132	112	360	418	481	281	0	0
Saharsa	713	413	232	69	168	311	418	311	101	0
Supaul	741	442	458	552	91	700	492	358	163	0
Madhepura	788	484	551	13	50	292	263	132	72	NA
Purnea	1396	871	575	509	246	320	320	9	57	20
Kishanganj	680	554	437	252	126	410	133	84	90	0
Araria	567	516	480	170	218	377	281	71	132	0
Katihar	399	76	906	200	285	174	201	240	61	0
Bihar	34289	24287	26691	6373	8899	12787	12236	7189	1289	266

Note : A habitation having status "Fully Covered" at one point of time but which is 'Partially Covered' or 'Quality Affected'

Source : Department of Public Health Engineering, GoB

Table A 11.10 : District-wise Achievement in Individual Household Latrine (IHHL) under Central Rural Sanitation Programme

Districts	Population Share	2014-15	2015-16	2016-17	2017-18		
		Total (BPL + APL)			BPL	APL	BPL+APL
Patna	5.6	4323 (2.6)	22660 (5.3)	29880 (3.4)	48197	46565	94762 (2.8)
Nalanda	2.8	5716 (3.5)	15348 (3.6)	35767 (4.1)	94350	39371	133721 (3.9)
Bhojpur	2.6	4421 (2.7)	8348 (2.0)	38664 (4.4)	35995	17032	53027 (1.5)
Buxar	1.6	1909 (1.2)	7354 (1.7)	36666 (4.2)	37760	29423	67183 (2.0)
Rohtas	2.9	2271 (1.4)	9159 (2.1)	37384 (4.3)	143551	79736	223287 (6.5)
Kaimur	1.6	4814 (2.9)	7103 (1.7)	24796 (2.8)	91600	25933	117533 (3.4)
Gaya	4.2	4151 (2.5)	21122 (4.9)	30013 (3.4)	31998	51654	83652 (2.4)
Jehanabad	1.1	4356 (2.6)	7485 (1.8)	10681 (1.2)	9598	11777	21375 (0.6)
Arwal	0.7	1113 (0.7)	2800 (0.7)	5485 (0.6)	6386	3989	10375 (0.3)
Nawada	2.1	11559 (7.0)	7836 (1.8)	19731 (2.3)	50300	26791	77091 (2.2)
Aurangabad	2.4	1474 (0.9)	4514 (1.1)	10276 (1.2)	32093	31547	63640 (1.9)
Saran	3.8	3803 (2.3)	14967 (3.5)	10943 (1.3)	43232	44152	87384 (2.5)
Siwan	3.2	2509 (1.5)	10365 (2.4)	17634 (2)	18666	49296	67962 (2.0)
Gopalganj	2.5	1805 (1.1)	14065 (3.3)	19447 (2.2)	27872	61616	89488 (2.6)
W. Champaran	3.8	7507 (4.5)	12198 (2.9)	26962 (3.1)	86103	44880	130983 (3.8)
E. Champaran	4.9	4689 (2.8)	11162 (2.6)	38986 (4.5)	188239	68829	257068 (7.5)
Muzaffarpur	4.6	7407 (4.5)	26183 (6.1)	16415 (1.9)	29216	150799	180015 (5.2)
Sitamarhi	3.3	5580 (3.4)	14125 (3.3)	50056 (5.7)	215910	22516	238426 (6.9)
Sheohar	0.6	3196 (1.9)	13252 (3.1)	13771 (1.6)	8106	7312	15418 (0.4)
Vaishali	3.4	5709 (3.5)	12292 (2.9)	23337 (2.7)	40242	21414	61656 (1.8)
Darbhanga	3.8	5556 (3.4)	19289 (4.5)	42694 (4.9)	67545	43470	111015 (3.2)
Madhubani	4.3	8808 (5.3)	9897 (2.3)	13630 (1.6)	129001	40772	169773 (4.9)
Samastipur	4.1	5582 (3.4)	20551 (4.8)	22800 (2.6)	38568	30015	68583 (2)
Begusarai	2.8	5762 (3.5)	8155 (1.9)	14435 (1.7)	36972	23301	60273 (1.8)
Munger	1.3	2364 (1.4)	10526 (2.5)	29212 (3.3)	61772	14001	75773 (2.2)
Sheikhpura	0.6	1445 (0.9)	5356 (1.3)	14376 (1.6)	19487	23780	43267 (1.3)
Lakhisarai	1.0	2083 (1.3)	6520 (1.5)	5786 (0.7)	30644	127	30771 (0.9)
Jamui	1.7	2126 (1.3)	6712 (1.6)	13846 (1.6)	42654	13323	55977 (1.6)
Khagaria	1.6	1928 (1.2)	6159 (1.4)	26155 (3)	25357	35104	60461 (1.8)
Bhagalpur	2.9	5274 (3.2)	11372 (2.7)	24249 (2.8)	42635	15863	58498 (1.7)
Banka	2.0	6117 (3.7)	10814 (2.5)	21268 (2.4)	27890	32293	60183 (1.8)
Saharsa	1.8	7517 (4.5)	6990 (1.6)	13247 (1.5)	37096	19515	56611 (1.6)
Supaul	2.1	2355 (1.4)	7696 (1.8)	9424 (1.1)	98983	21162	120145 (3.5)
Madhepura	1.9	1377 (0.8)	10699 (2.5)	14987 (1.7)	43985	15361	59346 (1.7)
Purnea	3.2	11638 (7)	7151 (1.7)	35694 (4.1)	63919	37085	101004 (2.9)
Kishanganj	1.6	1554 (0.9)	12335 (2.9)	9105 (1)	48789	2200	50989 (1.5)
Araria	2.7	1701 (1)	13241 (3.1)	27267 (3.1)	92799	8232	101031 (2.9)
Katihar	3.0	3958 (2.4)	11233 (2.6)	37263 (4.3)	40429	36390	76819 (2.2)
Bihar	100	165457 (100)	427034 (100)	872332 (100)	2187939	1246626	3434565 (100)

Note : Figures in parenthesis denote percent share;
Source : Public Health Engineering Department, GoB and Jeevika

Table A 11.11 : Total Enrolment in Primary and Upper Primary Levels (All)

(lakh)

District	2015-16			2016-17		
	Primary	Upper Primary	Total	Primary	Upper Primary	Total
Patna	7.31	3.11	10.42	7.32	3.12	10.44
Nalanda	5.65	2.79	8.44	5.97	2.79	8.76
Bhojpur	3.90	1.68	5.58	3.76	1.70	5.46
Buxar	3.90	1.75	5.65	3.90	1.75	5.65
Rohtas	3.30	1.13	4.43	3.35	1.16	4.51
Kaimur	2.33	1.27	3.60	2.22	1.37	3.59
Gaya	6.13	2.95	9.08	6.05	2.80	8.86
Jehanabad	1.55	0.71	2.26	1.28	0.68	1.95
Arwal	1.09	0.53	1.62	1.11	0.54	1.65
Nawada	3.45	1.55	5.00	3.41	1.56	4.97
Aurangabad	3.87	1.95	5.82	3.71	2.06	5.77
Saran	5.70	2.87	8.57	5.51	2.90	8.41
Siwan	4.49	2.36	6.85	4.49	2.36	6.85
Gopalganj	4.08	1.91	5.99	4.38	1.91	6.29
W. Champaran	7.08	2.38	9.46	7.08	2.38	9.46
E. Champaran	8.78	3.51	12.29	8.78	3.51	12.29
Muzaffarpur	9.94	4.90	14.83	9.92	4.92	14.84
Sitamarhi	5.30	1.84	7.14	5.30	1.84	7.14
Sheohar	0.92	0.26	1.18	0.97	0.24	1.21
Vaishali	5.16	1.75	6.91	3.97	2.54	6.51
Darbhanga	5.47	2.29	7.76	5.48	2.30	7.79
Madhubani	6.85	1.89	8.74	7.40	1.81	9.21
Samastipur	6.27	2.66	8.93	6.31	2.67	8.98
Begusarai	6.90	3.15	10.05	6.72	3.15	9.87
Munger	1.89	0.76	2.65	1.89	0.76	2.65
Sheikhpura	0.95	0.40	1.36	0.98	0.43	1.41
Lakhisarai	1.65	0.74	2.39	1.58	0.74	2.32
Jamui	3.16	1.22	4.38	3.19	1.23	4.43
Khagaria	2.74	1.17	3.90	2.63	1.15	3.78
Bhagalpur	4.12	1.80	5.93	4.12	1.80	5.93
Banka	3.27	1.43	4.70	2.94	1.38	4.32
Saharsa	3.27	1.29	4.56	3.35	1.31	4.67
Supaul	4.25	1.09	5.34	3.63	1.43	5.06
Madhepura	3.57	1.82	5.39	3.57	1.82	5.39
Purnea	4.85	2.37	7.22	5.29	2.37	7.66
Kishanganj	1.94	1.92	3.86	2.10	1.37	3.47
Araria	2.76	2.74	5.50	2.92	2.79	5.71
Katihar	5.51	2.37	7.89	5.72	2.70	8.42
Bihar	163.36	72.32	235.68	162.32	73.33	235.64

Source : Department of Education, GOB

Table A 11.12 : Total Enrolment in Primary and Upper Primary Levels (SC)

(lakh)

