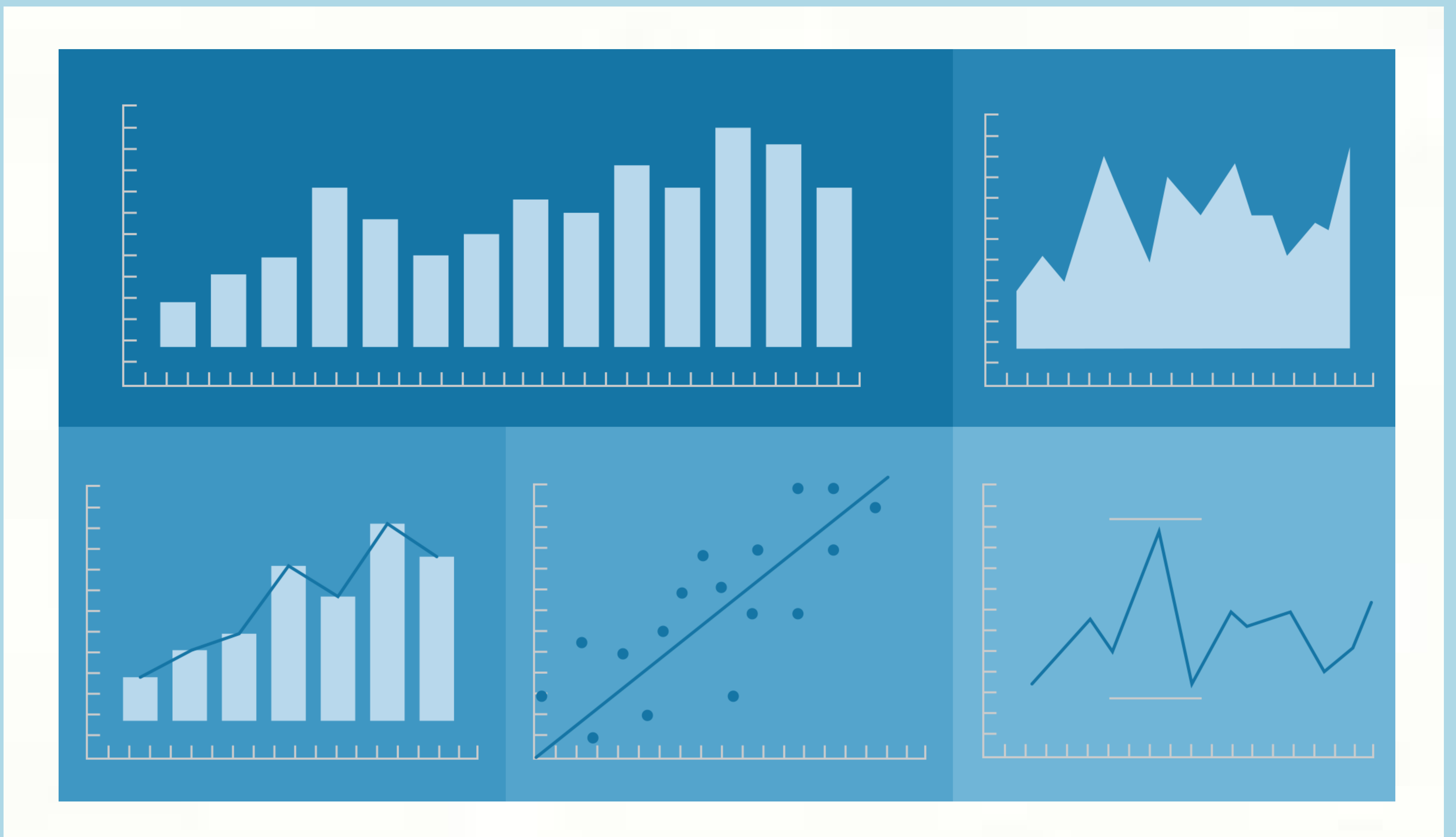


ECONOMIC SURVEY ASSAM 2017-18



GOVERNMENT OF ASSAM

TRANSFORMATION AND DEVELOPMENT DEPARTMENT

DIRECTORATE OF ECONOMICS & STATISTICS

ECONOMIC SURVEY ASSAM 2017-18

অসম চৰকাৰ



सत्यमेव जयते

GOVERNMENT OF ASSAM

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TRANSFORMATION AND DEVELOPMENT DEPARTMENT
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FOREWORD

The Government of Assam has decided to set up the Directorate of Economics & Statistics (DES), Assam in 1948 to work as a nodal agency to collect, collate and publish the Government data. In the process, the Directorate is being engaged in collection, compilation, analysis and publication of data related to socio-economic sector of the State. Data collected are published in the form of publications namely Statistical Handbook Assam, Economic Survey Assam and Assam at a Glance annually. Directorate has also published various reports on employment- unemployment, backward classes, industry, etc. on the basis of its sample surveys.

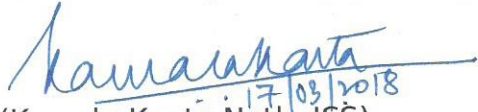
DES Assam has been publishing the Economic Survey Assam annually with a view to reflect the objective accounts of the economy of the State. The 2017-18 issue of the publication is ready for print. This publication contains latest information pertaining to the state on population, finance, income and expenditures, agriculture and allied activities, industries, power, communication, social issues, banking, etc. It also contains various initiatives taken by the Government in recent past for development of the State and a chapter on Sustainable Development Goals (SDGs).

The information and valuable inputs are being given by various Departments, Organizations and Institutes of the Government of Assam as well as the Government of India. I sincerely acknowledge the contributions made by various stakeholders to make the publication resourceful. I also sincerely acknowledge the efforts put by officials the Centre for SDGs in the Government of Assam to add a chapter on SDGs.

I take the opportunity to thank all officials and staff of DES Assam who are instrumental in bringing out this publication nicely, namely Smt. Nirupama Talukdar, Jt. Director and Shri Ajit Barua, Jt. Director and the team of DES Assam.

Hope the readers will appreciate the Economic Survey Assam 2017-18.

Place: Guwahati
Date: 17th March 2018


(Kamala Kanta Nath, ISS)
Secretary to the Government of Assam
Transformation & Development Department
and Director, DES Assam

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ASSAM AT A GLANCE

1. AREA, ADMINISTRATIVE UNIT AND POPULATION

Sl. No.	I T E M	Particulars
A.	AREA	
(a)	Geographical area (in sq. Km.) as per 2011 Census	78438
B.	ADMINISTRATIVE UNITS	
(a)	District (2017)	33
(b)	Sub-Division (2017)	80
(c)	Revenue Circle (as per Census, 2011)	184
(d)	C.D. Blocks (2017)	219
(e)	Gaon Panchayats (2016)	2202
(f)	Villages (Census, 2011)	26395
(g)	Total Towns (Census, 2011)	214
	(i) Statutory Towns	88
	(ii) Census Towns	126
(h)	Police Station (2016) [Excluding Spl. P.S.]	314
(i)	Police Out Post (2017)	263
C.	POPULATION as per Census, 2011	
(a)	(i) Total Population	31205576
	(ii) Male	15939443
	(iii) Female	15266133
	(iv) Percentage of Rural Population	86
	(v) Percentage of Urban Population	14
	(vi) Sex-Ratio (Female per thousand male)	958
	(vii) Density of Population (per/ Km ² .)	398
	(viii) Decadal percentage variation (2001-2011)	17.07
(b)	Population of age group (0-6 years)	

	(i) Male	2363485
	(ii) Female	2274645
	(iii) Total	4638130
	(iv) Sex-Ratio	962
(c)	Literacy Rate	
	(i) Male	77.85
	(ii) Female	66.27
	(iii) Total	72.19
(d)	Vital Statistics: (2015)	
	(i) Birth rate (per thousand)	22.0
	(ii) Death rate (per thousand)	7.1
	(iii) Infant mortality rate (per thousand)	47
	(iv) M.M.R. (2011-13) (death per lakh live birth)	167
(e)	BPL Population (2011-12) using Tendulkar methodology (in percentage)	
	(i) Rural	33.89
	(ii) Urban	20.49
	(iii) Total	31.98

2. SECTORAL STATISTICS

<i>Sl. No.</i>	<i>ITEM</i>	<i>Ref. Year</i>	<i>Unit</i>	<i>Particulars</i>
I	AGRICULTURE			
A.	Land Utilisation			
(a)	Net area sown	2015-16	000 Hectare	2801
(b)	Area sown more than once	"	"	1258
(c)	Total cropped area	"	"	4060
(d)	Percentage of Net Area sown to total Geographical Area	"	Percent	35.72
(e)	Percentage of Area Sown more than once to Net Area sown	"	"	44.92
B.	Area under important crops			
(a)	Autumn Rice	2016-17 (P)	000 Hectare	168
(b)	Winter Rice	"	"	1891
(c)	Summer Rice	"	"	408
(d)	Total Rice	"	"	2467
(e)	Wheat	"	"	17
(f)	Total Pulses	"	"	146
(g)	Other cereals & small millets	"	"	5
(h)	Maize	"	"	31
(i)	Total food grains	"	"	2667
(j)	Sugarcane	"	"	31
(k)	Jute	"	"	75
(l)	Total oil Seeds	"	"	338
C.	Production of important crops			
(a)	Autumn Rice	2016-17 (P)	000 tonnes	228
(b)	Winter Rice	"	"	3767
(c)	Summer Rice	"	"	1132
(d)	Total Rice	"	"	5127
(e)	Wheat	"	"	23
(f)	Total Pulses	"	"	108
(g)	Maize	"	"	91
(h)	Other cereals & small millets	"	"	3
(i)	Total food grains	"	"	5353
(j)	Total Oil seeds (excluding Coconut)	"	"	204
(k)	Sugarcane (in cane)	"	"	1207
(l)	Jute (000 bales of each 180 kgs)	"	-	803
D.	Yield rate			
(a)	Autumn Rice	2016-17 (P)	Kg/Hectare	1380
(b)	Winter Rice	"	"	2023
(c)	Summer Rice	"	"	2773
(d)	Total Rice	"	"	2105
(e)	Wheat	"	"	1344

Sl. No.	ITEM	Ref. Year	Unit	Particulars
(f)	Maize	2016-17(P)	Kg/Hectare	2911
(g)	Total Pulses	"	"	735
(h)	Total Food grains	"	"	2031
(i)	Total Oilseed	"	"	644
(j)	Sugarcane (cane)	"	"	38466
(k)	Jute (Dry fibres)	"	"	1923
E.	Index of Agricultural Production (All commodities) (Base Triennium ending 2007-08=100)	2016-17(P)	-	133.44
F.	Per capita Food Grain Production	2016-17	Kg.	171
AGRICULTURE CENSUS				
G.	Number of operational holdings			
(a)	Size Marginal (below 1 hectare)	2010-11	000 Nos.	1831
(b)	Size Small (1.0 to 2.0 hectare)	"	"	497
(c)	Size Semi Medium (2.0 to 4.0 hectare)	"	"	303
(d)	Size Medium (4.0 to 10.0 hectare)	"	"	85
(e)	Size Large (above 10 hectare)	"	"	4
(f)	All size	"	"	2720
H.	Area under operational holdings			
(a)	Size Marginal (below 1 hectare)	2010-11	000 Hectare	775
(b)	Size Small (1.0 to 2.0 hectare)	"	"	687
(c)	Size Semi Medium (2.0 to 4.0 hectare)	"	"	818
(d)	Size Medium (4.0 to 10.0 hectare)	"	"	437
(e)	Size Large (above 10 hectare)	"	"	282
(f)	All size	"	"	2999
I.	Average size of operational holdings	"	Hectare	1.10
II. LIVESTOCK AND VETERINARY				
Livestock and Poultry Population (Sample Survey)				
A.	Livestock:	2016-17(P)		
(i)	Crossed Breed Cattle		000 Nos.	418
(ii)	Indigenous Cattle	"	"	10577
(iii)	Buffaloes	"	"	310
(iv)	Goat	"	"	4340
B.	Poultry:			
(i)	Fowls	"	"	12452
(ii)	Ducks	"	"	5476
C.	Hospitals and Dispensaries	"	"	333
D.	(a) Production of Milk	"	Million Ltrs.	904
	(b) Production of Egg	"	Million Nos.	477
	(c) Production of Meat	"	000 Tonnes	46.86