District	2015-16			2016-17		
	Primary	Upper Primary	Total	Primary	Upper Primary	Total
Patna	1.25	0.67	1.92	1.31	0.67	1.98
Nalanda	1.85	0.85	2.70	1.85	0.85	2.70
Bhojpur	0.73	0.36	1.09	0.69	0.39	1.08
Buxar	0.46	0.22	0.69	0.46	0.22	0.69
Rohtas	0.47	0.12	0.60	0.48	0.13	0.61
Kaimur	0.64	0.35	0.99	0.61	0.38	0.99
Gaya	2.38	0.97	3.35	2.34	0.93	3.28
Jehanabad	0.38	0.16	0.53	0.29	0.13	0.43
Arwal	0.17	0.08	0.25	0.18	0.09	0.26
Nawada	0.97	0.33	1.31	1.09	0.43	1.53
Aurangabad	1.24	0.58	1.82	1.18	0.58	1.77
Saran	0.92	0.41	1.33	0.87	0.41	1.29
Siwan	0.63	0.33	0.96	0.63	0.33	0.96
Gopalganj	0.67	0.28	0.96	0.67	0.28	0.96
W. Champaran	1.20	0.37	1.57	1.20	0.37	1.57
E. Champaran	1.35	0.47	1.81	1.35	0.47	1.81
Muzaffarpur	1.65	0.79	2.44	1.65	0.79	2.44
Sitamarhi	0.53	0.18	0.71	0.53	0.18	0.71
Sheohar	0.18	0.05	0.23	0.17	0.04	0.21
Vaishali	1.28	0.36	1.65	1.20	0.68	1.88
Darbhanga	1.14	0.41	1.56	1.17	0.50	1.67
Madhubani	1.23	0.23	1.46	1.21	0.22	1.43
Samastipur	1.32	0.49	1.80	1.32	0.49	1.81
Begusarai	0.91	0.36	1.27	1.00	0.45	1.45
Munger	0.38	0.12	0.51	0.38	0.12	0.51
Sheikhpura	0.17	0.05	0.22	0.22	0.08	0.30
Lakhisarai	0.31	0.13	0.44	0.29	0.14	0.42
Jamui	0.59	0.22	0.81	0.59	0.22	0.81
Khagaria	0.57	0.19	0.76	0.61	0.20	0.81
Bhagalpur	0.54	0.26	0.80	0.54	0.26	0.80
Banka	0.45	0.21	0.66	0.47	0.22	0.69
Saharsa	0.74	0.23	0.97	0.74	0.24	0.98
Supaul	0.71	0.11	0.82	0.71	0.11	0.82
Madhepura	0.58	0.37	0.95	0.58	0.37	0.95
Purnea	0.71	0.35	1.06	0.71	0.35	1.06
Kishanganj	0.18	0.07	0.24	0.19	0.06	0.25
Araria	0.26	0.20	0.46	0.27	0.20	0.47
Katihar	1.05	0.45	1.49	1.09	0.46	1.55
Bihar	30.81	12.39	43.2	30.88	13.06	43.94

Source : Department of Education, GOB

Table A 11.13 : Total Enrolment in Primary and Upper Primary Levels (ST)

(lakh)

District	2015-16			2016-17		
	Primary	Upper Primary	Total	Primary	Upper Primary	Total
Patna	0.04	0.00	0.05	0.04	0.00	0.05
Nalanda	0.01	0.01	0.02	0.01	0.01	0.02
Bhojpur	0.05	0.02	0.06	0.04	0.02	0.06
Buxar	0.02	0.01	0.04	0.02	0.01	0.04
Rohtas	0.04	0.02	0.05	0.04	0.02	0.06
Kaimur	0.12	0.04	0.16	0.11	0.04	0.16
Gaya	0.00	0.00	0.00	0.01	0.00	0.02
Jehanabad	0.00	0.00	0.00	0.00	0.00	0.00
Arwal	0.00	0.00	0.00	0.00	0.00	0.00
Nawada	0.02	0.00	0.02	0.02	0.01	0.03
Aurangabad	0.01	0.00	0.02	0.02	0.01	0.02
Saran	0.10	0.05	0.15	0.10	0.05	0.15
Siwan	0.18	0.09	0.27	0.18	0.09	0.27
Gopalganj	0.16	0.08	0.23	0.16	0.08	0.23
W. Champaran	0.54	0.21	0.76	0.54	0.21	0.76
E. Champaran	0.05	0.01	0.06	0.05	0.01	0.06
Muzaffarpur	0.03	0.01	0.04	0.03	0.01	0.04
Sitamarhi	0.00	0.00	0.00	0.00	0.00	0.00
Sheohar	0.01	0.00	0.02	0.01	0.00	0.02
Vaishali	0.00	0.00	0.00	0.00	0.00	0.00
Darbhanga	0.02	0.01	0.03	0.00	0.00	0.00
Madhubani	0.01	0.00	0.01	0.01	0.00	0.01
Samastipur	0.00	0.00	0.00	0.00	0.00	0.00
Begusarai	0.00	0.00	0.01	0.01	0.00	0.01
Munger	0.06	0.01	0.07	0.06	0.01	0.07
Sheikhpura	0.00	0.00	0.00	0.00	0.00	0.00
Lakhisarai	0.03	0.01	0.04	0.03	0.01	0.04
Jamui	0.22	0.07	0.29	0.22	0.07	0.29
Khagaria	0.01	0.00	0.01	0.01	0.00	0.01
Bhagalpur	0.13	0.06	0.19	0.13	0.06	0.19
Banka	0.19	0.06	0.25	0.15	0.06	0.21
Saharsa	0.03	0.01	0.04	0.03	0.01	0.04
Supaul	0.02	0.00	0.03	0.02	0.00	0.03
Madhepura	0.04	0.04	0.08	0.04	0.04	0.08
Purnea	0.33	0.16	0.49	0.33	0.16	0.49
Kishanganj	0.10	0.06	0.15	0.10	0.05	0.16
Araria	0.19	0.14	0.33	0.19	0.13	0.33
Katihar	0.54	0.18	0.72	0.57	0.19	0.75
Bihar	3.30	1.36	4.69	3.28	1.36	4.70

Source : Department of Education, GOB

Table A 11.14 a : District-wise Number of Primary and Upper Primary Schools in Bihar

District	2015-16			2016-17		
	Primary Schools	Upper Primary Schools	Total	Primary Schools	Upper Primary Schools	Total
Patna	2189	1176	3365	2190	1176	3366
Nalanda	1368	803	2171	1368	803	2171
Bhojpur	1208	840	2048	1210	840	2050
Buxar	772	472	1244	789	512	1301
Rohtas	1324	556	1880	1324	556	1880
Kaimur	614	625	1239	649	625	1274
Gaya	1703	1411	3114	1702	1413	3115
Jehanabad	557	358	915	557	359	916
Arwal	333	193	526	333	193	526
Nawada	996	697	1693	910	698	1608
Aurangabad	961	960	1921	961	960	1921
Saran	1555	1156	2711	1575	1152	2727
Siwan	1300	1130	2430	1311	1188	2499
Gopalganj	1140	811	1951	1140	811	1951
W. Champaran	1694	1092	2786	1694	1092	2786
E. Champaran	1962	1427	3389	2059	1427	3486
Muzaffarpur	1790	1569	3359	1790	1569	3359
Sitamarhi	1204	867	2071	1204	867	2071
Sheohar	233	184	417	233	184	417
Vaishali	1085	951	2036	1087	953	2040
Darbhanga	1512	909	2421	1512	909	2421
Madhubani	1962	1005	2967	1962	1005	2967
Samastipur	1740	1041	2781	1708	1033	2741
Begusarai	851	767	1618	867	952	1819
Munger	639	489	1128	639	489	1128
Sheikhpura	293	287	580	294	287	581
Lakhisarai	486	291	777	486	291	777
Jamui	856	848	1704	856	848	1704
Khagaria	538	515	1053	538	515	1053
Bhagalpur	961	841	1802	961	841	1802
Banka	1228	887	2115	1250	885	2135
Saharsa	767	531	1298	767	531	1298
Supaul	1111	707	1818	1111	713	1824
Madhepura	903	744	1647	959	744	1703
Purnea	1484	958	2442	1484	958	2442
Kishanganj	823	487	1310	823	496	1319
Araria	1327	562	1889	1327	562	1889
Katihar	1195	719	1914	1195	719	1914
Bihar	42664	29866	72530	42825	30156	72981

Source : Department of Education, GOB

Table A 11.14 b : District-wise Number of Primary and Upper Primary Teachers in Bihar (2016-17)

District	Primary Schools	Upper Primary Schools	Total
Patna	9237	11246	20483
Nalanda	4948	9678	14626
Bhojpur	4401	6580	10981
Buxar	3581	3650	7231
Rohtas	3466	2733	6199
Kaimur	2218	4079	6297
Gaya	5856	8346	14202
Jehanabad	1884	3266	5150
Arwal	2313	914	3227
Nawada	7131	6931	14062
Aurangabad	4228	5608	9836
Saran	6019	10061	16080
Siwan	5808	11020	16828
Gopalganj	4391	6810	11201
W. Champaran	5779	7738	13517
E. Champaran	7113	11470	18583
Muzaffarpur	5995	11203	17198
Sitamarhi	3659	7615	11274
Sheohar	654	1644	2298
Vaishali	3870	8328	12198
Darbhanga	5595	7377	12972
Madhubani	6825	7903	14728
Samastipur	5500	7920	13420
Begusarai	11764	2110	13874
Munger	1705	2948	4653
Sheikhpura	699	1565	2264
Lakhisarai	1882	2598	4480
Jamui	5872	2453	8325
Khagaria	1740	4141	5881
Bhagalpur	4460	6371	10831
Banka	2859	4555	7414
Saharsa	2861	5540	8401
Supaul	6688	2013	8701
Madhepura	2602	5731	8333
Purnea	5071	5841	10912
Kishanganj	3763	2521	6284
Araria	7226	2099	9325
Katihar	4519	7717	12236
Bihar	174182	220323	394505

Source : Department of Education, GOB

Table A 11.15 : District-wise Coverage of MDMS (Class I-V)

District	2015-16			2016-17			2017-18		
	Total Enrolment (in lakhs)	No. of Children Availing MDM (per day) (in lakhs)	Coverage (%)	Total Enrolment (in lakhs)	No. of Children Availing MDM (per day) (in lakhs)	Coverage (%)	Total Enrolment (in lakhs)	No. of Children Availing MDM (per day) (in lakhs)	Coverage (%)
Patna	5.28	4.16	78.80	5.25	3.56	67.77	4.71	3.02	64.12
Nalanda	3.55	2.32	65.44	3.44	2.08	60.34	3.05	1.94	63.61
Bhojpur	3.34	2.21	66.25	3.21	2.03	63.09	2.87	1.73	60.28
Buxar	2.39	1.63	68.12	2.20	1.38	62.74	1.81	1.20	66.30
Rohtas	3.67	2.55	69.37	3.54	2.23	62.92	3.23	2.01	62.23
Kaimur	2.31	1.59	68.68	2.11	1.36	64.73	1.80	1.23	68.33
Gaya	5.94	3.89	65.49	5.71	3.42	59.87	5.23	3.04	58.13
Jehanabad	1.51	1.00	65.93	1.24	0.83	67.00	1.19	0.71	59.66
Arwal	0.99	0.65	65.11	0.94	0.57	61.12	0.88	0.50	56.82
Nawada	3.34	2.13	63.96	3.25	1.97	60.63	2.72	1.70	62.50
Aurangabad	3.65	2.34	64.17	3.44	2.17	63.06	3.17	1.98	62.46
Saran	5.37	3.89	72.41	5.22	3.59	68.78	5.02	3.21	63.94
Siwan	3.93	2.83	72.07	3.57	2.44	68.32	3.03	2.05	67.66
Gopalganj	3.45	2.46	71.31	3.36	2.24	66.55	2.82	1.88	66.67
W. Champaran	6.04	4.63	76.74	5.86	4.33	73.90	5.15	3.64	70.68
E. Champaran	7.80	5.38	68.98	7.72	5.03	65.18	7.27	4.69	64.51
Muzaffarpur	6.39	4.35	68.02	6.10	3.94	64.52	5.43	3.48	64.09
Sitamarhi	5.44	4.02	74.00	5.56	3.48	62.51	5.14	3.00	58.37
Sheohar	0.99	0.76	76.33	1.11	0.73	65.46	1.09	0.69	63.30
Vaishali	4.21	2.47	58.51	4.11	2.29	55.63	3.63	2.05	56.47
Darbhanga	5.15	3.74	72.77	5.12	3.38	66.01	4.74	3.10	65.40
Madhubani	6.47	4.78	73.90	6.77	4.51	66.68	6.43	4.02	62.52
Samastipur	5.68	3.92	69.06	5.46	3.49	63.82	4.68	3.02	64.53
Begusarai	4.07	3.02	74.11	3.94	2.65	67.19	3.21	2.21	68.85
Munger	1.77	1.14	64.55	1.71	1.04	60.85	1.47	0.92	62.59
Sheikhpura	0.97	0.67	69.12	0.92	0.54	58.03	0.74	0.47	63.51
Lakhisarai	1.50	1.10	73.60	1.51	0.98	64.95	1.28	0.83	64.84
Jamui	2.99	2.06	69.11	2.92	1.85	63.38	2.61	1.67	63.98
Khagaria	2.59	1.88	72.55	2.65	1.60	60.45	2.31	1.47	63.64
Bhagalpur	3.99	2.88	72.29	4.02	2.50	62.31	3.56	2.27	63.76
Banka	2.76	1.86	67.55	2.69	1.65	61.28	2.28	1.48	64.91
Saharsa	3.21	2.05	63.84	3.23	1.92	59.42	2.84	1.68	59.15
Supaul	3.25	2.15	66.08	3.26	2.01	61.74	2.93	1.80	61.43
Madhepura	3.40	2.14	63.06	3.29	1.94	59.08	2.76	1.74	63.04
Purnea	5.19	3.19	61.39	5.30	2.91	54.87	4.70	2.74	58.30
Kishanganj	2.97	1.82	61.46	2.81	1.76	62.45	2.39	1.48	61.92
Araria	4.38	2.72	61.96	4.44	2.54	57.29	3.94	2.32	58.88
Katihar	4.77	2.89	60.67	4.74	2.79	58.91	4.45	2.58	57.98
Bihar	144.68	99.28	68.62	141.70	89.70	63.30	126.59	79.55	62.86

Source : Directorate of Mid- Day Meal Scheme, GOB

Table A 11.16 : District-wise Coverage of MDMS (Class VI-VIII)

District	2015-16			2016-17			2017-18		
	Total Enrolment (in lakhs)	No. of Children Availing MDM (per day) (in lakhs)	Coverage (%)	Total Enrolment (in lakhs)	No. of Children Availing MDM (per day) (in lakhs)	Coverage (%)	Total Enrolment (in lakhs)	No. of Children Availing MDM (per day) (in lakhs)	Coverage (%)
Patna	2.38	1.79	75.27	2.63	1.57	59.81	2.50	1.45	58.0
Nalanda	1.56	1.06	68.38	1.61	0.98	60.76	1.52	0.93	61.2
Bhojpur	1.62	0.99	61.28	1.71	0.95	55.28	1.63	0.87	53.4
Buxar	1.24	0.76	61.31	1.19	0.70	58.50	1.07	0.65	60.7
Rohtas	1.96	1.21	61.46	1.99	1.12	56.53	1.91	1.09	57.1
Kaimur	1.18	0.74	62.21	1.21	0.69	57.41	1.10	0.68	61.8
Gaya	2.46	1.46	59.34	2.56	1.35	52.95	2.45	1.26	51.4
Jehanabad	0.72	0.46	63.47	0.69	0.38	55.78	0.67	0.34	50.7
Arwal	0.54	0.29	52.60	0.56	0.27	48.13	0.53	0.24	45.3
Nawada	1.35	0.79	58.74	1.48	0.77	52.02	1.37	0.79	57.7
Aurangabad	1.72	1.15	66.88	1.85	1.12	60.23	1.84	1.13	61.4
Saran	2.56	1.76	68.57	2.74	1.73	63.15	2.73	1.71	62.6
Siwan	2.00	1.42	71.30	2.03	1.26	61.78	1.85	1.17	63.2
Gopalganj	1.66	1.12	67.45	1.66	1.03	62.31	1.49	0.95	63.8
W. Champaran	2.04	1.42	69.49	2.13	1.42	66.89	2.05	1.30	63.4
E. Champaran	3.17	2.09	65.98	3.30	2.04	61.70	3.36	2.01	59.8
Muzaffarpur	3.08	1.90	61.57	3.15	1.85	58.76	3.00	1.74	58.0
Sitamarhi	1.97	1.46	74.07	2.39	1.40	58.76	2.40	1.41	58.8
Sheohar	0.32	0.27	85.99	0.44	0.30	67.35	0.47	0.31	66.0
Vaishali	2.08	1.16	55.74	2.13	1.09	51.28	2.02	1.06	52.5
Darbhanga	2.03	1.32	65.04	2.27	1.37	60.28	2.31	1.40	60.6
Madhubani	2.94	2.02	68.79	3.30	1.99	60.22	3.23	1.82	56.3
Samastipur	2.79	1.69	60.56	2.85	1.60	56.00	2.69	1.48	55.0
Begusarai	1.93	1.30	67.32	2.04	1.22	59.90	1.74	1.14	65.5
Munger	0.88	0.52	59.11	0.89	0.50	56.16	0.82	0.48	58.5
Sheikhpura	0.42	0.25	61.18	0.44	0.22	49.20	0.39	0.25	64.1
Lakhisarai	0.66	0.41	62.85	0.69	0.39	55.81	0.65	0.35	53.8
Jamui	1.08	0.74	68.32	1.19	0.70	59.14	1.20	0.72	60.0
Khagaria	1.09	0.73	67.01	1.19	0.62	51.96	1.04	0.59	56.7
Bhagalpur	1.76	1.29	73.37	1.94	1.13	57.90	1.81	1.10	60.8
Banka	1.22	0.77	63.28	1.30	0.72	55.85	1.20	0.72	60.0
Saharsa	1.23	0.67	54.35	1.27	0.63	49.56	1.13	0.65	57.5
Supaul	1.42	0.79	55.42	1.43	0.71	49.82	1.31	0.69	52.7
Madhepura	1.45	0.90	62.01	1.57	0.81	51.58	1.23	0.70	56.9
Purnea	1.77	0.98	55.23	1.97	0.95	48.28	1.85	0.92	49.7
Kishanganj	0.97	0.57	58.56	1.06	0.56	52.99	1.05	0.55	52.4
Araria	1.42	0.75	52.60	1.44	0.68	47.18	1.31	0.66	50.4
Katihar	1.99	1.02	51.55	2.01	0.99	49.56	1.93	0.96	49.7
Bihar	62.67	40	63.87	66.27	37.80	57.04	62.84	36.24	57.7

Source : Directorate of Mid Day Meal Scheme, GOB

Table A 11.17 : District-wise Number of Colleges in Bihar

District	Affiliated	Constituent	Affiliated	Constituent	Affiliated	Constituent	Affiliated	Constituent
	2014-15		2015-16		2016-17		2017-18	
Patna	72	39	84	37	86	37	70	38
Nalanda	23	6	25	6	26	6	24	6
Bhojpur	21	6	21	6	21	6	22	6
Buxar	11	5	12	5	14	5	14	5
Rohtas	29	8	29	8	32	8	34	8
Kaimur	8	2	13	2	15	2	15	2
Gaya	25	7	28	7	27	7	32	7
Jehanabad	7	3	7	3	7	3	9	3
Arwal	3	1	3	1	3	1	3	1
Nawada	5	4	6	4	6	4	9	4
Aurangabad	9	5	13	5	13	5	10	5
Saran	6	12	9	12	9	12	13	12
Siwan	6	7	7	7	7	7	13	7
Gopalganj	1	5	3	5	4	5	7	5
W. Champaran	8	4	8	3	8	3	7	3
E. Champaran	2	7	2	8	3	8	5	8
Muzaffarpur	13	19	13	19	13	19	18	19
Sitamarhi	5	6	5	6	5	6	8	6
Sheohar	0	0	0	0	0	0	0	0
Vaishali	12	7	12	7	12	7	17	7
Darbhanga	27	22	28	22	27	22	28	22
Madhubani	19	18	20	18	19	18	20	18
Samastipur	15	15	18	15	18	15	19	15
Begusarai	6	6	7	6	8	6	10	6
Munger	2	7	2	7	2	7	2	7
Sheikhpura	3	2	3	2	3	2	2	2
Lakhisarai	3	2	3	2	3	2	0	2
Jamui	3	2	4	2	3	2	2	2
Khagaria	1	5	1	5	1	5	3	5
Bhagalpur	13	13	13	13	13	13	13	13
Banka	9	2	11	2	11	2	11	2
Saharsa	5	9	7	9	6	9	6	9
Supaul	4	3	5	3	5	3	6	3
Madhepura	8	5	10	5	11	5	10	5
Purnea	10	6	12	6	12	6	11	6
Kishanganj	5	2	6	2	6	2	5	2
Araria	8	2	8	2	8	2	7	2
Katihar	9	4	10	4	11	4	11	4
Bihar	416	278	468	276	478	276	496	277

Note : The number relates to Reporting Colleges.