Sl. No.	ITEM	Ref. Year	Unit	Particulars
III.	FOREST			
	(a) Area under Reserved Forest	2016-17	000 Hectare	1352
	(b) Encroached Area	"	"	373
	(c) Total Forest excluding unclassified State Forest	"	"	194
	(d) Number of National Parks	"	Nos.	5
	(e) Number of Wildlife Sanctuaries	"	"	18
	(f) Total Forest revenue	2016	Rs. in lakh	14006.26
IV.	FISHERY			
	(a) Beel Fisheries (Registered and Unregistered)	2016-17	Number	1197
	(b) Area under Beel Fisheries	"	Hectare	100815
	(c) Ponds and Tanks	"	Number	375632
	(d) Area under Ponds and Tanks	"	Hectare	61717
	(e) Total Area under Fisheries (Excluding River Fisheries)	"	"	286547
	(f) Production of Fish Seed	"	Million Nos.	6745.52
	(g) Production of Fish	"	000 Tonnes	307
V.	SERICULTURE			
A.	Sericulture Villages (Private Sector)	2016-17	Nos.	9935
B.	Families engaged in Sericulture			
	(a) Eri	"	"	271318
	(b) Muga	"	"	20541
	(c) Mulberry	"	"	27546
C.	Total area under Silk worm's food plants			
	(a) Eri	"	Hectare	7176
	(b) Muga	"	"	5932
	(c) Mulberry	"	"	2875
D.	Cocoons Reeled			
	(a) Eri	2016-17	(000 kg)	4351
	(b) Muga	"	Lakh Nos.	6480
	(c) Mulberry	"	(1000 kg)	439
E.	Production of Silk Yarn			
	(a) Eri Raw Silk	2016-17	(000 Kg)	3468
	(b) Muga Raw Silk	"	"	130
	(c) Mulberry Raw Silk	"	"	50

Sl. No.		ITEM	Ref. Year	Unit	Particulars
VI.		POWER			
	(a)	Total Installed Capacity	2016-17	M.W	379.7
	(b)	Total Unit Generation	"	MU	1650.6
	(c)	Availability	"	"	7948
	(d)	Total unit Billed to ultimate consumers	"	"	6526
	(e)	Energy Requirement	"	"	8240
	(f)	Total villages electrified	"	Nos.	24512
VII.		INDUSTRY AND MINERALS			
	A.	Production of some Selected Industries			
	(a)	Petroleum (Crude)	2016-17	000 Tonne	4202
	(b)	Coal	"	"	600
	(c)	Jute	2016-17(P)	"	28
	(d)	Fertilizer	"	"	498
	(e)	Cement	"	"	1162
	(f)	Wheat Flour	"	"	915
	(g)	Lime Stone	2016-17	"	1597
	(h)	Natural Gas (Utilized)	"	MCM	2907
	B.	Registered Factories	2016	Nos.	6158
	C.	Workers in Registered Factories	"	Nos.	243821
	D. (i)	Index of Industrial Production (Base 2004-2005=100)	2015-16	-	134.09
	(ii)	Index of Mineral Production (Base 2011-12=100)	2016-17	-	86.72
VIII.		TEA , COFFEE & RUBBER INDUSTRY			
	(i)	Small Tea Growers	2016	Nos.	84577
	(ii)	Area under Tea Cultivation	2015	000'Hectare	304
	(iii)	Production of Tea	2015	'000 Kg.	631220
	(iv)	Area under coffee cultivation	2016-17	Hectare	1158.24
	(v)	Production of coffee	"	M.T	42.09
	(vii)	Area under Rubber Cultivation	"	Hectare	57646.20
	(viii)	Production of Rubber	"	M. T	17574.31
IX.		TRANSPORT & COMMUNICATION			
	A.	Vehicle			
	(i)	Total Vehicles Registered during the year	2016-17	Nos.	292980
	(ii)	Total Vehicles on Road	"	Nos.	2937829
	(iii)	Total Revenue earned during the year	"	Rs. in Crore	546.65

Sl. No.		ITEM	Ref. Year	Unit	Particulars
	B.	ROAD			
		Total P.W.D. Road Length (including N.H.)	2016-17	Km.	49454.44
	(a)	Surfaced (Black topped)	"	"	27003
	(b)	Un-Surfaced	"	"	18551
	(c)	National Highway	"	"	3900.44
	(d)	State Highway	"	"	2530
		Railway route Length (Total)	2016-17	Km.	2440.39
	(a)	Broad Gauge	"	"	2440.39
	(b)	Meter Gauge	"	"	-
	C.	Air Transport			
	(a)	Air Traffic Movement	2014-15	Nos.	30363
	(b)	Passenger Handled	"	"	2552861
	(c)	Freight(Loaded + Unloaded)	"	Tonne	10796
	(d)	Average flight per day	"	Nos.	83
	(e)	Average Passenger Handled per day	"	Nos.	6994
	(f)	Average Cargo Handled per day	"	Tonne	29.57
	D.	Inland Water Transport			
	(i)	Total No. of Ferry Services	2016-17	Nos.	85
	(ii)	Passengers Transported	"	('000 Nos.)	9187.14
	(iii)	Goods Transported	"	(in Qtl.)	387.11
	E.	POSTAL			
	(a)	Post Office	2016-17	Nos.	4012
	(b)	Letter Boxes	"	"	12427
	F.	TELEPHONE			
	(a)	No. of Telephone Exchanges	2016-17	Nos.	586
	(b)	Direct Exchange lines (Fixed+WLL+MTS)	"	"	1667066
	(c)	Villages covered by Public Telephones (VPTs)	"	"	5297
	(d)	Wire line phones (Fixed DELs)	"	"	130810
	(e)	Wireless Phones (GSM+CDMA)	"	"	1536256
	(f)	Public Call offices	"	"	6321
	(g)	Tele density per 100 population (overall)	"	percent	5.11
	X.	TOURISM			
	(a)	Number of Tourists using Tourist lodges			
	(i)	Indian Tourist	2016-17	Nos.	24036
	(ii)	Foreign Tourist	"	"	474
	(b)	Number of Tourist using other accommodation like Hotel etc.			
	(i)	Indian Tourist	2016-17	"	5389841
	(ii)	Foreign Tourist	"	"	6735
	(c)	Revenue earned from Tourist lodges	"	Rs. in Lakh	252.39

Sl. No.	ITEM	Ref. Year	Unit	Particulars
XI.	EMPLOYMENT			
	(a) Total No. of Employment Exchanges	2016	Nos.	81
	(b) Employment in Organised Sector	"	"	1549352
	(i) Employment in Public Sector	"	"	582971
	(ii) Employment in Private Sector	"	"	966381
	(c) Educated Applicants in Live Register	"	"	1642718
	(d) Total nos. of unemployed in Live Register	"	"	2010603
XII.	HEALTH			
	(a) Government Hospitals	2016	Nos.	25
	(b) Primary Health Centres	"	"	1014
	(c) Sub-divisional Civil Hospitals	"	"	14
	(d) Sub- Centres	"	"	4621
	(e) Community Health centre	"	"	162
	(f) MBBS Doctors(Govt.+ NHM)	"	"	3052
	(g) Specialist Doctors (Govt.+ NHM)	"	"	1022
XIII.	EDUCATION			
	A. Institution			
	(a) No. of Primary School (Govt. Prov)	2016-17	Nos.	40465
	(b) No. of Middle School	"	"	11741
	(c) No. of High School	"	"	4314
	B. Enrolment			
	(a) Primary School	2016-17	000 Nos.	2914
	(b) Middle School	"	"	1501
	(c) High School	"	"	668
XIV.	BANKING			
	(i) Scheduled Commercial Banks (Reporting offices)	March/2017	Nos.	2276
	(ii) Total deposit	"	Rs. in crore	122305
	(iii) Total credit	"	"	48776
	(iv) Credit-Deposit Ratio	"	Percent	39.9
	(v) Population served per Bank	"	000 Nos.	14
	(vi) Regional Rural Bank	"	Nos.	477
	(vii) Deposit of Regional Rural Banks	"	Rs. in crore	8537
	(viii) Credit of Regional Rural Banks	"	"	4517
XV.	PANCHAYAT AND RURAL DEVELOPMENT PROGRAMME			
	SHGs			
	(a) Physical Achievement			
	(i) Total No. Village Organisations formed	2016-17	Nos.	993
	(ii) Women SHGs formed	"	"	19582
	(b) Financial Performance			
	(i) No. of SHGs provided with Revolving Fund	2016-17	Rs. in lakh	21174
	(ii) No. Village Organisations provided with Community Investment Fund	"	"	9022

Sl. No.	ITEM	Ref. Year	Unit	Particulars
B.	PMAY-G			
(a)	Annual Target	2016-17	Nos.	219695
(b)	House completed against target	"	"	1237
(c)	Percentage of Achievements	"	Percent	0.56
C.	MGNREGA			
(i)	Total Fund Available	2016-17	Rs. in lakh	187700.23
(ii)	Total Expenditure	"	"	141647.46
(iii)	Person days generated	"	Lakh Mandays	467.45
XVI.	STATE INCOME			
A.	Net State Domestic Product			
(i)	At Current Prices	2016-17(Q)	Rs. in crore	222750
(ii)	At Constant (2011-12) Prices	"	"	173050
B.	Per Capita Net State Domestic Product			
(i)	At Current Prices	2016-17(Q)	In Rupees	65698
(ii)	At Constant (2011-12) Prices	"	"	51040
XVII.	STATE GOVT. RECEIPTS AND EXPENDITURE			
A.	Total Revenue Receipts	2017-18(BE)	Rs. in lakh	7071961
(i)	Central Taxes	"	"	2558926
(ii)	State Taxes	"	"	1649632
(iii)	Non-Tax Revenue (Collection by the State)	"	"	746397
(iv)	Grants-in-Aid	"	"	2117006
B.	Total Revenue Expenditure	2017-18(BE)	Rs. in lakh	6831945
(i)	General Services	"	"	2522343
(ii)	Social and Community Services	"	"	2868888
(iii)	Economic Services	"	"	1408833
(iv)	Grants-in-aid & Contribution	"	"	31881
XVIII.	STATE PLAN			
(i)	Twelfth Plan (Projected at 2011-12 prices)	2012-17	Rs. in crore	98672
(ii)	Annual Plan (Revised)	2016-17	Rs. in crore	28843.00
(iii)	Annual Plan (Approved)	2015-16	Rs. in crore	25406.00
(iv)	Annual Plan (Approved)	2016-17	Rs. in crore	28842.93
(v)	Annual Plan (Approved)			
	Actual Expenditure			
(i)	Annual Plan	2013-14	Rs. in crore	8096.82
(ii)	Annual Plan	2014-15	Rs. in crore	13054.15
(iii)	Annual Plan	2015-16	Rs. in crore	12009.77
(iv)	Annual Plan	2016-17	crore	16431.16

P : Provisional; E : Estimated; Q : Quick; BE: Budget Estimate.

COMPARATIVE STATEMENT OF KEY INDICATORS OF ASSAM AND INDIA

Sl. No.	Item	Year	Unit	India	Assam
18	Households having toilets facility within premises				
	Rural	2011	Percent	30.7	59.6
	Urban			81.4	93.7
19	EDUCATION				
A.	Gross Enrolment Ration Classes I-V (6-10 years)				
	Boys	2015-16	Percent	97.87	104.70
	Girls			100.69	107.59
	Total			99.21	106.71
B.	Gross Enrolment Ration Classes I-VIII (6-13 years)				
	Boys	2015-16	Percent	94.53	98.82
	Girls			99.59	104.56
	Total			96.91	101.62
C.	Drop Out Ratio (Primary Level)				
	Total	2016-17	Percent	4.13	5.7
D.	Drop Out Ratio (Upper Primary Level)				
	Total	2016-17	Percent	4.03	3.0
E.	Elementary Level (Class I to VIII)				
	Total	2016-17	Percent	4.10	6.7
Source : DISE					
AGRICULTURE					
20	Area of food grains under irrigation	2014-15	Percent	51.20	4.60
21	Av. Yield of Total food grains	2015-16	Kg/hectare	2056	2016
22	Av. Yield of Total oil seeds	2015-16	"	968	664
23	Cost of Production of paddy	2010-11	Rs./quintal	N.A.	824.34
<i>Source : Agriculture Statistics at a Glance, 2014-15</i>					
24	Cropping Intensity	2014-15	Percent	138.92	145.8
25	Growth rate of GVS/GSDP in Agriculture and Allied sector	2016-17 over 2015-16	Constant (2011-12) Prices	1.20	4.58
			Current Prices	4.9	11.69
MISCELLANEOUS					
26	Road Length (in Km.)	2016-17	Per lakh population	338.43	156.17
27	Railway route length (In. Km.)	2016-17	Per '000 Sq. Km.	20.08	50.90
28	Scheduled Commercial Banks	Sep/2016	Nos.	129151	2139
29	Credit Deposit Ratio	2016	In percent	75.01	41.1

CHAPTER – I

ASSAM ECONOMY – AN OVERVIEW

AREA AND POPULATION

Assam is situated in the North-East region of India – bordering seven States viz. Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and West Bengal and two countries viz. Bangladesh and Bhutan. The geographical area of the State is 78,438 sq. km. of which 98.4 percent area is rural. Assam shares about 2.4% of the country's total geographical area and provides shelter to 2.6% population of the Country as per 2011 census.