Source : Department of Education, GOB

Table A 11.18 : District-wise and Stream-wise Number of Colleges in Bihar up to 2017-18

District	Arts, Fine Arts, Social Work, Science & Commerce	Engineering	Medical (including Dental)	B.Ed.	Law	Others	All Colleges
Patna	58	4	5	25	3	13	108
Nalanda	17	2	1	10	0	0	30
Bhojpur	11	0	0	6	1	10	28
Buxar	10	1	0	2	1	5	19
Rohtas	32	0	1	4	1	4	42
Kaimur	6	0	0	3	0	8	17
Gaya	21	2	1	15	0	0	39
Jehanabad	9	0	0	3	0	0	12
Arwal	4	0	0	0	0	0	4
Nawada	9	0	0	1	1	2	13
Aurangabad	9	1	0	5	0	0	15
Saran	15	1	0	4	0	5	25
Siwan	10	1	0	2	0	7	20
Gopalganj	5	0	0	0	0	7	12
W. Champaran	7	0	1	1	0	1	10
E. Champaran	8	1	0	1	0	3	13
Muzaffarpur	18	1	1	5	1	11	37
Sitamarhi	9	1	0	2	0	2	14
Sheohar	0	0	0	0	0	0	0
Vaishali	8	1	0	7	0	8	24
Darbhanga	19	2	4	5	1	19	50
Madhubani	17	0	0	5	0	16	38
Samastipur	13	1	0	5	1	14	34
Begusarai	6	0	0	4	1	5	16
Munger	7	0	0	0	1	1	9
Sheikhpura	3	0	0	1	0	0	4
Lakhisarai	2	0	0	0	0	0	2
Jamui	3	0	0	1	0	0	4
Khagaria	4	0	0	1	0	3	8
Bhagalpur	15	2	1	5	1	2	26
Banka	6	1	0	3	0	3	13
Saharsa	7	0	1	2	1	4	15
Supaul	6	0	0	1	0	2	9
Madhepura	11	0	0	1	1	2	15
Purnea	8	2	0	2	1	4	17
Kishanganj	4	2	1	0	0	0	7
Araria	8	1	0	0	0	0	9
Katihar	9	1	1	2	1	1	15
Bihar	414	28	18	134	17	162	773

Source : Department of Education, GOB

Table A 11.19 : District Level Overview of SC/ST Welfare

Stipend given to SC & ST										
District	Financial Allotment (Rs. lakh)					Physical Achievement (Numbers)				
	2013-14	2014-15	2015-16	2016-17	2017-18	2013-14	2014-15	2015-16	2016-17	2017-18
Patna	4532.66	4040.18	6288.53	5606.15	498.00	148862	182127	353112	161934	2232
Nalanda	2389.27	1393.52	3867.64	2454.71	110.00	116774	96390	241639	119182	3510
Bhojpur	1641.32	1400.76	2329.21	2056.51	322.00	99951	115836	138589	80336	2284
Buxar	1627.11	1532.28	3517.47	2530.08	72.00	64099	70768	104548	60321	510
Rohtas	2178.79	1595.22	2789.25	2042.85	148.75	107420	105921	176389	135015	3655
Kaimur	1887.87	1480.98	3458.58	2364.90	143.5	101664	137744	134154	64970	4756
Gaya	5322.76	5284.95	7383.64	6077.97	513.00	272195	297678	298406	218571	7527
Jehanabad	1083.65	902.63	1242.55	1031.15	120.00	47356	49412	86580	31681	1071
Arwal	407.21	385.22	676.90	540.77	100.00	31648	32749	44447	27779	803
Nawada	2339.27	1899.83	3088.79	2204.39	167.00	147041	171139	182358	117656	2296
Aurangabad	3710.27	2866.03	4119.38	2431.86	132.00	278442	188192	343595	11875	3922
Saran	2467.65	2412.18	3134.95	2146.85	283.00	149887	150120	169811	131618	2428
Siwan	1889.68	1496.44	2846.95	1852.09	262.00	82920	98517	131152	86307	970
Gopalganj	1606.80	1332.89	2318.68	1616.01	152.00	140309	83281	139879	75848	397
W.Champaran	2258.56	2337.36	4148.48	3115.43	245.00	190880	194422	352634	144010	1080
E.Champaran	1391.37	1541.70	3707.72	2151.82	130.00	99675	126757	200179	155941	1839
Muzaffarpur	2579.10	2328.77	3236.49	2405.99	506.00	146146	162902	228635	159647	2395
Sitamarhi	1313.85	913.81	1762.81	1433.31	100.00	101304	88994	118889	97182	2184
Sheohar	223.7	221.75	483.34	361.25	20.00	22308	21159	33184	26708	259
Vaishali	1734.01	1663.48	3128.83	2054.08	350.00	127227	127518	214769	136112	614
Darbhangha	1816.37	1692.10	2861.23	2388.83	130.00	128519	147633	193989	123727	4950
Madhubani	1714.09	1639.36	3630.77	2491.97	402.00	138976	137860	347358	180184	4020
Samastipur	1844.19	1299.34	3394.39	1963.26	185.00	137162	94595	266856	140842	3148
Begusarai	1232.65	911.11	2395.85	1721.89	120.00	89955	77833	165596	103188	4064
Munger	1023.41	819.35	1123.49	1068.54	71.00	44717	47654	58647	39984	697
Sheikhpura	508.78	430.53	701.17	723.45	60.00	24901	29088	42305	15916	770
Lakhisarai	589.84	491.24	1008.60	884.49	69.00	42094	42650	62989	28176	514
Jamui	896.71	933.19	1825.73	1510.17	112.00	76960	71190	165183	75500	583
Khagaria	608.49	584.86	1093.15	940.90	75.00	38889	56261	56225	36518	462
Bhagalpur	1781.79	2048.21	3923.21	3093.34	206.00	86185	123368	205590	82176	1205
Banka	969.898	1095.69	2661.83	1816.58	97.00	63146	59010	89360	57199	663
Saharsa	664.61	599.09	1615.90	1203.22	83.00	62826	56603	119942	62555	539
Supaul	989.74	882.20	1851.84	1491.34	52.00	69038	66261	103911	64137	282
Madhepura	1009.12	692.12	1255.75	771.80	154.0	65158	41371	68625	40097	287
Purnea	1355.04	1490.53	2851.83	2140.30	190.00	93659	95158	273269	114546	908
kishanganj	388.93	663.51	769.12	701.66	72.00	25069	34716	74782	27124	177
Araria	617.89	478.42	1586.47	1133.88	72.00	55376	44241	90281	30892	357
Katihar	945.46	905.04	1667.43	1357.21	129.00	72874	61559	149772	42392	1173
H.Q	103.43	6871.81				142	17149			
Bihar	61645.34	61557.68	99747.95	73881.00	6653.25	3791754	3805826	6227629	3307864	69831

Note : Only Post Matric Scholarship data given during 2017-18.

Source : Department of SC/ST Welfare, GOB

(Contd...)

Table A 11.19 : District Level Overview of SC/ST Welfare (Contd.)

District	Maintenance of Residential School (SC)						Hostel Maintenance (SC)		
	Financial Allotment (Rs. lakh)			Physical Achievement (Numbers)			Amount Allotted (Rs. lakh)		
	2015-16	2016-17	2017-18	2015-16	2016-17	2017-18	2015-16	2016-17	2017-18
Patna	455.21	455.11	458.31	616	616	570	142.57	91.34	72.54
Nalanda	348.31	349.20	345.65	788	796	796	16.22	14.70	25.65
Bhojpur	401.45	390.61	337.88	777	772	689	35.46	28.28	34.50
Buxar	248.63	202.08	164.28	356	316	318	18.73	11.26	9.38
Rohtas	326.11	363.00	307.69	781	774	783	33.88	50.58	33.14
Kaimur	374.61	341.12	299.87	534	570	570	30.50	65.25	27.64
Gaya	1334.55	1315.60	1395.22	3207	3103	3206	26.91	36.58	24.55
Jehanabad	170.01	181.69	139.43	449	449	325	10.72	11.25	8.57
Arwal	114.92	144.84	152.61	366	366	347	0.00	0.00	0.00
Nawada	449.97	446.56	447.23	985	1000	1000	22.13	23.44	13.77
Aurangabad	91.00	145.43	168.96	292	318	367	7.26	11.25	8.57
Saran	183.01	168.51	135.10	390	287	276	18.93	18.12	37.91
Siwan	114.42	129.33	115.87	228	210	248	30.56	46.20	44.73
Gopalganj	219.11	167.55	177.26	339	348	382	19.53	30.31	26.18
W. Champaran	274.36	304.10	337.74	592	651	646	22.02	44.40	27.15
E. Champaran	124.66	162.06	132.37	313	324	335	34.86	35.75	28.08
Muzaffarpur	474.41	530.49	791.10	1062	1046	1146	37.41	44.99	55.43
Sitamarhi	166.72	153.06	259.02	400	400	400	30.45	38.14	28.30
Sheohar	75.61	131.35	194.96	76	200	266	6.59	4.38	2.60
Vaishali	252.69	195.81	144.76	375	344	288	13.21	6.88	8.32
Darbhanga	100.34	130.27	131.96	118	259	281	41.56	59.49	32.43
Madhubani	482.94	490.65	473.21	1020	1032	1032	13.51	11.28	8.57
Samastipur	288.31	299.93	227.91	684	684	751	17.91	27.82	19.35
Begusarai	196.33	153.88	161.48	337	337	364	2.23	4.38	2.60
Munger	119.58	148.54	199.51	319	319	320	14.74	23.50	15.67
Sheikhpura	89.42	118.41	116.49	237	237	214	1.60	4.38	2.60
Lakhisarai	119.42	79.54	131.37	210	217	305	6.90	7.81	5.58
Jamui	84.42	147.54	176.08	254	254	219	1.60	4.38	2.60
Khagaria	160.47	170.32	169.76	369	357	365	15.15	14.70	19.72
Bhagalpur	217.69	248.01	155.83	355	353	345	45.54	45.17	45.68
Banka	82.34	132.33	117.14	226	219	222	17.83	7.86	8.57
Saharsa	191.40	202.65	186.62	378	378	378	37.76	16.96	20.92
Supaul	86.50	129.33	113.96	138	138	138	13.87	23.51	17.14
Madhepura	160.36	127.27	128.95	236	284	309	23.43	20.05	16.15
Purnea	176.88	214.73	200.33	395	395	392	40.84	36.89	24.94
Kishanganj	196.58	165.02	153.57	347	350	361	5.22	7.81	5.58
Araria	183.11	167.55	245.36	311	311	370	18.37	24.94	24.73
Katihar	132.58	150.55	179.73	378	354	392	25.23	30.37	17.18
Bihar	9268.43	9554.02	9744.57	19238	19368	19716	901.23	984.39	807.02

Source : Department of SC/ST Welfare, GOB

(Concluded)

CHAPTER - XII

CHILD DEVELOPMENT

All children deserve equal opportunities to develop to their fullest potential. However, a number of children remain deprived of their basic needs and are denied their rights due to various social and economic factors. The United Nations Convention on the Rights of the Child (UNCRC) defines the fundamental human rights of children along four dimensions that together cover their civil, political, social, economic and cultural rights. These dimensions are right to — survival, protection, development and participation. Towards promoting child development, the state government has been preparing a separate child budget since 2013-14. In 2018-19, a sum of Rs. 23401.87 crore has been earmarked for child budget which is around 13.2 percent of the total state budget. According to the National Policy for Children, 2013, every person below 18 years of age is considered as a child and childhood is an integral part of life with a value of its own. For this stage of life, a long term, sustainable, multispectral, integrated and inclusive approach is necessary for harmonious development. In this background, this chapter broadly focuses on the demographic, health, nutrition and education status of children in Bihar. Simultaneously, the Chapter also presents the details of the initiatives taken by the central and state governments for the welfare of children.

12.1 Demographic Status

The child population encompasses the population in the age group of 0-18 years which is a delicate segment of the population. India is the second most populous country in the world, where 39 percent of its population lie in the age bracket of 0-18 years as per Census 2011. As for Bihar, 48 percent of the population lie in the age group of 0-18 years. The state accounts for 11 percent of India's total child population. The state is home to 4.98 crore children, of which 4.47 crore (89.9 percent) reside in rural areas and 0.50 crore (10.1 percent) live in urban areas. As per gender details, 2.35 crore are female and 2.62 crore are male in the age bracket of 0-18 years. The distribution of the child population across different age-groups are — 0-6 years (38.4 percent), 7-14 years (45.4 percent) and 15-18 years (16.2 percent). The distribution pattern in different districts of Bihar is presented in Table A12.1 (Statistical Appendix).

Between 2001 and 2011, the child population in Bihar has increased by 20.3 percent, from 4.14 crore in 2001 to 4.98 crore in 2011. The share of male in total child population between 2001 and 2011 has decreased by 0.4 percentage point; whereas that of female population has increased by the same amount. This finding reflects an improvement in the sex ratio among child population. This is partly due to the efforts of the state government for gender equality. The details could be seen in Table 12.1.

Table 12.1 : Demographic Profile of Child (0-18 years) in Bihar and India

(Figures in crore)

State/India	2001			2011		
	Male	Female	Total	Male	Female	Total
Bihar	2.20	1.94	4.14	2.62	2.35	4.98
India	23.65	21.40	45.05	24.75	22.46	47.21
State/India	Rural	Urban	Total	Rural	Urban	Total
Bihar	3.73	0.41	4.14	4.47	0.51	4.98
India	33.73	11.32	45.05	34.36	12.85	47.21

Source : Census 2001 and 2011

Child Sex Ratio

The child sex ratio in the age group of 0-6 years for the state as a whole declined from 942 females per 1000 males in 2001 to 935 females per 1000 males in 2011. Among the districts, Kishanganj (971), Katihar (961) and Gaya (960) have the highest child sex ratio in the age group of 0-6 years. At the other end, Vaishali (904), Patna (909) and Muzaffarpur (915) are seen to have the lowest child sex ratio. The child sex ratio among the Scheduled Castes (962) and Scheduled Tribes (969) are higher than the state average (935). As a matter of fact, child sex ratio of SC/ST is higher than the state figure in all districts of Bihar. It is noteworthy that the child sex ratio in the age group of 0-18 years has increased from 883 females per 1000 males in 2001 to 897 females per 1000 males in 2011. From the districtwise figures in Statistical Appendix (Table A12.2), one could notice that the child sex ratio for 0-18 years as per 2011 census was above the state average in 20 districts. Out of all, three districts with the highest sex ratio are Gopalganj (959), Kishanganj (958) and Siwan (946). At the other end, Munger and Khagaria (861) and Vaishali (865) are districts with the lowest sex ratios. For SC and ST, the child sex ratios in the age-group 0-18 years were 899 and 929 females per 1000 males respectively. At all India level, the sex ratio in the age group 0-6 years is 918 and even lower at 908 in the age group of 0-18 years as per 2011 census.

12.2 Allocation for Children

As a supreme national asset, children deserve the best in investment for their survival, development, security and dignity. What is done for them today will determine their status in future. In this perspective, the child budget work in India began in 2000 with the Centre for Child Rights doing an analysis of the decadal Union Budget from a child perspective. But since India is a large country, such child budget exercises would remain incomplete without undertaking child budget analysis at the state level. Following the Report of the Centre for Child Rights, the central government undertook child budget analysis for the first time in 2003. In 2005, the central government had announced that it would be regularly undertaking child budget work at the centre as well as states, just as it would undertake gender budgeting. Presently, three states preparing a separate child budget are Assam, Kerala and Bihar.

In Bihar, the process of child budgeting started in 2013-14. The child budget includes all financial details of the schemes which are related to child welfare. These allocations mainly relate to education and health schemes, special schemes for girls, and child security. Table 12.2 shows that there has been a steady increase in child budget allocation in Bihar, during the last 5 years. Between 2013-14 and 2017-18, the overall allocation for children has increased at an annual rate of 21.5 percent. Similarly, the expenditure has also grown at the rate of 29.0 percent, which is even higher than allocation and it is indeed praiseworthy. The expenditure percentages in these five years have been above 70 percent and were remarkably high at 109.8 percent in 2016-17. In the same period, the per capita expenditure increased 2.6 times from Rs. 1225 to Rs. 3151. The share of expenditure on child development in the total state budget lies at around 12 percent, with some year-to-year variation. Likewise, the share of expenditure as percentage of GSDP is around 3 percent.

Table 12.2 : Overview of Child Budget

Year	Child Budget (Rs. crore)		Percentage Expenditure	Per-Capita Expenditure (Rs)	Share of Child Budget in	
	Allocation	Expenditure			State Budget	GSDP
2013-14	7178.47	6329.66	88.2	1225	7.9	2.0
2014-15	14224.58	10020.60	70.4	1904	10.6	2.9
2015-16	15967.58	14950.63	93.6	2788	13.3	4.0
2016-17	15149.48	16638.47	109.8	3046	13.2	3.9
2017-18	18420.31	17530.24	95.2	3151	12.8	3.6
CAGR	21.5	29.0	-	-	-	-

Note : For PCE, estimated population has been used based on 2001 and 2011 interpolation

Source : Child Budget, Department of Finance, GoB

Chart 12.1 : Share of Child Budget in State Budget and GSDP (percent)

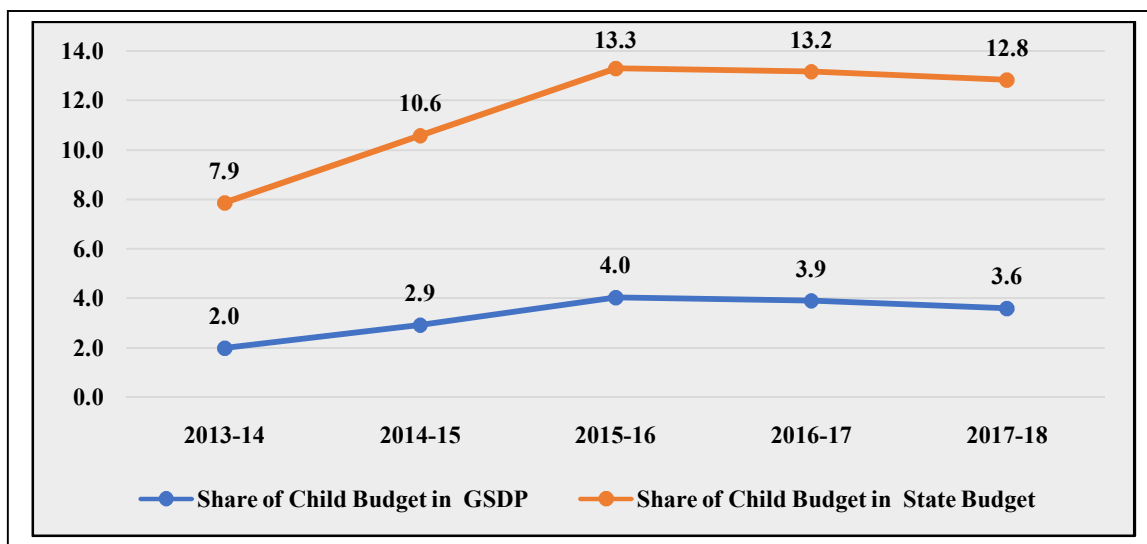


Table 12.3 presents the expenditure details of the departments who are implementing programmes for the wellbeing of children. From the table, it emerges that, in the last five years, major contributors for child welfare in the state were Education and Social Welfare Departments. In 2017-18, as well major expenditure for child welfare was borne by Education Department (69 percent), followed by Social Welfare Department (13 percent). As regards other departments, the expenditure on child welfare ranged between 3 to 8 percent for health, BC/EBC welfare and SC/ST welfare. However, the expenditure on child welfare programmes by rest of the departments is meagre amounts and these departments need more attention.