Assam is a state of heterogeneous population with socio-cultural and ethnic diversity. According to the Census of India, 2011 the population of Assam is 312.05 lakh of which 159.39 lakh are male and 152.66 lakh are female. The decadal growth during 2001-2011 of the State's population was 17.07% against 17.68% growth for the country as a whole. Out of the total population, 86% population live in rural areas and 14% population live in urban areas of the State, while the percentage of rural population of the State is higher than all-India average (69%). However, the urban population in the State has increased from 12.9% in 2001 to 14% in 2011. The density of the population of Assam in 2011 was 398 persons per sq. km. as compared to 340 persons in 2001. The sex ratio (no. of female per thousand male) of Assam has increased to 958 in 2011 from 935 in 2001. Compared to overall sex ratio of the State, the Child sex ratio (age-group 0-6 years) has gradually declined from 975 in 1991 to 967 in 2001 and further to 962 in 2011. On the other hand, sex ratio at birth (0-1 year) in Assam as per 2011 Census was 957.

STATE DOMESTIC PRODUCT:

As per quick estimates, GSDP of Assam at current price increased to Rs.249800.96 crore during 2016-17(QE) registering a growth of 10.55% over the previous year. GSDP of the State at constant price has increased to Rs.192399.92 crore during the year 2016-17(QE) registering a growth of 6.8% over the previous year. The average annual growth rate (AAGR) in 2016-17 (QE) of GSDP at constant (2011-12) prices recorded 4.95% in Agriculture, 3.85% Forestry & Fishing while Industry sector during the period from 2011-12 to 2016-17(QE) . The Service sectors achieved highest AAGR of 7% during the period under reference.

The contribution of various sectors in 2011-12 and 2016-17 (QE) has shown that though the share of agriculture and its allied activities in GSDP at current price had marginally come down from 19.89% in 2011-12 to 19.34% in 2016-17(QE), yet the agriculture sector continues to occupy a significant place in the state economy and hence any fluctuation in the production of food grains, vegetables and fruits affect the

economy. The share of industry sector at current prices has slightly declined from 30.63% in 2011-12 to 28.72% in 2016-17(QE). The slight decrease in agriculture and allied sector and industry has resulted increase in service sector as well as taxes and subsidies. During the period 2011-12 to 2016-17, the share of service sector had increased from 43.97% in 2011-12 to 45.51% 2016-17(QE). Moreover, the contribution of taxes and subsidies during the period has increased from 5.51% in 2011-12 to 6.44% in 2016-17(QE).

The per capita NSDP at current price for the year 2016-17(QE) was worked out at Rs.65698.00 as against Rs.60526.00 in 2015-16 registering a growth of 8.55% during the year. The per capita income of the State in terms of NSDP at constant (2011-12) prices is estimated at Rs.51040.00 for the year 2016-17(QE) against Rs.48725.00 in 2015-16(PE) with an increase of 4.75% during the year. And the same was Rs.41142.00 in the year 2011-12. The AAGR was observed during the period from 2011-12 to 2015-16 is 4.01%.

STATE FINANCE

The Assam Government Budget 2017-18 was presented with expected Consolidated Fund of Rs.84732.16 crore comprising of expected Revenue Receipts of Rs.70719.61 crore against Rs. 14012.55 crore under Capital Account. The expected receipts of fund under Public Accounts and Contingency Fund Accounts have been estimated at Rs.162580.51 crore and Rs.100.00 crore respectively for 2017-18(BE) .The total expenditure from the Consolidated Fund of the State during 2017-18 (BE) has been estimated at Rs.85922.69 crore of which Rs. 68319.45 crore was kept under Revenue Account against Rs.17603.24 crore under Capital Account. The total expected expenditure for the financial year 2017-18 was calculated around Rs.247779.86 crore of which Rs.161757.17 crore would be spent under Public Accounts against Rs.100 crore under Contingency Fund. Thus, during the year 2017-18(BE) Rs.1982.61 crore would be deficit at the beginning of the fiscal and it was expected to increase to Rs.2349.80 crore at the end of the year.

During 2017-18, an amount of Rs.23960.29 crore is expected from the state's own resources with contribution of Rs.16496.32 crore as tax revenue and Rs.7463.97 as non-tax revenue. It is expected that the total state tax collections will increase during 2017-18 by 11.58% over 2016-17. It is observed that collection of taxes under The Assam Value Added Tax Act, 2003 has sharply increased from Rs.7013.93 crore in 2015-16 to Rs.8176.31 crore in 2016-17 reflecting a growth of 16.57% over the previous year.

The Debt-GSDP ratio has gradually come down from 18.12% in 2011-12 to 15.35% in 2016-17. However, the Debt-GSDP ratio of the State for 2017-18(B.E) is

expected to reach above 19%. Out of the total revenue outlay for 2017-18(BE), Social and Community Services account for 41.99%, General Services 36.92%, Economic Services 20.62% and Grants-in-Aid 0.47%. The relative shares of expenditures under the four heads viz. General Service, Social and Community Services, Economic Services and Grants-in-aid which were 36.6 %, 38.%,15.5 % and 9.2 % respectively of the total expenditure in 2011-12 is expected to change to 95.1%, 108.1%, 53.1% and 1.2% respectively of the total expenditure in 2017-18(BE).

CLIMATE AND RAINFALL

The climate of Assam is humid, with a sub-tropical nature, having warm humid summers and cool dry winters. Due to its unique geographical location, along with the presence of varied physiography, Assam has an array of climatic conditions. Assam is situated in the high rainfall zone with annual average rainfall of 2297.4 mm during . The state normally receives 2% of rainfall in Winter Season (January-February), 25% in Summer Season (March-May), 65% in Mansoon Season (June-September) and 7% in Post-Mansoon Season (October-December). However, Assam is prone to floods and sometimes there is also the presence of drought like situations with the lack of rains. Thus, though the State has enough natural potentialities for growing food grains in abundance, it at times faces losses impacting on its contribution and share to the national granary, due to the presence of erratic and unpredictable weather conditions, as experienced specially during the last few years. The State had experienced 2042.20 mm rainfall in 2016 against normal rainfall of 2295.80 mm and the departure was 7% during the year from normal rainfall.

AGRICULTURE AND FOOD GRAINS PRODUCTION

The Production of agricultural crops including food grains is directly related to area coverage of various crops cultivated and produced. In Assam the soil, topography, rainfall and climate in general are very conducive for agricultural activity, mainly for the cultivation of paddy. Therefore, concentration of area under paddy cultivation and production is high both from the side of farmers as well as the Agriculture Department. As per estimates, the total area under paddy cultivation during the year 2016-17 was declined to 24.67 lakh hectares from 24.85 lakh hectares in 2015-16. The area for paddy cultivation in 2016-17 was estimated at 92.5% of the total area under food grain in the State as compared to 92.61% in 2015-16. Total area under paddy showed a decline in the state, due to decline in area covered under Autumn Rice. The final forecast estimates show that the area under Autumn Rice has declined from 4.36 lakh hectares in 2004-05 to 1.91 lakh hectares in 2015-16 and further declined to 1.68 lakh hectares in 2016-17. However, the area under Winter Rice and Summer Rice has marginally increased from 18.89 lakh hectares and 4.05 lakh hectares in 2015-16 to 18.90 lakh hectares and 4.08 lakh hectares respectively in 2016-17. The area under Wheat has declined by around 17% in the year 2016-17 from its previous year, while that of the area under Maize and Oilseeds has increased by 10.2% and 2.3% respectively in 2016 as compared to the

previous year's area. As per estimates, total food grains production in the State had increased at minimum from 53.48 lakh tonnes in 2015-16 to 53.55 lakh tonnes in 2016-17. The production of Rice in the State has slightly increased to 51.27 lakh tonnes in 2016-17 from 51.25 lakh tonnes in 2015-16. However, the production of total Cereal, Wheat, Pulses and Oilseed were declined in 2016 as compared to the previous year.

IRRIGATION

Irrigation is essential for sustainable development in agriculture, which plays an important role in the economy of Assam. Assam is predominantly rural in nature and the economy of Assam is also primarily based on rural life with 70% of its population directly dependent on agriculture as a source of livelihood. Out of the total geographical area of 78.44 lakh hectares the land use pattern in Assam indicates that the gross cropped area of the State is 40.82 lakh hectare and the net area sown is 28.19 lakh hectare in 2014-15.

The development programmes for improvement of irrigation facility in Assam is taken up under two broad heads, viz., Minor Irrigation and Major & Medium Irrigation. While the Irrigation Schemes are classified as Major, Medium and Minor they are categorized as Surface Flow, Surface Lift (for Major / Medium and Minor) and Ground Water Lift (for Minor only). Three Departments, viz. Irrigation, Agriculture and Panchayat and Rural Development are associated with development of irrigation facilities in the State. The State Irrigation Department, being the Nodal Department for development of irrigation in the State, executes and maintains Major, Medium and Minor Irrigation Schemes. The irrigation works of the other two departments are confined to minor irrigation schemes like Shallow Tube Wells, Low Lift Points and Temporary Minor Irrigation Schemes only. In the cropped areas of the State, the Irrigation Department alone created irrigation potential of 8.04 (approx) lakh hectares up to March, 2017 through both completed and ongoing irrigation schemes of which 2.79 lakh hectares through both Major and Medium Irrigation Projects. And the rest 5.25 lakh hectares covered through Minor Irrigation Schemes. Under Minor Irrigation Sector a potential of 1.49 lakh hectares was also created through Shallow Tube Wells (STWs) and Low Lift points (LLPs) installed by the Assam State Minor Irrigation Development Corporation (ASMIDC) Limited.

FISHERY

Fishery sector has been recognised as a powerful sector for its role in economic development, income generation and scope for generation of employment opportunities throughout the State, especially for rural youths through fish production and its related activities, besides providing food and nutritional security to the people of the State. The State's vast water resources, includes its two major river systems – the Brahmaputra and the Barak with its 53 tributaries. These covers water spread area of 4820 sq. km. Besides, there is wetlands, low-lying areas, derelict water bodies, beels, tanks, ponds etc, which all add up to its vast potential for fish production covering an area of 2.86 lakh hectares of water resources. Assam is having water bodies and is an abode of fish. The state is considered as a bio-diversified hotspot for its diversified aquatic flora and fauna. The state

has so far recorded a total of 217 fish species, out of which 160 fish species are with more than 30% of the total freshwater fish varieties found in our region. Fish production in the State has reached a level of 3.07 lakh metric tonnes during 2016-17 against the estimated nutritional demand of 3.42 lakh metric tonnes. The contribution of the Fishery sector to the State Domestic Product (at constant 2011-12 prices) was Rs.475816 lakh as per provisional estimates 2015-16 and Rs.498850 lakh in 2016-17(QE) with average growth rate of 4.7% per annum during the period. With a view to increase per capita availability of fish and to narrow down the production-requirement gap, State Fisheries Department has adopted a number of positive interventions and has given special emphasis for scientific fish farming in beels and community tanks through awareness, training, government support and subsequent bank linkage. Strategies have also been formulated for sustainable development of the fisheries sector.