Table 12.3 : Department-wise Expenditure on Child Budget

Departments	Actual Expenditure (in Rs. crore)				
	2013-14	2014-15	2015-16	2016-17	2017-18
Art, Culture and Youth	2.95 (0.05)	1.46 (0.01)	5.40 (0.04)	9.31 (0.06)	13.05 (0.07)
BC and EBC Welfare	1191.15 (18.82)	1167.48 (11.65)	2234.76 (14.95)	1440.25 (8.66)	1166.13 (6.65)
Education	3068.07 (48.47)	5943.21 (59.31)	9299.24 (62.2)	10091.94 (60.65)	12093.01 (68.98)
Social Welfare	1475.29 (23.31)	1509.2 (15.06)	1935.30 (12.94)	1886.59 (11.34)	2192.58 (12.51)
Labour Resource	1.09 (0.02)	1.06 (0.01)	1.77 (0.01)	0.88 (0.01)	1.78 (0.01)
SC/ST Welfare	588.04 (9.29)	610.55 (6.09)	1136.41 (7.6)	1870.97 (11.24)	599.09 (3.42)
Health	-	755.36 (7.54)	329.31 (2.2)	1218.91 (7.33)	1418.52 (8.09)
Minority Welfare	3.08 (0.05)	32.29 (0.32)	8.44 (0.06)	119.62 (0.72)	46.09 (0.26)
Total	6329.66 (100.00)	10020.6 (100.00)	14950.63 (100.00)	16638.47 (100.00)	17530.24 (100.00)

Note : Figures in parentheses denote percentage
Source : Child Budget, Department of Finance, GoB

12.3 Health and Nutritional Status

Child health is basic for enhancing future capabilities of a growing nation. It is a great social responsibility in which the state has to play a critical role. Being healthy is clearly one of the most important objectives of human beings. The indicators pertinent to evaluate the health status of children below five years are — Infant Mortality Rate (IMR), Under Five Mortality Rate (U5MR), Neo-Natal Mortality Rate (NMR), Peri-Natal Mortality Rate (PMR), and Immunisation. These indicators have already been analysed in Chapter 11 on Human Development. Along with these, other parameters to assess the health and nutrition of a child are — children under 5 years of age who are stunted (height-for-age), wasted (weight-for-height) and underweight (weight-for-age).

Proper nutrition is essential for children for their survival and development from the earliest stages of foetal development. Under-nutrition affects human life and is particularly harmful in the early stages of life. In this perspective, there is a growing recognition that supporting children in their early years is essential for their future development. To address these issues, the present section deals with nutritional issues in children.

Stunting (height-for-age)

The height-for-age is a measure of linear growth and cumulative growth deficits. In Bihar, NFHS-4 (2015-16) estimates that 48 percent of children under 5 years are stunted (too short for their age), which signifies chronic under-nutrition (Table 12.4). The prevalence of stunting has decreased from 56 percent in 2005-06 to 48 percent in 2015-16. The stunting is observed to be 9.5 percentage points higher among children in rural areas (49.3 percent) than in urban areas (39.8 percent). For the country as a whole, the decline in stunting between 2005-06 and 2015-16 was of 9.6 percentage points. Among the districts of Bihar, the prevalence of stunting is the highest in Sitamarhi (57.3 percent) and Nalanda (54.1 percent), and the lowest in Gopalganj (35.6 percent) and Siwan (37.9 percent).

Wasting (weight-for-height)

The weight-for-height index measures the adequacy of body mass in relation to body height and describes current nutritional status. Wasting may result from inadequate food intake or from a recent episode of illness causing weight loss. As per NFHS-4 survey (2015-16), 20.8 percent of children under 5 years of age in the state are wasted (too thin for their height), which signify acute under-nutrition. The prevalence of wasting has registered a decrease of 6.3 percentage points between 2005-06 (27.1 percent) and 2015-16 (20.8 percent). Unlike stunting, wasting is

recorded more in urban areas (21.3 percent) than in the rural areas (20.8 percent). Unfortunately, for India also, there is an increase of 1.2 percentage points in the prevalence of wasting between 2005-06 and 2015-16 (Table 12.4). Among the districts, Arwal (30.7 percent), Jamui (29.4 percent) and Sheikhpura (28.9 percent) are worst performing districts. Contrary to this, Sheohar (14.8 percent), Siwan (15.0 percent) and Vaishali (15.1 percent) record the lowest level of wasting.

Underweight (weight-for-age)

The weight-for-age is a composite index of height-for-age and weight-for-height. It takes into account both acute and chronic under-nutrition. NFHS-4 results reveal that 43.9 percent of children under 5 years are underweight in Bihar. Between 2005-06 and 2015-16, there is a decrease of 12 percentage points, which is really creditable. During this period, the percentage of underweight children under the age of 5 was reduced from 55.9 percent to 43.9 percent. It is also found that there is a difference of 7.1 percentage points between rural and urban areas, standing at 44.6 percent and 37.5 percent respectively. For all India, the prevalence of underweight was reduced by 6.8 percentage points between 2005-06 (42.5 percent) and 2015-16 (35.7 percent) (Table 12.4). Among the 38 districts, Arwal records the highest number of underweight children at 54.0 percent, followed by Gaya (53.1 percent) and Sheikhpura (51.7 percent). Opposite to this, Gopalganj (30.5 percent), Siwan (31.6 percent) and West Champaran/ Begusarai (39.1 percent) were districts with the lowest ratio of underweight children. The districtwise details of Stunted, Wasted and Underweight children are given in Statistical Appendix (Table A12.3).

Table 12.4 : Percentage of Children suffering from malnutrition in Bihar and India

Bihar/India	Stunted	Wasted	Underweight
2015-16			
Bihar	48.3	20.8	43.9
India	38.4	21.0	35.7
2005-06			
Bihar	55.6	27.1	55.9
India	48.0	19.8	42.5

Source : NFHS 3 and 4,GoI

The children in the age bracket of 0-6 years constitute around 191.3 lakh of the population of Bihar. As children constitute the demographic dividend of any state, the centre as well as the state is administering different development schemes for promotion of children. The details of the child related programmes are discussed below.

Integrated Child Development Services (ICDS)

The ICDS is one of the flagship schemes of the central government, launched on October 2, 1975, as a corrective intervention for young children in the age group 0-6 years, and expectant or nursing mothers. It aims at long term improvement in childcare, their early stimulation and learning, health and nutrition. The ICDS scheme was initially launched in pursuance of the National Policy for Children in 33 experimental blocks in the country, of which 3 blocks were in Bihar. The ICDS provides a package of six services which are — supplementary nutrition, non-formal pre-school education (for children between the age of 3-6 years), immunization, health check-up, referral services, and nutrition and health education for mothers. The target group of ICDS is reached through Anganwadi Centers (AWC). The personnel for ICDS include Child Development Project Officer (CDPO), Lady Supervisor (LS), Anganwadi Worker (AWW) and Anganwadi Helper (AWH). The principal beneficiaries of the scheme are children in the age group of 6 months to 6 years. Along with this, pregnant women, lactating women, nursing child (upto 6 months) and adolescent girls (11-14 years) who are not going to school are also benefitted through this scheme.

Currently, ICDS is running through 544 project offices in all 38 districts of Bihar. There are altogether 1,14,718 AWCs sanctioned. Till 2016-17, 91,677 of these AWCs were operational. The Directorate of ICDS has started operationalizing 23,041 more newly sanctioned AWCs from 2017-18. These 23,041 AWCs were sanctioned for Bihar by the Union Ministry of Women and Child Development (MWCD) in 2015-16. The process of implementation of these newly sanctioned centers has been initiated, based on demand raised by CDPOs. Till date, all 544 ICDS projects have been running through 1,07,603 AWCs and additional AWCs, and 7115 Mini AWCs.

As ICDS is mainly a service-based programme, its staffing is extremely crucial for its success. Compared to 2016-17, there has been an increase in the number of LS, AWWs and AWHs in 2017-18; but the number of CDPOs and AWH have remained unchanged. According to Table 12.5, the vacancy ratios in 2017-18 are — CDPO (18.8 percent), LS (44.2 percent), AWW (23.9 percent) and AWH (25.3 percent).

Table 12.5 : Staffing Position in ICDS

Year	Posts	CDPO	Lady Supervisor	Anganwadi Worker	Anganwadi Helper
No. of Sanctioned Posts		544	3288	91677	86237
2013-14	Working	504	2859	82177	78076
	Percentage of Vacant Post	7.4	13.0	10.4	9.5
2014-15	Working	458	2499	85936	80176
	Percentage of Vacant Post	15.8	24.0	6.3	7.0
2015-16	Working	458	2499	85944	80178
	Percentage of Vacant Post	15.8	24.0	6.25	7.1
2016-17	Working	442	2427	86800	80373
	Percentage of Vacant Post	18.8	26.2	5.3	6.8
2017-18	Working	442	4210	114718	107603
	Percentage of Vacant Post	18.8	44.2	23.9	25.3

Source : Directorate of ICDS, GOB

In 2017-18, the fund released by the central government was more than 100 percent of the budgetary amount, which is higher than in the previous years. It is commendable that, in all these years, more than 85 percent of the fund released has been utilized, which clearly indicates to the efficient management of funds by the state government. The financial details regarding fund release of ICDS in the five successive years are given in Table 12.6.

Table 12.6 : Resource Utilisation in ICDS

Year	Budget for ICDS Bihar (Rs crore)	Funds Released by GOI (Rs crore)	Expenditure (Rs crore)	Fund Released as Percentage of Budget	Expenditure as Percentage of Fund Released
2013-14	1714.3	1153.5	1310.1	67.3	113.6
2014-15	2238.3	1281.5	1236.4	57.3	96.5
2015-16	1409.7	1062.2	983.4	75.3	92.6
2016-17	1494.1	987.3	893.5	66.1	90.5
2017-18	988.7	1075.2	940.4	108.7	87.5

Source : Directorate of ICDS, GOB

Scheme for Adolescent Girls (SAG)

Adolescence is a critical period for physical and psychological development of young girls. During this period, nutritional problems, originating from eating and life style behaviours, may lead to chronic diseases in womanhood and prevalence of malnutrition in future generation. Addressing the health needs of adolescent girls not only leads to a healthier and more productive

women force, it also helps break the intergenerational cycle of malnutrition. The health challenges for adolescent girls include pregnancy, risk of maternal mortality, infant mortality, sexually transmitted diseases, reproductive tract infection, incidence of HIV, etc., and all these require improved health care facilities for them. To meet the requirement of adolescent girls, Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG) or SABLA was launched in November, 2010, as a comprehensive intervention for adolescent girls in the age group of 11-18 years, with a special focus on out-of-school girls in 12 districts of Bihar. The scheme has now been scaled up to all the districts with effect from April, 2018 and renamed as Scheme for Adolescent Girls (SAG). The new scheme is for girls of 11-14 years who are not going to school.