MILK, EGG AND MEAT PRODUCTION

The total milk production of the state for the year 2016-17 was estimated at 904 million liters as against 888.14 million liters during the previous year, which is just a 2% growth over the previous year. During the year Indigenous/ non-descript cattle milk is observed to have constituted 54% of the total milk production of the State while the contribution of Crossbreed cattle milk is around 31% and thus the cattle milk together contributes 85% to the total milk. Buffalo and Goat milk contributes 13% and 2% respectively to the total milk production. As such the per capita availability is estimated to be 74 mili litre per day.

The total number of egg production in the state for the year 2016-17 is estimated at 4770.73 lakh numbers as compared to 4740.48 lakh nos. of egg estimated in the previous year, which has shown a marginal increase of 0.64% over the year 2015-16. Out of the total egg production desi fowl egg constituted 71% while the contribution of improved fowl is only 4%. Thus the fowl eggs together constitute 75% to the total egg production. Desi duck and improved duck contribute 22% and 3% production respectively to the total egg production in Assam.

The total meat production during 201-16 was estimated at 45 thousand tons against estimated 42 thousand tons meat production in 2014-15. The meat production in 2014-15 is showing about 7% increase in meat production over the previous year.

INDUSTRY AND INDUSTRIAL GROWTH

The Industry sector comprises Mining & Quarrying, Manufacturing, Electricity, Gas, Water Supply & other Utility Services and Construction. In GDP of the State it is estimated that there will be a 5.11% growth at current prices in 2016-17(QE) over previous year. At current prices, the share of growth of the sub sectors to the Industry sector is estimated in Mining and Quarrying 1.90%, Manufacturing 9.32%, Electricity, Gas, Water supply & other utility Services 6.50% and Construction 3.50% . At constant prices, the contribution of the sub sectors to the Industry sector during the same year is

estimated at 1.80% in Mining and Quarrying, 7.90% in Manufacturing, 7.20% in Electricity, Gas, Water Supply & Other Utility Services and 1.70% in construction .

During the year 2016-17 the mineral production in the State has increased against a lower production of minerals during 2015-16, except Petroleum crude oil. During the year 2016-17 production of Coal, Limestone and Sulphur increased substantially by 51.13%, 261.31% and 52.04% respectively over the previous year. However, during the year 2016-17 production of Crude Oil has decreased over the previous year by 6.89%.

Creation of environment for industrialization by setting up Industrial infrastructure in the perspective of industrial development and attract investment through proper planning is the prime objective of the State Government. To achieve the goal the Department is creating a good numbers of infrastructural facilities as well as upgrading the existing ones located in different districts of the state. Infrastructural facilities in the State are Export Processing Industrial Park (EPIP), Industrial Infrastructure Development Centre (IIDC), Growth Centers, Food Processing Industrial Park, Industrial Estates, Industrial Areas, etc. The State is richly endowed with mineral resources and is a major contributing factor for industrial performance. Estates etc are spreading throughout the State. At present (in 2017), there are 20 Industrial Estates, 8 Mini Industrial Estates, 20 Industrial Areas and 18 Growth Centers in the State where 800 Industrial units are functioning. One Export Promotion Industrial Park (EPIP) has also been established with world class infrastructure at Amingaon in Kamrup(Rural) district, where 44 industrial units are producing export quality product of various kinds. In addition, 11 Industrial Infrastructure Development (IID) Centre in different districts and 3 Industrial Growth Centre, one Food Park at Chaygaon in Kamrup District and one North East Mega Food Park at Nalbari District have been established. The Department has established 3 (three) Industrial Growth centre (under a centrally sponsored project) at Balipara (Chariduar), Matia and Chaygaon.

Small scale industrial units occupies a vital role in industrial development in the State's economy. There are 45509 SSI/MSME units in Assam and provided employment to 2.69 lakh persons till the end of 2016-17. Table-11.4 shows some annual statistics in respect of setting up of SSI/MSME units up to 31-03-2017. It is evident from the table that average employment per unit of manufacturing enterprises in Assam is around 7(Seven) person during the period 2005-06 to 2016-17 and average investment per unit is Rs.15.61 lakh. The table also depicts that the average investment per unit is increased to 107% in 2016-17 over 2015-16.

PLANTATION CROP

TEA

The Tea industry occupies an important place in Assam and plays a very special role in the State economy. Assam alone produces more than half of India's tea production. The first Indian tea produced in Assam was sent to United Kingdom for public sale in the year 1838. Although the tea cultivation was extended to other parts of the country between 50's and 60's of the last century, as of today, Assam Tea has maintained its international reputation and commands significant share in the World Tea Market. The total area under tea cultivation in Assam is accounting for more than half of the country's total area under tea. In addition to existing big & large tea gardens owned by reputed both Indian and multinational Companies, the profession of tea plantation in the State has been taken up by common people as business venture at present, especially by unemployed youths. The tea industry in Assam also provides average daily employment to more than 6.86 lakh persons in the State, which is around 50 percent of the total average daily number of labour employed [on an average 11.1 lakh labour employed per day] in the country under Tea Industry. Assam has witnessed a spurt in the growth of small holdings during the last three decades and there is more than 1.0 lakh small holdings accounting for 200 hundred million kgs of made tea. Most of the Small Tea Growers (STGs) are first generation young and educated entrepreneurs who have started contributing immensely towards transformation of socio-economic life of rural Assam. According to the Tea Board of India, in 2014-15 there are 84591 registered small tea growers (STG) in Assam with 82251 hectares of land coverage in Assam. The estimated production of tea in Assam was 642.0 thousand tone in 2016 which is being produced in a 304 thousand hectare of land.

RUBBER PLANTATION

The rubber cultivation has been gaining its popularity in Assam due to congenial agro-climatic condition as well as its eco-friendly environment. The Rubber Board has identified Assam as a "Potential State" from the "productivity" point of view as the State too has ample scope of rubber plantation. Considering the said conditions, the Rubber Board has planned to enhance rubber plantation area to 2 lakh hectares at the end of Twelfth Five Year Plan from the 28102 hectare at present to cope with the growing demand of rubber in the country which is expected to touch 1.78 lakh MT at the end of 2025. The area under rubber cultivation has grown from 16.5 thousand hectares in 2006-07 to 57.65 thousand hectares in 2016-17. The tapping area as well as production of rubber has also been increased considerably during the same period.

HANDLOOM AND SERICULTURE

Assam is proud of traditionally producing Muga, Eri and Mulberry and lastly the Oak tassar in the hills districts. The State accounts for highest production of non-mulberry silk, muga and eri in the country. Assam has the monopoly in the world in the production of Muga, the "Golden Silk", as more than 97% of Muga Silk is produced in Assam. Assam has also achieved the right of 'Geographical Indication' for Muga thread. The State is also a Major producer of Eri Silk (about 65%).

This industry has undergone a number of changes with the changes in loom, fabric, design, technology etc. Non-mulberry silk in general and Muga silk in particular has been closely associated with the rituals and traditions of Assam and thus, silk production and its usage has been an important household activity in the State over the years. Muga Silk and Eri Silk have good demand in the national and international market. Rearing of Eri, Muga and Mulberry silkworm are playing an important role in the economic development of a large section of rural population of the State. It is practiced in 9935 villages at present and provides employment to 3.19 lakh families of the State. The production of silk in the State was 3647.49 MT during the year 2016-17 which is 34.45% higher than the previous year.

In Assam, Handloom Weaving is inexorably linked with Assamese Culture and Heritage. Handloom Industry of Assam provides maximum number of employment after agriculture is known for its rich glorious tradition of making handloom and handicraft products. Handloom is a precious part of generational legacy and has been kept alive by the skilled weavers engaged in the age old tradition of weaving since antiquity in Assam. Contrary to use of modern technology and tools in the textile sector in present days, the handloom sector continued to play very important role in terms of employment generation and the socio-economic development of Assam. Handloom sector in Assam has gradually grown to the expected level for commercial production. During 2016-17, there were 19.49 lakh weavers in the State out of which 15.30 lakh were part time weavers and 4.19 lakh full time weavers. The number of Handloom demonstration circle were 221 and 14273 numbers of villages were covered under the activity. During the year 2016-17 under Centrally Sponsored Scheme 63790 numbers of weavers were covered under the Health Insurance and 2752 weavers were given Weavers Credit Card.

TOURISM

Tourism is a fastest growing service sector industry in the world. Tourism is not only a growth engine but also an employment generator that has the capacity to create large scale employment both directly and indirectly, for diverse sections in society, from the most specialized to unskilled workforce. Tourism in Assam is based on wildlife, natural beauty, unique flora & fauna, holy shrines, lush green tea gardens, turbulent rivers, vibrant and colourful cultural festivals. Assam has immense tourism potentials especially eco-tourism is one of the fastest growing segments, therefore, the Government of Assam has given emphasis with relevant to natural beauty. During the year 2016-17, out of the five National Parks in the State, number of visit by foreign tourist increased in Orang, Dibru-Saikhowa and Nameri National Park. Maximum increase of 201% was noticed in Orang National Park compared to number of visit in 2015-16 followed by Dibru-Saikhowa (115%) National Park. However, the number of foreign tourist visit to these parks are still at low as compared to other parks of India. The trend of number of tourists visited various National Parks in Assam during the last nine years is shown in the main chapter. To unveil Assam to national and foreign tourist, various steps have been undertaken for infrastructure development and destination development and management for sustained growth of tourism sector of Assam. The electronic and print media are also been extensively utilized for publicity and marketing campaign.

FOREST

Forest consists of reserved forest areas and areas not yet declared as reserved but having potential. The Reserved Forest area and proposed Reserve Forest area is 13,973 sq. km. and 1,757 sq. km. respectively in 2016-17, as reported by the State Forest Department. The total Forest area excluding unclassified State Forest is 19,352 sq. km. and the area under Protected Area Network is 3,621 sq. km. In 2016-17.

The forest cover in the state, as per India State Forest Report 2015 is 27623 sq. km which constitute 35.26% of the total geographical area of the State. The total forest cover of the state has declined by 48 sq. km in 2015 against the Published figure in the State Forest Report for 2013. [According to the State Forest Report 2013, the forest cover of Assam was 27,671 km² of the State's geographical area]. This declined in the forest cover of the State is due to encroachment in forest land, biotic pressure and large scale shifting cultivation in hilly areas.

In terms of forest canopy density classes, the State has 1,441 km² of very dense forest, 11,268 km² of moderately dense forest and 14,914 km² of open forest in 2015 as per India State Forest Report, 2015. There is depletion of 77 km² of moderately dense forest cover in the State and an addition of 32 km² of open forest during the assessment period 2013 and 2015. Besides forest cover there is 1613 km² of tree cover in the state as per report and thus total of forest cover and tree cover is 37.27% of the total geographical area of the State and 3.68% of the total forest and tree cover of the country. The per capita forest and tree cover in the state is 0.094 hectare. Total forest and tree cover constitute 37.27% of the state's geographical areas against the all India's forest and tree cover of 3.68%.

POWER

Uprising trend in the consumption of energy is linked to the growth of the economy and modernisation, urbanisation and improvement of quality of life of the people living in a State or a Country. The Central Electricity Authority (CEA) data shows that the North East of India has hydro power potential of 63,257 MW or 43% of the total assessed hydro power of the Country. Among the North Eastern states, Assam has a capacity to produce 680 MW hydro power. The 18th Electric Power Survey of India was undertaken by CEA to forecast electric Energy Requirement and Electric Load and Power Station Bus Bars (Utilities only) for the Twelfth Five Plan (2012-13 to 2016-17) for all States/Union Territories of India. As per the Survey report by the end of 12th Plan period, the projected energy requirement for Assam is 8947 MU and Peak Electric Load is 1817 MW.

Census of India, 2011 report reveal that 37% households of Assam are using electricity as a source of lighting compared to 67% households of all-India level. The rural-urban differential of use of electricity as a source is very high in Assam. Only 28% rural households use electricity for lighting purpose in comparison to 84.1% urban households in Assam. According to the Assam Power Distribution Company Limited the total number of consumers in the State during the year 2016-17 were 3932745 of which

3690714 were domestic consumers and 242031 commercial consumers. The number of consumers in the State has increased by more than 250000 in 2016-17 as compared to previous year.