After the formal launch of SAG and issuing of administrative guidelines, a preliminary survey has been conducted and 1.30 lakh adolescent girls who are not going to school have been identified, who will be benefitted through this scheme. The scheme has provision of funds from central and state governments in the ratio of 50:50 for nutritional component and 60:40 for non-nutritional component. At AWCs, supplementary nutrition of 600 kcal and 18-20 gms of protein (including micronutrient) are being provided as Take Home Ration to adolescent girls under this scheme. Further, Take-Home-Rations are being provided once in a month for 25 days, costing Rs. 9.50 per day. In addition, out of school adolescent girls are also being provided other services which include life skill education.

Pradhan Mantri Matri Vandana Yojana (PMMVY)

PMMVY, earlier known as Maternity Benefit Scheme (MBS) or Indira Gandhi Matritva Sahyog Yojana (IGMSY), is a Centrally Sponsored Scheme under which the cost sharing ratio between the central and state government is 60:40. Maternal under-nutrition is a major challenge in Bihar, with more than one third of mothers having a low Body Mass Index (BMI). Early marriage, early child bearing and frequent pregnancy adversely affect the maternal nutritional status. To address this severe problem, IGMSY was first launched in October 2010 on a pilot basis with 100 percent centrally assisted funds in two districts of Bihar (Saharsa and Vaishali). Under this programme, the beneficiaries were paid Rs. 6000 in two installments through bank accounts or post office accounts. The first installment was given in third trimester and the second was given six months after delivery on fulfilling specific conditions. This cash incentive was provided directly to the mothers who were 19 years and above for the first two live births, subject to fulfilling some conditions.

This scheme has now been renamed as Pradhan Mantri Matri Vandana Yojana (PMMVY) and it is being implemented throughout the state with effect from January 1, 2017. Under this scheme, registered pregnant women would get Rs. 5000 in three installments on fulfilling certain conditions for each installment. The first installment of Rs. 1000 will be paid on early

registration of pregnancy, within three months of last menstruation period (LMP), the second installment of Rs. 2000 after six months of pregnancy and attending at least one ANC (Ante Natal Check-up). Finally, the third installment of Rs. 2000 is paid after delivery and completion of first round of child immunization.

Apart from these three installments, the beneficiary may also avail an additional sum of Rs. 1000 if the delivery takes place at government or registered private institutions, under the Maternity Benefit Scheme of Health Department. Thus, the total amount that a pregnant woman would avail is Rs. 6000.

Anganwadi Vikas Samiti (AVS)

In order to effectively run the services under ICDS, a committee at AWC level has been formed for management of daily activities of AWCs, known as Anganwadi Vikas Samiti (AVS). It is constituted with representation of beneficiaries, PRI members, teachers and ASHAs / ANM / SHG members. The activities of AVS include — utilization of financial resources for supplementary nutrition programme (SNP), purchase of supplementary nutrition food articles, instituting a supervisory monitoring system on a regular day-to-day basis and organising meetings at Panchayat level for review of all health and nutrition programmes.

National Nutrition Mission (NNM)

Malnutrition is not a direct cause of death, and it also contributes to morbidity by reducing resistance to infections. There are a number of causes of death of children such as pre-mature birth, low birth weight, pneumonia, diarrhoeal diseases, non-communicable diseases, etc. Apart from existing schemes aimed at reducing the levels of malnutrition among women and children, the central government has recently set up National Nutrition Mission (NNM) with effect from September, 2017 for improving the nutritional indicators of children, pregnant women and lactating mothers. It will create synergy, ensure better monitoring, issue alerts for timely action, and encourage field-level functionaries to perform better to achieve the goals. The implementation strategy would be based on intense action plan for monitoring and convergence up to the grassroot level. The NNM will be implemented for three years from 2017-18 to 2019-20, and the Mission targets to reduce stunting (by 2 percent), anaemia among young children, women and adolescent girls (by 3 percent), under nutrition (by 2 percent) and low birth weight (by 2 percent) annually.

Poshan Mah

Under the National Nutrition Mission (NNM), the month of September in 2018 was celebrated as Poshan Mah campaign, with an aim to reach out to every household in the state with the message on nutrition. Another objective of this campaign was to ensure convergence of all the

departments working for nutrition and jointly plan to achieve the nutritional goals. The campaign sensitized all stakeholders through different types of communication in the field to fulfil the broader goals of the Mission which are — (1) reduce malnutrition and anaemia among children and women, (2) increase optimal breastfeeding and complementary feeding, (3) promote hygiene / sanitation practices and cleanliness, (4) improve Dietary Habits (Eat Healthy) and (5) regularize growth of children between 6 months to 6 years and girls' education.

12.4 Educational Status

Education is the most powerful tool which can lead to positive changes in one's economic status, health conditions and social environment. The school education lays the foundation for a child's future. An assessment of the level of education is important while examining the conditions of children. The Indian education system can be divided into three main categories: Elementary Education, Secondary Education and Higher Education, based on the age of students enrolled. These categories have been discussed in detail in Chapter 11 on Human Development. Apart from this, other important sectors for a sustainable growth of child education are discussed here.

Literacy Rates

The literacy rate is one of the most important indicators of social progress. The literacy rate of population is defined as 'the percentage of literates to the total population age 7 years and above'. Literacy rate in Bihar has been growing consistently over the years and stands at 61.8 percent as per 2011 census. However, female literacy rate is still much lower at 51.5 percent, compared to male literacy rate (71.2 percent) in Bihar. It is indeed praiseworthy that the increase in literacy rate is comparatively higher in case of females in all age groups and thus, the gender gap in literacy rate is gradually decreasing over years and has come down from 26.6 percent in 2001 to 19.7 percent in 2011. The overall literacy rate among children (age-group 7-18 years) stands at 79.1 percent and the gender gap observed between male (81.7 percent) and female (76.2 percent) for this age group is 5.5 percentage points in 2011 (Table 12.7).

Table 12.7 : Percentage of Literates by Age and Sex in Bihar

Years	2001			2011		
	Person	Male	Female	Person	Male	Female
7-9	46.0	51.4	39.9	73.2	75.2	71.1
10-14	60.0	67.5	51.2	83.3	85.5	80.9
7-18	56.1	63.5	47.4	79.1	81.7	76.2
7 and above	47.0	59.7	33.1	61.8	71.2	51.5

Source : Census, Registrar General of India

Pre-School Education (PSE)

The learning begins at birth and, as such, the very first goal to be achieved under 'Education for All' is Early Childhood Care and Education (ECCE). This has indeed been included as a constitutional provision which directs the states to provide ECCE for all children till they are six. The ECCE services may be delivered through public, private and non-governmental channels. In the public sector, Integrated Child Development Services (ICDS) is the largest flagship programme imparting ECCE.

The quality of early childhood care and education ensures that children are provided with a natural, pleasant and stimulating environment which helps them in their optimal development. India has a tradition of valuing the early years of a child's life and inculcating basic values and social skills in them. Traditionally, this was done within the family. However, with changes in the family structure as well as social context in the recent decades, the early childhood education outside home (prior to formal schooling) has become an essential activity. As per Rapid Survey on Children, 2013-14, conducted by the Ministry of Women and Child Development in Bihar, 49.5 percent of the children aged 3-6 were attending ICDS run pre-schools, 10.4 percent were attending privately run pre-schools and a little more than one-third (35.2 percent) were not attending any pre-school. This sample size for the survey was 1.05 lakh households and 5630 AWCs. It is remarkable that, compared to 31.4 percent of children in urban areas, 51.8 percent were attending the pre-schools in rural areas. The study further informs that about 93.3 percent of AWCs conducted PSE (Pre-School Education) sessions for 16 or more days in one calendar month. However, only 34.1 percent boys and 37.4 percent girls aged 36-71 months attended PSE for 16 or more days in one calendar month. Though the coverage of ICDS programme in the state is extensive, there is a need to evaluate how the pre-school education component is implemented by AWCs and the factors responsible for some children being deprived of this facility.

Out of School Children (OOSC)

Since Sarva Shiksha Abhiyan (SSA) envisions universalizing elementary education, it becomes imperative that all out of school children (OOSC) are brought into the ambit of elementary education. In the last decade, there has been substantial improvement in the coverage of elementary education in terms of increased enrolment. In spite of this, a large number of children in India come under OOSC category. To achieve the goals of universal education in a timely manner, the state government needs to bring them back into the formal schooling system. The analysis of the SSA budget shows that there is a huge disparity between approved outlays and actual expenditure on mainstreaming of OOSC. For Bihar, which has about 70.70 lakh OOSC, the approved outlay was Rs. 74 crore for 2016-17, which was only 0.8 percent of total SSA

approval. Despite the low outlay, only Rs. 10 crore was spent, which is just 13.6 percent of the total approved amount (Table 12.8). The situation is equally unsatisfactory for Uttar Pradesh and West Bengal, two other states with large number of OOSC.

Table 12.8 : Estimates of Out-of-School Children in Major States of India

States	Census 2011 (Population in lakh)	2016-17				
		Approved outlay for SSA (Rs. crore)	Approved outlay for OOSC (Rs. crore)	Expenditure for OOSC (Rs. crore)	Approved outlay for OOSC as % of total SSA approval	Expenditure for OOSC as % of approved outlay for OOSC
Bihar	70.70	9665	74	10	0.8	13.5
Chhattisgarh	7.60	2351	27	7	1.1	25.9
Maharashtra	23.27	2296	87	25	3.8	28.7
Tamil Nadu	8.20	2656	21	17	0.8	81.0
Uttar Pradesh	106.00	19014	5	1	0.03	20.0
West Bengal	28.02	4688	5	0.5	0.1	10.0

Source : Budgeting for School Education, a study by CRY and CBGA

In 2016-17, a total of 2.17 lakh OOSC in the age group of 6-13 years have been mainstreamed through different interventions (Table 12.9). Out of these, 28.2 percent were SC, 20.6 percent were minority and only 2.1 percent were ST.

Table 12.9 : Number of Out-of-School Children in Bihar (2016-17)

Categories	6-10 years			11-13 years		
	Boys	Girls	Total	Boys	Girls	Total
ALL	76030	71758	147788	37256	31792	69048
SC	20393	19151	39544	11728	9873	21601
ST	1010	1042	2052	1247	1209	2456
Minority	15753	14872	30625	7359	6586	13945

Source : Bihar Education Project

In the recent past, the state government has taken several initiatives to ensure that OOSC are brought within the mainstream formal education. These are :

Residential Schools/Hostels : All 3 sanctioned residential hostels were functional in 2016-17, with 2 in Patna and 1 in Jamui. The enrolment in hostels is 282, against the sanctioned number of

300. The hostels are being managed by Vidyalaya Shiksha Samiti (VSS) under the supervision of district level offices of SSA.

Residential Special Training : About 13,626 OOSC have been covered under special training, depending upon their age, social category and competency. A set of different bridge books and workbooks have been designed with the name of Koshis. These books have been earmarked for different types of target group children.

Non-Residential Special Training : About 71,770 OOSC have been covered under non-residential special training, against the target of 84,185.

Teaching-Learning Materials for Special Training : The materials for special training have been developed by the state government, with support from State Council of Education Research and Training (SCERT), Patna. The organisations involved in the development of study materials are – BEPC, Vidya Bhawan Society, Mamidipudi Venkatarangaiya (MV) Foundation and Pratham Foundation. Some education experts and teachers were also involved.

Survey of OOSC : In order to maintain a ‘balpanji’ register in every school, the survey of children in the age-group 0-14 years (including OOSC) has been carried out across all schools of the state. The data of OOSC have been computerised and the districts are using balpanji data for formulation of any policy related to children.

Muhim : A programme for controlling drop-outs with support of various stakeholders and peer groups has been initiated. Some NGOs have united with other reputed NGOs and BEP to provide special training to these OOSC.

APPENDIX

Table A 12.1 : District-wise Child Population in Bihar (2011)

(Number in '000)

District	0-6 Years			07-14 Years			15-18 Years		
	T	M	F	T	M	F	T	M	F
Patna	943.6	494.2	449.3	1154	610	544	486	268	217
Nalanda	518.7	268.7	250.0	613	321	292	219	120	99
Bhojpur	459.2	239.4	219.8	573	302	271	230	127	103
Rohtas	506.8	262.5	244.3	634	330	304	235	129	106
Kaimur	299.3	154.1	145.2	356	186	170	130	72	58
Buxar	295.1	152.6	142.5	361	190	171	144	79	65
Gaya	783.1	399.4	383.6	933	484	450	342	180	162
Jehanabad	198.8	103.5	95.3	243	127	116	86	46	40
Arwal	127.8	65.9	61.9	150	78	72	54	29	25
Nawada	393.5	202.3	191.2	492	256	236	181	95	86
Aurangabad	455.4	234.3	221.1	549	284	265	203	109	94
Saran	681.1	353.7	327.4	865	446	419	350	189	161
Siwan	551.4	284.2	267.2	733	375	358	306	158	147
Gopalganj	449.5	230.0	219.5	575	294	282	226	115	111
W. Champaran	776.0	397.4	378.6	876	458	418	286	165	121
E. Champaran	1018.3	526.8	491.5	1141	603	538	363	216	147
Muzaffarpur	845.3	441.3	404.0	1002	526	476	374	216	158
Sitamarhi	663.2	343.6	319.7	751	399	352	249	146	103
Sheohar	128.7	66.7	62.0	143	76	67	47	28	19
Vaishali	601.9	316.1	285.8	722	380	342	263	155	108
Darbhanga	725.5	375.7	349.8	857	451	406	309	177	132
Madhubani	810.5	418.6	391.9	987	514	474	334	190	144
Samastipur	797.4	414.6	382.8	941	493	449	316	186	130
Begusarai	546.0	284.5	261.4	663	349	315	225	134	92
Munger	229.9	119.6	110.2	278	148	130	111	65	46
Sheikhpura	121.6	62.7	58.9	141	74	67	48	26	22
Lakhisarai	188.2	98.1	90.2	218	115	103	78	45	33
Jamui	324.5	165.9	158.6	371	194	176	134	74	60
Khagaria	340.9	177.0	163.9	377	200	177	122	74	48
Bhagalpur	546.4	281.9	264.4	645	339	306	241	141	99
Banka	375.3	193.2	182.1	428	225	204	148	87	60
Saharsa	387.5	200.5	187.0	421	225	196	128	76	52
Supaul	437.4	225.0	212.4	507	264	243	148	87	62
Madhepura	404.6	209.6	195.0	449	236	213	133	79	54
Purnea	656.5	336.0	320.6	725	376	348	244	138	106
Kishanganj	346.9	176.0	170.9	385	196	189	142	75	67
Araria	577.9	295.3	282.6	640	332	308	206	119	87
Katihar	620.3	316.4	303.9	688	355	333	236	135	101
Bihar	19134.0	9887.2	9246.7	22587	11810	10777	8076	4552	3524

Source : Census 2011, Registrar General of India

Table A 12.2 : District-wise and age-wise Sex Ratios of Population in Bihar (2011)

(Females per 1000 males)

District	Over All	0-6 Years	0-18 Years	7-18 Years
Patna	897	909	882	867
Nalanda	922	931	903	886
Bhojpur	907	918	888	872
Rohtas	918	931	906	892
Kaimur	920	942	904	881
Buxar	922	934	896	875
Gaya	937	960	936	921
Jehanabad	922	922	908	899
Arwal	928	940	916	901
Nawada	939	945	927	917
Aurangabad	926	944	925	914
Saran	954	926	917	912
Siwan	988	940	946	949
Gopalganj	1021	954	959	961
W. Champaran	909	953	899	865
E. Champaran	902	933	874	836
Muzaffarpur	900	915	877	853
Sitamarhi	899	930	872	836
Sheohar	893	929	869	831
Vaishali	895	904	865	841
Darbhanga	911	931	885	857
Madhubani	926	936	900	878
Samastipur	911	923	880	853
Begusarai	895	919	871	843
Munger	876	922	861	827
Sheikhpura	930	940	906	884
Lakhisarai	902	920	882	859
Jamui	922	956	908	879
Khagaria	886	926	861	820
Bhagalpur	880	938	878	844
Banka	907	943	883	846
Saharsa	906	933	868	825
Supaul	911	944	898	869
Madhepura	929	930	879	845
Purnea	921	954	910	882
Kishanganj	950	971	958	949
Araria	921	957	908	876
Katihar	919	961	913	883
Bihar	918	935	897	874

Source : Census 2011, Registrar General of India

Table A 12.3 : District-wise Percentage of children under five years of age suffering from malnutrition in Bihar (2015-16)

District	Stunted		Wasted		Underweight	
	Rural	Total	Rural	Total	Rural	Total
Patna	51.4	43.5	27.2	28.5	49.2	43.3
Nalanda	55.7	54.1	23.7	24.3	50.0	50.2
Bhojpur	44.3	43.5	24.5	26.0	46.0	47.2
Rohtas	48.1	48.5	19.4	19.9	44.7	45.1
Kaimur	55.0	53.8	21.6	21.4	49.1	48.1
Buxar	45.4	43.9	20.5	19.6	43.1	41.2
Gaya	53.5	52.9	26.6	25.6	54.0	53.1
Jehanabad	54.7	52.1	18.5	19.6	49.3	47.1
Arwal	51.1	50.2	29.2	30.7	53.8	54.0
Nawada	50.4	48.4	21.3	21.4	47.8	45.9
Aurangabad	48.8	48.3	25.1	24.8	48.0	47.6
Saran	46.0	46.1	17.7	18.1	40.3	40.4
Siwan	38.2	37.9	15.3	15.0	32.2	31.6
Gopalganj	36.0	35.6	16.7	16.5	30.2	30.5
W. Champaran	45.9	43.6	22.2	21.7	41.7	39.1
E. Champaran	47.2	47.2	17.9	18.0	40.7	40.8
Muzaffarpur	48.6	47.9	17.5	17.5	42.3	42.3
Sitamarhi	58.1	57.3	15.7	15.8	47.9	47.7
Sheohar	53.1	53.0	15.3	14.8	42.9	42.8
Vaishali	53.6	53.7	15.5	15.1	41.9	41.3
Darbhanga	49.2	49.0	16.8	16.6	40.9	41.1
Madhubani	51.9	51.8	19.2	19.1	45.6	45.4
Samastipur	49.2	49.2	18.1	18.4	40.4	41.3
Begusarai	44.6	44.9	20.4	18.4	40.7	39.1
Munger	48.4	46.6	21.4	21.5	44.8	43.7
Sheikhpura	47.5	46.4	28.9	28.9	52.0	51.7
Lakhisarai	51.2	50.6	21.2	20.1	47.6	47.3
Jamui	46.7	45.9	29.1	29.4	48.1	47.2
Khagaria	50.5	49.8	17.0	17.0	42.9	42.4
Bhagalpur	48.6	46.6	24.8	23.1	44.5	40.8
Banka	50.3	49.6	26.0	26.0	49.1	48.5
Saharsa	44.8	43.9	23.7	24.0	45.2	44.4
Supaul	47.7	48.1	21.4	20.9	43.2	43.4
Madhepura	52.7	51.8	24.4	24.2	50.0	49.2
Purnea	53.9	52.1	20.6	20.8	48.3	47.0
Kishanganj	46.7	46.9	22.9	22.8	45.3	45.4
Araria	49.0	48.4	23.0	22.8	46.7	45.4
Katihar	50.4	49.2	21.7	20.7	46.2	45.1
Bihar	49.3	48.3	20.8	20.8	44.6	43.9

Source : NFHS 4,GoI



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