The status of power generation in the state is not satisfactory from the point of power requirement of consumers is concerned. The installed capacity of generating plants at present in the State is 379.7 MW which include Coal, Hydel and Gas plants of the State. There has always been a shortage of power supply in the state due to generation of less amount of power in comparison to its demand. However, the ASEB, has been trying to meet the power shortage by importing power from the Central Government and private foreign sources. The energy requirements in the State has been worked out at 8240 Million Units (MU) during the year 2016-17 as against 7857 Million Units (MU) during the year 2015-16 and 7233 Million Units in the 2014-15. But, availability of energy during the years 2016-17, 2015-16 and 2014-15 were 7948MU, 7571MU and 6955MU respectively. However, the own generation of power was 1650.607 MU during 2016-17, 1851.107MU during 2015-16 and 1894.7MU during 2014-15. The peak demand of electricity in the State has increased from 1424MW in 2014-15 to 1496MW during 2015-16 to 1679MW during 2016-17, though the shortage of power has come down from 212MW in 2014-15 to 157MW in 2015-16 to 45MW in 2016-17, the shortage in percentage being 15% in 2014-15, 10% in 2015-16 and 3% in 2016-17. As reported by the Power Department the aggregate transmission and commercial losses in the State, has been gradually coming down from 21.14% in 2014-15 to 18.12% in 2015-16 to 17.89% in 2016-17.

EMPLOYMENT SCENARIO

Census of India defines all persons engaged in 'work' as participation in any economically productive activity with or without compensation, wages or profits are workers. The year preceding the date of enumeration is taken as the reference period for determining a person as worker or non-worker. The Census of India collects information on economic activity of an individual and classifies workers into two groups namely, Main workers who had worked for the major part of the reference period i.e. 6 months or more and Marginal workers who had worked less than six months.

The Ministry of Labour and Employment, Govt. of India has entrusted the task of conducting Employment and Unemployment surveys on regular basis to the Labour Bureau, Govt, of India. The result of the Fifth Annual Employment Unemployment Survey, 2015-16 conducted by the Labour Bureau reveals that the Labour Force Participation rate in respect of the age-group 15 years and above according to usual status approach for both principal status (ps) and subsidiary status (ss) in Assam is 53% in rural areas, 50% in urban areas and 53% taking urban and rural areas as a whole against the all India rate of 56%, 44% and 52% respectively.

The total employment in the public and private sector establishments under Employment Market Information Programme in 2016 was 15.49 lakh (in public sector 5.83 lakh and in private sector 9.66 lakh) compared to 11.66 lakh (in public sector 4.92 lakh and

in private sector 6.74 lakh) in 2015. Thus it increased by 33% in 2016 over 2015. During 2016 female employment was 26% of the total employment against 34% in 2015. Out of the total 5.83 lakh employment in public sector, share of local bodies was 1.64% and share of State Quasi Government was 9.18% during the year. The small scale industries (SSI) and Micro, Small and Medium Enterprise (MSME) sectors have a major contribution towards creating employment in the State. There are 45509 numbers of SSI/ MSME units in Assam providing employment to 268500 persons till the end of 2016-17 as compared to 43332 units with employment of 249145 persons in 2015-16.

The State has 53 employment exchanges comprising of 49 general, 1(one) special and 3 Employment Information and Guidance Bureau. Moreover, there are 28 Employment Information and Assistance Bureau to guide the unemployed youths for employment. Two Districts of BTAD, Baksa and Chirang have no Employment exchange. The number of unemployed as per Live Register has increased to 2010603 in 2016 from 1915886 in 2015 and recorded an increase by 4.94% in 2016 over 2015. The size of the educated job seekers is considerably high, which is a challenge before the growing economy of the State. From the records of the live register of Employment Exchanges, the registered educated job seekers stood at 1642718 during 2016 against 1523531 during 2015 thereby showing an increase of 7.82% during 2016. The percentage of educated job seekers constitutes about 82% of the total job-seekers.

RURAL DEVELOPMENT

Poverty alleviation and economic upliftment of rural poor is the basic objective of the Panchayat and Rural Development Department of Assam for which various national and State level flagship schemes have been implementing by the this department. For eradication of poverty the Depart has been implementing various National and State level flagship schemes viz. Indira Gandhi National Old Age Pension Scheme, National Family Benefit Scheme, Annapurna, Chief Minister's Assam Bikash Yojana, Backward Region Grant Fund, etc. The Rural Development, on the other hand, is also implementing programmes like IAY, MGNREGA etc for upliftment life and generate and employment of the rural poor of the State.

During 2015-16 the Department completed construction of more than 74097 IAY houses against the annual target of 123193. Indira Awaas Yojana (IAY) programme has now been restructured as Pradhan Matri Awaas Yojana- Gramin. About 102877 houses sanctioned and started construction against the annual target of 219695 during the financial year 2016-17 more than 176335 incomplete IAY houses of the previous years have been completed during the same year. Under PMAY-G scheme during the year 2016-17, 325 houses constructed against the target of 219695. During the year 2014-15 Rs.90160.35 lakh has been utilised against the fund received Rs.93744.86 lakh under IAY Scheme while in the year 2015-16 Rs.82455.91 lakh has been utilised against the receipt of fund Rs.11,0413.03 lakh. In the year 2016-17 under IAY scheme, Rs.50,890.09 lakh has been utilised against the fund received Rs.27,245.79 lakh. Under PMAY-G scheme Rs.11383.84 lakh has been utilised against the fund received Rs.11,029.54 lakh.

National Rural Livelihood Mission (NRLM) has been addressing the needs of rural poor by adopting a multi pronged strategy for poverty eradication through building and

nurturing organizations of the poor. Under NRLM during 2016-17 the nos. of Women Self-Help group formed is 19582 against the target of 24014 in the State while in 2015-16 the achievement was 13682 against the target of 11305. The number of Women SHGs provided with Revolving Fund (RF) during 216-17 was 21174 against the target of 16750 while in 2015-16 it was 13298 against 13985 number of SHGs.

BANKING

According to the Reserve Bank of India, the number of reporting Bank Offices of all Scheduled Commercial Banks in Assam has been increased from 1317 as on March 2008 to 2276 as on March 2017. With the increase in the bank networking, the dependence per bank offices in Assam has been considerably decreased over the years and reduced from 59.56 sq. km as on March 2008 to 34.46 sq. km. as on March 2017. However, average population covered per bank branch office in Assam was calculated at 13.71 thousand (based on Population Census 2011) as on March, 2017 compared to all-India average of 8.8 thousand during the same period. At the end of March 2017, out of the 2276 bank offices, 46% bank offices were located in rural, 28% were in semi-urban and 26% were in urban areas.

The expansion of banking facilities in the State over the years has resulted in increase of volume of deposits and also disbursement of credit. The aggregate deposit with Scheduled Commercial Banks in Assam, which was Rs.103794 crore in March 2016, has increased to Rs.122307 crore in March 2017. The volume of deposits has been increased by 17.84% in March 2017 over the previous year. The per capita deposit in the State has also increased from Rs.33267 in March 2016 to Rs.39201 in March 2017. Thus, the per capita deposit in the State has recorded 17.84% increase over the previous year.

Like deposits, disbursement of credit by Scheduled Commercial Banks also recorded an impressive growth in Assam. The total volume of credit disbursed by the banks has been increased to Rs.48776 crore in March 2017 from Rs.42671 crore in March 2016, which is a growth of 14.31% during the period. However, the credit disbursement by the Scheduled Commercial banks in Assam shared only 0.62% of the total credit disbursed in the country as a whole during March 2017. The per capita credit has been increased to Rs.15633 in March 2017 compared to Rs.13677 in March, 2016.

The Credit-Deposit ratio of all Scheduled Commercial Banks in Assam has reduced from 41.1% in 2015-16 (ending March, 2016) to 39.9% in 2016-17 (ending March, 2017). The Credit –Deposit Ratio of all Scheduled Commercial Banks in Assam, however, remained far below when compared with the All India ratio. During the year 2016-17 (ending March 2017) the Credit-Deposit Ratio of all Scheduled Commercial Banks in Assam was 39.9% compared to 73.7% at all-India level.

ROADS

The road network in Assam comprises of total 58202 km of roads consisting of 3900.44 km National Highways, 2530 km State Highways, 4379 km Major District Roads, 1615 km Urban roads, 37030 km Rural Roads and the rest are Panchayat & Other Non PWD Roads approximately 6000 km and Municipal Roads 1087 km. At present 49454.44 km road network including 3900.44 km National Highways [of which 223.31 km under construction and 894.79 km newly declared NH Way] is maintained by the State PWD. Excluding the National Highways, 27003 km out of the total 45554 km road length maintained by the PWD is blacktopped. Most of the State Highways and Major District Roads are Single lane roads and hardly 6% of the State Highway is double lane and Major District Roads are intermediate lanes. According to the India road Congress Vision, 2021, the State Highways should be 100% double lane and 40% of the Major District roads should be doubled lane. Also the weak pavements and bridges should be strengthened to cope with heavy traffic. The effort of the State PWD helps to bring down the number of semi-permanent timber bridges from 5450 in 2001 to 1433 as on March 2017. In addition construction of the number of RCC bridges has been increased from 309 in 2001 to 4563 in 2016. Presently more than 923 RCC bridges are at different stage of construction.

TRANSPORT

The rapid increase of the number of motor vehicles on road in Assam has been observed over the past few years. The on road vehicle population in the State has reached 2837829 as on March 2017 compared to 2666589 as on March 2016. An additional of 171240, which is 6.42% on road motor vehicles was added during the year 2016-17 over 2015-16. Out of the total 2837829 motor vehicles during on road about 63% vehicles were two wheelers. According to the Motor vehicle registering authority of the State as many as 292980 new motor vehicles were registered during the year 2016-17 in the State which is 0.72% more than that of the previous year. Out of the total registered motor vehicle more than 69.4% were two wheelers. The density of motor vehicles in Assam was 34.9 per sq. km. during the year 2015-16 as against 30.4 vehicles per sq. km. during the year 2014-15. During the year 2000-01, density of motor vehicles in Assam was only 6.8 per sq. km.

INLAND WATER TRANSPORT

Inland water transport is generally accepted as the most efficient mode of transportation from the point of energy consumption. It is also considered as the cheapest mode of transportation as well as labour intensive and environment friendly in nature. The Brahmaputra has 891 km. navigable length of water ways from Sadiya to Dhubri while the Barak has 121 km. length of navigable waterways. The Sadiya – Dhubri stretch (891 km.) of the Brahmaputra River has been declared as the 2nd National waterways of the country in the year 1988 and afterwards the proposals to activate the Commercial Service have been moved for overall economic development of the North-eastern Region. The Lakhimpur - Bhanga stretch of 121 km. of the Barak River is also declared by the Union Govt. as the 6th National Waterway in January 2013 for unified development of the waterways for shipping and navigation and transportation of cargo to

the North Eastern Region particularly in the states of Assam, Nagaland, Mizoram, Manipur, Tripura and Arunachal Pradesh.

At present the Directorate of Inland Water Transport(IWT) is operating 85 (eighty five) ferry services under 3(three) IWT Divisions on the river Barak, Brahmaputra and its tributaries for the purpose of public utility. The IWT Department has introduced 54 nos. of cargo cum passenger service also in Assam for transportation of commuters throughout the nook and corner of the State where no road communications are available. The total number of passengers carried is 9187143 and the total amount of goods carried is 387108 qtls. in 2016-17. The revenue earned by the IWT department during the same period is Rs. 5.5 crore.

COMMUNICATION

POSTAL COMMUNICATION

The Assam Postal Circle has a network of 4012 Post Offices and 12427 nos. of Letter Boxes [as on 31st March 2017] out of which 11304 post offices are located in rural areas. On an average, each Post Office serves a population of 22523 persons and covers 20.72 sq km in rural areas while 4.39 sq km in urban areas. There are 3 Night Post Offices also functioning in the State located at Guwahati GPO, Dibrugarh HO and Silchar HO for convenience of the people. In addition, there are 625 modernised post offices and 629 computerised post offices in the State. Apart from the above, there are 4 National Speed Post Centre and 16 Speed Post Centre in the State and Postal Mail Conveyance covers 4428 railway kilo metre. The Assam Postal Circle has taken initiative to start Core Banking Solution (CBS) in 12 selected post offices of Assam under Pilot Project to bring the postal customers under postal banking coverage so that the customers can access their savings bank accounts from any of the above selected post office. Assam is among the six states across India selected for the Pilot. Assam State has also been selected for the Rural-ICT project for computerisation and networking of rural post offices (also called Branch Post Offices). A total of 375 Branch Post Offices of Sivasagar Postal Division comprising of three districts–Sivasagar, Jorhat and Golaghat are the pilot offices covered under Rural-ICT project for Assam Circle.

TELECOMMUNICATION

It is evident from the status of telecom facilities in Assam that the overall tele-density (Telephone per 100 of population) of the State as on March 2016 was 63.25 as against the national average 87.85. While the urban tele-density of Assam stood at 148.86 as on March 2016 compared to 132.26 as on March 2015, the rural tele-density was only 46.63 as on March 2016 and seems to be higher over the previous year (39.18). However, in respect of overall tele-density as well as urban tele density the position of Assam stood far below the national average [overall 87.85 and Urban 164.13 as on March 2016. In respect of rural segments also tele-density of Assam was considerably below the national average (Rural-52.97) during the same period.

The subscriber base basic services provided by the BSNL in the State were 1667606 as on March 2016 which shows a growth of 10.9% over the previous year. The total number of telephone connections as on March 2016 was 19.5% more than that of March 2015. Private operators also provided 1980 wire-line phones to its subscribers till March 2016 in Assam. In respect of wireless phone [mobile segment] connections, there were 2.05 crore mobile subscribers in Assam as on March 2016. BSNL alone provides around 8.6percent of the total mobile connections in the State till March 2016. The private mobile service operators, on the other hand, provided about 1.90 crore mobile connections as on March 2016. Thus, the share of mobile connections provided by the private operators has increased from 91.7% as on March 2015 to 92.8% as on March 2016.

According to the Annual Report 2016-17 of the Department of Telecommunications, Govt. of India, there were 20694170 telephones in Assam out of which 2.64% were rural. Moreover, the total telephones in Assam as on March 2016 share only 1.84% of total telephones in the Country. BSNL also provided Village Public Telephones (VPTs) to 5297 inhabited villages of Assam till March 2016.

PUBLIC DISTRIBUTION SYSTEM

Public Distribution System is operated under the joint responsibility of the Central and the State governments. In Assam, the Food and Civil Supplies Department looks after the allocation and distribution of food grains, identification of families below poverty line, issue of ration cards and supervision and monitoring of stock position and distribution of food articles etc. by the fair price shops. The Department is also entrusted with the responsibility of procurement of paddy and rice under 'Minimum Support Price' scheme under the 'The Food Management Policy' of the Ministry of Food and Public Distribution of Govt. of India to ensure remunerative price to the producers for their agricultural produce and to provide the procured food grains to the consumers fairly at reasonable and affordable price. The Government of Assam has implemented the NFSA'13 in the state from December 2015. Under NFSA, 2.52 crore people covering 84.17% of rural areas and 60.35% of urban areas of the state are being covered for distribution of food grains at highly subsidized rate. The AAY beneficiaries of the previous TPDS have been included as AAY categories of beneficiaries under NFSA'13. The eligible families from the earlier BPL, APL, Mukhya Mantrir Anna Suraksha Yojana (MMASY) card holders have been included as Priority Household families under NFSA'13. The selected AAY families are getting 35 kg of rice per Ration Card per month while the selected Priority Household families are getting 5 kg of rice per member of the family per month. At present 5623 numbers of AAMAR DUKAN shops are functioning in the State that provides 23 essential commodities at much lesser price than the printed MRP.

EDUCATION

The role of education for socio-economic development of the society is well recognized. With the help of target oriented interventions, the number of educational institutions has increased over the years. Literacy Rate of Assam is 72.19 with male literacy rate 77.85, which is behind the National rate of 72.99 and male literacy rate of 80.89 respectively. The female literacy rate with 66.27 stood above the all-India average rate of 64.64.

The Gross Enrolment Ratio (GER) at Primary Level during 2014-15 and 2015-16 in Assam is 114.96 and 106.11 against 100.08 and 99.21 respectively for all States. The GER at Upper Primary Level during 2014-15 and 2015-16 in Assam was 95.86 and 93.05 compared to 91.24 and 92.81 for all States respectively as per U-DISE 2015-16. The average annual drop-out rate at Primary level in the State during 2016-17 as per DISE, was 5.7, which was 15.36 in 2015-16, against the all India drop-out rates of 6.7. At the Upper Primary level the average drop-out rate in the State during 2016-17 is 3.00, which was 10.51 in 2015-16, against the all India rate of 9.8. The Pupil-Teacher Ratio in the Primary and Upper Primary Levels of the State during the year 2015-16 was 21 and 23 while the PTR ratio during 2016-17 is 26 and 18 respectively as against the all States ratio of 23 and 17 respectively.

HEALTH AND FAMILY WELFARE

The status of Health infrastructure in the State is improving over the years. At present there are 25 Civil Hospitals, 13 Sub-Divisional Civil Hospitals, 1014 PHCs, 62 FRUs, 151 CHCs and 4621 Sub Centres with 18356 numbers of total beds in the State at the end of 2016. The number of available Medical and Paramedical staff in the State is 5004 including Ayurvedic and Homeopathic doctors in 2016.

The Government of Assam has taken various steps for improvement of maternal health and reduction of infant mortality as a measure of human and social development. The Maternal Mortality Ratio of the State during 2011-13 has shown a little improvement over the period of 2010-12. During the period 2011-2013 MMR, of Assam has come down to 300 from 328 while in India it is 167 which has coming down from 178. Due to improvement in the field of Medical Science and various Social Security measures adopted. Infant Mortality Rate in Assam is 44 against 34 in India during 2016 which is still very high as compared to national level. Similarly in Rural area it is 46 while in urban area it is 22 at State level. At the national level, IMR at Rural is 38 and 23 in Urban area during 2016.

CHAPTER – II POPULATION

IMPORTANT FEATURES

Assam, a state situated in the northeast region of India, is the gateway to the region, the premier, largest and the most vibrant of the eight states comprising the Northeast. It borders seven states namely, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and West Bengal and two countries, namely Bhutan and Bangladesh. Its topographical asymmetry underscored by the Brail hill range sandwiched between two valleys – the Brahmaputra and the Barak, named after the two dominant rivers. Assam has a total geographical area of 78,438 sq. km, occupying 2.4% of India's landmass, providing shelter to 2.6% of India's population. For administration and revenue purposes, the State has presently 33 districts, including six newly created districts namely Biswanath, Charaideo, Hojai, South Salmara-Mankachar, West Karbi Anglong and Majuli.

DECADAL GROWTH OF POPULATION IN INDIA AND ASSAM IN PERCENTAGES

As per Census of India, 2011 the total population of Assam is 3,12,05,576 of which 1,59,39,443 are males and 1,52,66,133 are females. The decadal growth rate (DGR) of the State's population during 2001-2011 has been worked out as 17.07% against 17.68% for India as a whole.

DENSITY OF POPULATION (TOTAL PERSONS PER SQ. KM.) OF ASSAM AND INDIA

The density of population in Assam has increased from 340 persons per sq km in 2001 to 398 persons in 2011 census. Thus, on an average 58 more people inhabit every square kilometer in the state compared to a decade ago. The population density of India has gone up to 368 persons in 2011 census per square kilometer from 325 persons in 2001.

STATE POPULATION POLICY

Population control remains one of the most challenging tasks before the state today. Population of Assam has increased to 3.12 crores in 2011 from 2.66 crores in 2001 with DGR of 17.07%. Population density of the State has also increased from 340 persons per sq km (in 2001) to 398 persons (in 2011). Present status of Total Fertility Rate (TFR) of 2.3 (SRS, 2013) shows that the State is yet to achieve the target for

replacement level fertility i.e 2.1. with limited natural resources at its disposal, Assam cannot afford the continuation of its rapid population growth, since it is not difficult to visualize the quantum jump in the demand for food grains, water and other basic infrastructure to just sustain this level of human population. Unemployment issues cannot be solved without solving the population stabilization issues. Having realized the impact of such huge population to provide quality of life of the people of the state, it was felt that a comprehensive policy and action plan are necessary to achieve the replacement level fertility.

In this backdrop, a new State Population Policy is being developed to sort out the issue of population stabilization by focusing on the comprehensive reproductive and child health care issues. The endeavor is to create an atmosphere of positive discrimination-with proper incentives and disincentives. Although there will be no compulsion or coercion at any stage, the effort will be to create an enabling mechanism to encourage people to adopt small family norms, for example, preference in government jobs, reservation of seats in higher & technical education segments for small families etc.

TABLE-2.1: POPULATION TREND IN ASSAM AND INDIA

Year	Population (in lakh)		Percentage Decadal Variation		Density (Person per sq. km.)	
	ASSAM	INDIA	ASSAM	INDIA	ASSAM	INDIA
1901	33	2384	-	-	42	77
1911	38	2521	17.0	5.8	49	82
1921	46	2513	20.5	0.3	59	81
1931	56	2789	19.9	11.0	71	90
1941	67	3186	20.4	14.2	85	103
1951	80	3611	19.9	13.3	102	117
1961	108	4392	35.0	21.5	138	142
1971	146	5481	35.0	24.8	186	177
1981	*180	6833	*23.4	24.7	*230	230
1991	224	8463	24.2	23.9	286	267
2001	266	10270	18.9	21.5	340	325
2011	312	12106	17.1	17.7	398	368

*Interpolated.

Source: Census of India 2011

Some important features of population of Assam as per Census 2001 and 2011 are shown in the following Table.

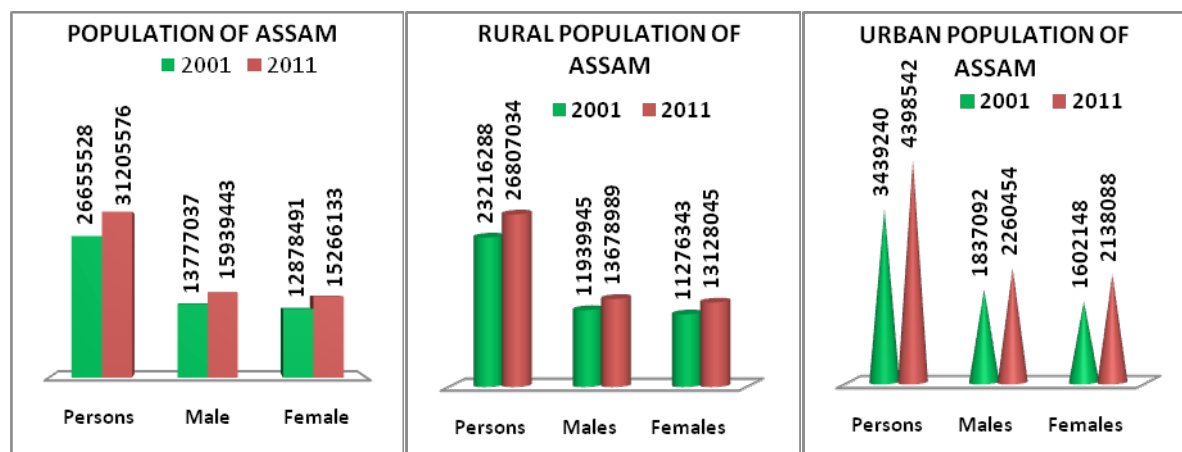
TABLE – 2.2: POPULATION FEATURES AT A GLANCE OF ASSAM

Particulars	Unit	2001 Census	2011 Census
Population	Lakh	267	312
Decadal Growth	Percent	18.92	17.1
Change in percentage of decadal growth	Percent	(-) 5.32	(-)1.8
Density	Per Sq. Km.	340	398
Sex-Ratio	Females per 1000 males	935	958
Literacy	Percent	63.25	72.19
(a) Male	Percent	71.28	77.85
(b) Female	Percent	54.61	66.27
Urban Population	Percent	12.90	14.09
(a) Male	Percent	53.41	51.39

(b) Female	Percent	46.58	48.61
Rural Population	Percent	87.10	85.90
(a) Male	Percent	51.43	51.03
(b) Female	Percent	48.57	48.97
SC Population	Percent	7.40	7.15
ST Population	Percent	12.83	12.45

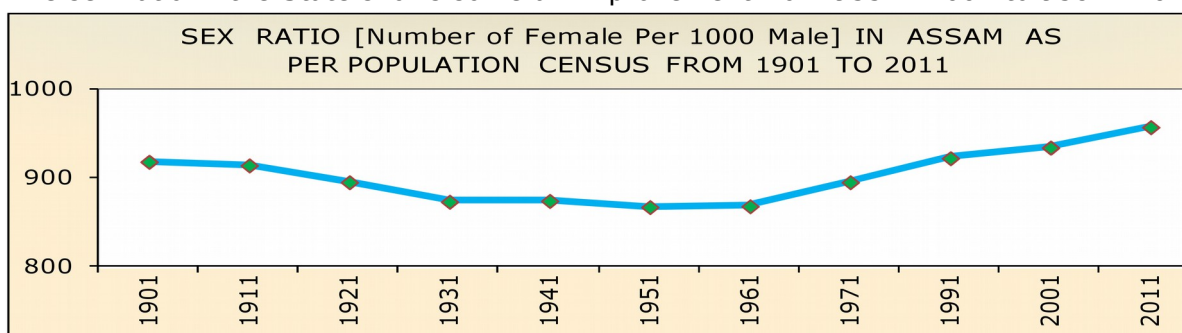
POPULATION: RURAL AND URBAN

As per Population Census, 2011, the rural population of the State was 86.0 percent of the total population. This percentage was much higher than that for All-India (69.0 percent). The proportion of rural population in the State decreased from 87 percent in 2001 to 86 percent in 2011. Out of the total rural population 51.03 percent were male and 48.97 were female. As per the Population Census, 2011, around 14 percent of the total population of the State was living in urban areas. The proportion of urban population in the State increased from 12.9 percent in 2001 to 14 percent in 2011.



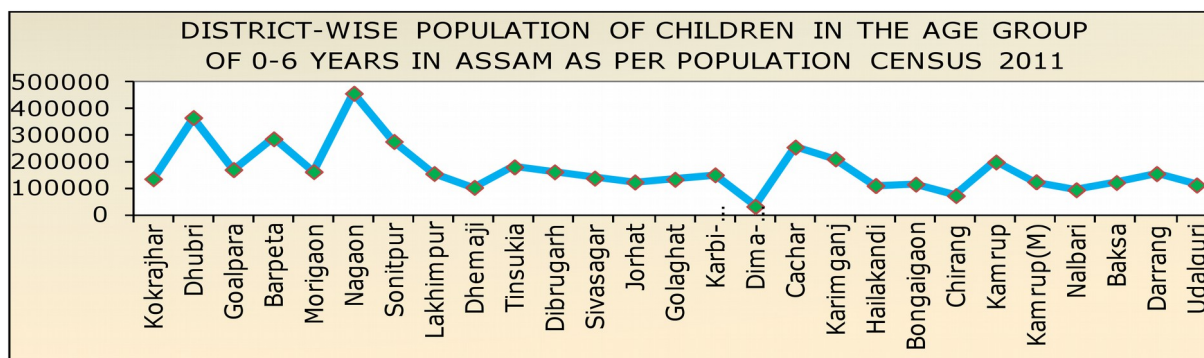
SEX RATIO

The sex-ratio in the State shows some an improvement from 935 in 2001 to 958 in 2011.



The sex ratio for all ages for rural area was calculated at 960 and for urban area were 948. The sex ratio in the age-group 0-6 years is the vital indicator of future sex composition in the population in the State. Child sex ratio in the State was 962 female per 1000 male

child as per Census, 2011. The corresponding sex ratio in the State for the age-group 0-6 years was 967 in 2001 and 975 in 1991.



On the other hand, sex ratio at birth (0-1 year) in Assam as per 2011 Census was calculated at 957 female per 1000 male. The sex ratio at birth for rural area was 958 and for Urban were 948. District wise analysis of sex ratio at birth shows that Dima Hasao district recorded highest sex ratio of 985 and the lowest is recorded in Dhemaji District with 922. The sex ratio of Scheduled Castes and Scheduled Tribes population in Assam were 948 and 985 respectively in 2011. In respect of rural and urban divide, the sex ratio for Scheduled Castes population is 945 and 963 respectively and for Scheduled Tribes population the figures are 984 and 996 respectively.

LITERACY RATE

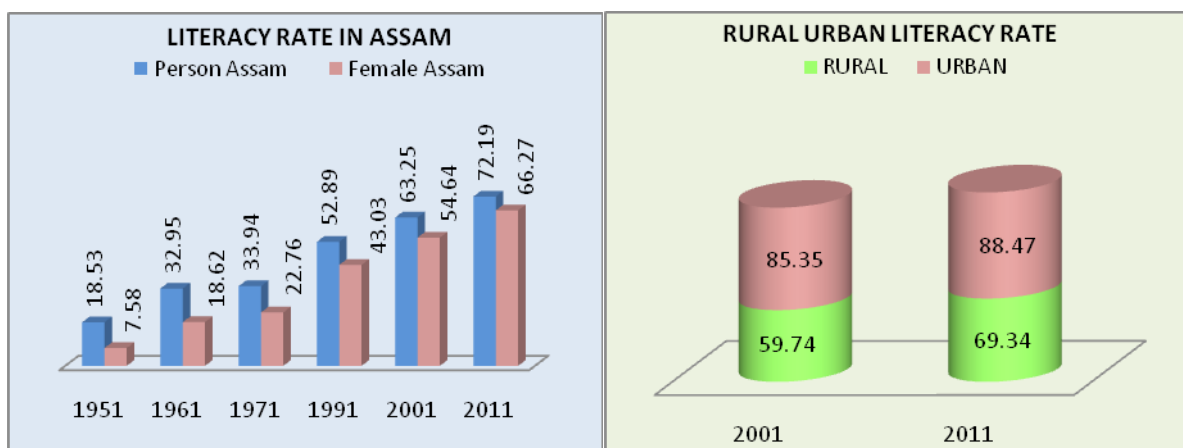
The growth of literacy in Assam has shown an encouraging sign. The literacy rate for Assam as per Census 2011 increased to 72.19 percent with 77.85 percent for males and 66.27 percent for females. The literacy rates for rural and urban areas were calculated at 69.34 percent and 88.47 percent respectively. The literacy rate for country as a whole, on the other hand, increased to 73 percent from 65 percent with male and female differentials of 80.09 percent and 64.64 percent respectively. The progress of literacy rate in Assam and all India may be evident from the table 2.3.

TABLE – 2.3: LITERACY RATE: ASSAM AND INDIA

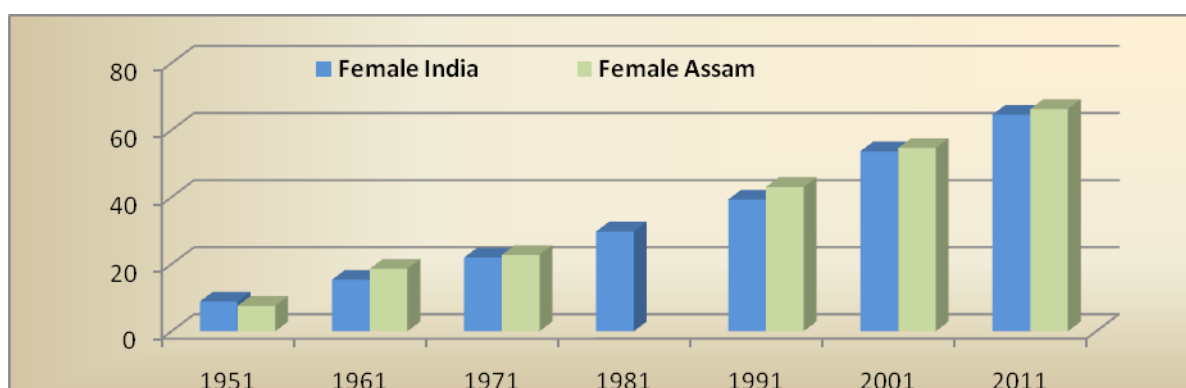
(Figure in %)

State	1991			2001			2011		
	Person	Male	Female	Person	Male	Female	Person	Male	Female
Assam	52.89	61.87	43.03	63.25	71.28	54.61	72.19	77.85	66.27
India	52.21	64.13	39.28	64.83	75.26	53.67	72.99	80.89	64.64

Source: Registrar General of India



FEMALE LITERACY IN ASSAM AND INDIA



ASSAM HIGHLIGHTS – 2011 CENSUS

The Census Directorate of Assam highlighted the following observation after completion of the Population Census, 2011.

- Growth of population in the state during 1971-2011 is 113.12 percent against the national growth rate of 120.77 percent during this period.
- Assam ranks 14th in size of population among the states of India.
- Assam ranks 15th in density among the states of India.
- Assam ranks 15th in sex-ratio among the states of India.
- Assam ranks 26th in literacy among the states of India.

Some State highlights in 2011 census, such as highest and lowest population, percentage of growth, literacy rate, sex ratio and density among the districts of Assam may be seen in the following.

Item	Highest	Lowest
Total Population	Nagaon (826,006)	Dima Hasao (213,529)
Total Rural Population	Nagaon (2,457,906)	Dima Hasao (152,302)
Total Urban Population	Kamrup Metro (1,044,832)	Baksa (12,173)
Percentage of Population Growth	Total	Dhubri (24.40)
	Rural	Dhubri (27.13)
	Urban	Nalbari (200.34)
Literacy Rate	Total	Kamrup Metro (88.66)
	Rural	Jorhat (81.36)
	Urban	Hailakandi (94.67)
Sex-ratio	Total	Morigaon (974)
	Rural	Morigaon (975)

	Urban	Hailakandi (992)	Dima Hasao (880)
Density		Kamrup Metro (2,010)	Dima Hasao (44)

POPULATION BY ECONOMIC ACTIVITY

Classification of population by economic activity according to the result of Population Census, 2011 reveal that out of the total population of 31205576 in the State, 11969690 (38 percent) were total workers. Out of the total workers 8687123(72 percent) were main workers and 3282567 (27 percent) were marginal workers. Among the total male workers 82 percent were main workers, 18 percent were marginal workers and among females workers 48 percent were main workers and 52 percent were marginal workers. Out of the total 11969690 workers in Assam, 3138554(26 percent) were Cultivators, 903294(8.0 percent) were Agricultural labourers, 242071(2.0 percent) were engaged in Household Industries and 4403204(37.0 percent) were Other Workers.

Among the total marginal workers (3282567), 923073(28.0 percent) were Cultivators, 942052 (29.0 percent) were Agricultural labourers and 249250 (7.6 percent) were Household Industry workers.

TABLE – 2.4: DISTRIBUTION OF WORKERS AND NON WORKERS IN ASSAM

Workers	Person	Male	Female
Total workers	11969690	8541560	3428130
Main workers	8687123	7034642	1652451
Marginal workers	3282567	1506918	1775649
Cultivators	3138554	2698384	440170
Agricultural labourers	903294	705306	197988
Household Industries workers	242071	146566	95505
Other workers	4403204	3484386	918818
Non workers	19235886	7397883	11838003

Source: State Primary Census Abstract

BIRTH AND DEATH RATES

The data published in the Sample Registration Bulletins by the Registrar General of India depicts the trend of birth and death rates, natural growth rate and infant mortality rate in the State and it is evident that although there has been a trend of gradual declination, the birth rates, death rates and infant mortality rates in the State were found to be higher than that of the country as a whole. As per available information received from the Registrar General of India, during the year 2012, the birth rates, death rates and infant mortality rates of Assam have been 22.5, 7.9 and 55 per mille as against 21.6, 7.0 and 42 per mille respectively at all-India level. The Table - 2.5 shows the birth, death, natural growth and infant mortality rates of Assam and India from 2001 to 2012.

**TABLE-2.5: BIRTH RATE, DEATH RATE, NATURAL GROWTH RATE,
INFANT MORTALITY RATE OF ASSAM AND INDIA (PER MILE)**

YEAR	Birth Rate		Death Rate		Natural Growth Rate		Infant Mortality Rate	
	ASSAM	INDIA	ASSAM	INDIA	ASSAM	INDIA	ASSAM	INDIA
2001	27.0	25.4	9.6	8.4	17.4	17.0	74	66
2002	26.6	25.0	9.2	8.1	17.4	16.9	70	63
2003	26.3	24.8	9.1	8.0	17.2	16.8	67	60
2004	25.1	24.1	8.8	7.5	16.3	16.6	66	58
2005	25.0	23.8	8.7	7.6	16.3	16.3	68	58
2006	24.6	23.5	8.7	7.5	15.9	16.0	67	57
2007	24.3	23.1	8.6	7.4	15.7	15.7	66	55
2008	23.9	22.8	8.6	7.4	15.4	15.4	64	53
2009	23.6	22.5	8.4	7.3	15.2	15.2	61	50
2010	23.2	22.1	8.2	7.2	14.9	14.9	58	47
2011	22.8	22.1	8.0	7.2	14.8	14.7	55	47
2012	22.5	21.6	7.9	7.0	14.6	14.5	55	42

Source: Sample Registration Bulletin, R.G.I., New Delhi

SLUM POPULATION

As per Census, 2011, thirty one (31) towns in Assam were reporting slums against 2613 towns reporting slums in India as a whole. According to the Census of India, 2011, the Slum population stands at 197,266 of which 101,424 are males and 95,842 females. The Slum population accounts for 0.63 percent of the total population of the State. The child population (0-6years) in Slum population is 22,229 out of which 11,378 are males and 10,851 are females. The corresponding child population (0-6 years) in all India level is 8,082,743 of which male & females are 4,204,451 and 3,878,292 respectively. The Slum population to the urban population of the State is 4.5 percent. The all India figure for Slum population as per Census, 2011 is 65,494,604 of which 33,968,203 are males and 31,526,401 are females.

LITERACY RATE OF SLUM POPULATION

The Literacy rate for Slum population is 72 percent with 76 percent for male and 68 percent for female population, according to Census 2011. The corresponding figure for literacy in all India level is 68 percent with 73 % and 62 % for male and female literacy respectively.

APPENDIX-2.1

DISTRICT-WISE DEMOGRAPHIC PROFILE OF ASSAM, 2011 CENSUS

Sl. No.	District	Area in Sq. Km.	Population	Rural Population	Urban Population	Population Density per Sq. Km.
1	Dhubri	2176	1949258	1745557	203701	896
2	Bongaigaon	1093	738804	628994	109810	676
3	Kokrajhar	3296	887142	832201	54941	269
4	Chirang	1923	482162	446825	35337	251
5	Baksa	2457	950075	937833	12242	387
6	Goalpara	1824	1008183	870121	138062	553
7	Barpeta	2282	1693622	1546269	147353	742
8	Nalbari	1052	771639	688909	82730	733
9	Kamrup (M)	955	1253938	216927	1037011	1313
10	Kamrup (R)	3105	1517542	1375148	142394	489
11	Darrang	1585	928500	873006	55494	586
12	Udalguri	2012	831668	794094	37574	413
13	Sonitpur	5204	1924110	1750265	173845	370
14	Lakhimpur	2277	1042137	950804	91333	458
15	Dhemaji	3237	686133	637848	48285	212
16	Morigaon	1551	957423	884125	73298	617
17	Nagaon	3973	2823768	2454234	369534	711
18	Golaghat	3502	1066888	969152	97736	305
19	Jorhat	2851	1092256	871722	220534	383
20	Sivasagar	2668	1151050	1040954	110096	431
21	Dibrugarh	3381	1326335	1082605	243730	392
22	Tinsukia	3790	1327929	1063186	264743	350
23	Karbi-Anglong	10434	956313	843347	112966	92
24	Dima Hasao	4888	214102	151613	62489	44
25	Karimganj	1809	1228686	1118986	109700	679
26	Hailakandi	1327	659296	611156	48140	497
27	Cachar	3786	1736617	1421153	315464	459
ASSAM		78438	31205576	26807034	4398542	398

Source: Census of India, 2011

APPENDIX – 2.2

DECADAL PERCENTAGE VARIATION IN POPULATION OF ASSAM

District	1901-1911	1941-1951	1951-1961	1961-1971	1971-1991	1991-2001	2001-2011
Dhubri*	28.73	12.74	43.74	43.26	45.65	22.97	24.44
Bongaigaon*	28.69	12.88	36.27	35.81	38.77	22.09	20.59
Kokrajhar*	28.73	17.11	55.41	54.89	61.96	14.49	5.21
Chirang*	5.02	18.18	40.32	57.37	103.33	(-) 0.08	11.34
Baksa*	18.36	33.68	60.52	66.67	73.65	12.51	10.74
Goalpara	29.97	9.25	37.10	45.88	54.12	23.03	22.64
Barpeta*	18.65	16.62	34.39	33.91	40.97	19.62	21.43
Nalbari*	15.24	35.15	33.56	31.79	75.78	14.21	11.99
Kamrup(M)*	6.59	2.39	13.30	19.99	20.77	45.91	18.34
Kamrup *	10.01	17.01	45.12	44.48	81.53	14.97	15.69
Darrang*	22.72	18.58	40.94	36.05	89.77	22.18	22.19
Udalguri *	45.60	29.13	54.04	37.85	43.03	10.02	9.61
Sonitpur*	23.67	22.02	41.99	33.17	68.08	18.11	15.55
Lakhimpur	26.29	17.94	50.46	43.39	56.29	18.30	17.22
Dhemaji	26.29	17.94	75.21	103.42	107.50	19.45	19.97
Morigaon	15.84	36.63	37.89	37.51	50.90	21.35	23.34
Nagaon	15.84	36.65	35.91	38.99	51.26	22.26	22.00
Golaghat	16.55	19.76	26.04	30.85	58.12	14.27	12.75
Jorhat	16.90	14.87	24.17	17.47	33.10	14.69	9.31
Sivasagar	13.41	15.98	23.36	19.47	38.76	15.83	9.44
Dibrugarh	26.29	17.94	30.64	22.93	37.78	13.68	11.92
Tinsukia	26.29	17.94	35.92	31.02	47.03	19.51	15.47
Karbi Anglong	-	30.96	79.21	68.28	74.72	22.72	17.58
Dima Hasao	(-) 33.12	6.16	36.95	40.00	98.30	24.72	13.84
Karimganj	12.94	29.87	22.96	25.13	42.08	21.87	21.90
Hailakandi	16.09	17.48	27.23	23.61	45.94	20.89	21.45
Cachar	12.33	23.92	22.60	23.96	47.59	18.89	20.19
ASSAM	16.99	19.93	34.98	34.95	53.26	18.92	17.07

**Due to creation of 4 new Districts the rates for 2001 have been affected in 12 Districts.*

APPENDIX-2.3
DISTRICTWISE POPULATION OF SCHEDULED CASTES
AND SCHEDULED TRIBES IN ASSAM

Sl. No.	District	Scheduled Castes			Scheduled Tribes		
		Total	Male	Female	Total	Male	Female
1	Kokrajhar	29570	15386	14184	278665	139579	139086
2	Dhubri	70395	36359	34036	6332	3198	3134
3	Goalpara	45094	22999	22095	231570	116013	115557
4	Barpeta	95320	49165	46155	27344	13530	13814
5	Morigaon	117841	60194	57647	136777	68382	68395
6	Nagaon	266350	136473	129877	115153	57759	57394
7	Sonitpur	109130	55817	53313	232207	117685	114522
8	Lakhimpur	81840	41689	40151	249426	126716	122710
9	Dhemaji	4225	23006	21219	325560	165449	160111
10	Tinsukia	37688	19443	18245	82066	41769	40297
11	Dibrugarh	58876	30517	28359	102871	51835	51036
12	Sivasagar	42347	21568	20779	49039	24989	24050
13	Jorhat	88665	45194	43471	139971	70795	69176
14	Golaghat	62298	31807	30491	111765	56420	55345
15	Karbi Anglong	44961	23436	21525	538738	272460	266278
16	Dima-Hasao	4337	2340	1997	151843	76520	75323
17	Cachar	264897	136051	128846	17569	8736	8833
18	Karimganj	157890	81384	76506	1940	994	946
19	Hailakandi	70659	36369	34290	691	354	337
20	Bongaigaon	82784	42513	40271	18835	9377	9458
21	Chirang	35135	18105	17030	178688	89273	89415
22	Kamrup	107827	55237	52590	182038	92094	89944
23	Kamrup(M)	101789	52106	49683	75121	37902	37219
24	Nalbari	60216	30654	29562	23364	11692	11672
25	Baksa	73083	37534	35549	331007	165634	165373
26	Darrang	40260	20566	19694	8419	4300	4119
27	Udalguri	37844	19402	18442	267372	133550	133822
28	ASSAM	2231321	1145314	1086007	3884371	1957005	1927366

APPENDIX-2.4
POPULATION OF CHILDREN IN THE AGE GROUP OF 0-6 YEARS IN ASSAM
(2011 Census)

District	Male	Female	Rural	Urban	Total
Kokrajhar	70085	66839	131397	5527	136924
Dhubri	187092	181170	345279	22983	368262
Goalpara	87457	84200	152141	19516	171657
Barpeta	146777	141052	273296	14533	287829
Morigaon	83746	80073	155116	8703	163819
Nagaon	234203	225737	420813	39127	459940
Sonitpur	141353	136509	260964	16898	277862
Lakhimpur	80016	76723	146289	10450	156739
Dhemaji	53457	50790	98352	5895	104247
Tinsukia	92777	89049	155228	26598	181826
Dibrugarh	83168	80042	140283	22927	163210
Sivasagar	71102	68278	128289	11091	139380
Jorhat	63428	61166	103394	21200	124594
Golaghat	68662	66131	125120	9673	134793
Karbi-Anglong	77428	74253	138407	13274	151681
Dima-Hasao	16480	15934	25067	7347	32414
Cachar	131417	125357	222673	34101	256774
Karimganj	107638	104322	200334	11626	211960
Hailakandi	56936	54342	106617	4661	111278
Bongaigaon	59099	57293	105251	11141	116392
Chirang	37201	36014	69176	4039	73215
Kamrup	101716	98345	186844	13217	200061
Kamrup(M)	64444	60942	27333	98053	125386
Nalbari	48458	46875	87759	7574	95333
Baksa	62498	60374	121332	1540	122872
Darrang	79437	76971	150916	5492	156408
Udalguri	57410	55864	109653	3621	113274
Assam	2363485	2274645	4187323	450807	4638130

APPENDIX-2.5

COMPARATIVE DISTRIBUTION OF CHILD POPULATION (0-6 YEARS) IN ASSAM

Sl. No.	District	2001	2011	Percentage to total Population		Sex Ratio	
				2001	2011	2001	2011
1	Kokrajhar	151366	136924	17.95	15.43	955	959
2	Dhubri	326754	368262	20.86	18.89	964	953
3	Goalpara	159133	171657	19.36	17.03	974	964
4	Barpeta	265146	287829	19.01	16.99	961	953
5	Morigaon	148758	163819	19.16	17.11	966	967
6	Nagaon	426280	459940	18.42	16.29	975	962
7	Sonitpur	270419	277862	16.24	14.44	974	956
8	Lakhimpur	150312	156739	16.91	15.04	967	968
9	Dhemaji	99545	104247	17.40	15.19	970	953
10	Tinsukia	184845	181826	16.07	13.69	958	952
11	Dibrugarh	172631	163210	14.57	12.31	962	961
12	Sivasagar	149098	139380	14.18	12.11	968	954
13	Jorhat	133888	124594	13.40	11.41	967	962
14	Golaghat	142970	134793	15.11	12.63	963	964
15	Karbi-Anglong	150230	151681	18.47	15.86	974	951
16	Dima-Hasao	30807	32414	16.38	15.14	955	932
17	Cachar	229219	256774	15.86	11.79	961	959
18	Karimganj	177431	211960	17.60	17.25	965	963
19	Hailakandi	100976	111278	18.60	16.88	927	951
20	Bongaigaon	110835	116392	18.09	15.75	972	966
21	Chirang	79037	73215	18.25	15.18	958	969
22	Kamrup	204757	200061	15.61	13.18	963	949
23	Kamrup(M)	125033	125386	11.80	10.00	943	936
24	Nalbari	97847	95333	14.20	12.35	961	949
25	Baksa	138906	122872	16.19	12.93	961	974
26	Darrang	146808	156408	19.32	16.85	977	954
27	Udalguri	125044	113274	16.48	13.62	975	973
28	ASSAM	4498075	4638130	16.87	14.86	965	958

APPENDIX-2.6
POPULATION OF CHILDREN IN THE AGE GROUP OF 0-6 YEARS IN INDIA
(2011 Census)

State	Total	Male	Rural	Urban	Total
Jammu & Kashmir	1084355	2018905	1593008	425897	2018905
Himachal Pradesh	407459	777898	712822	65076	777898
Punjab	1665994	3076219	1945502	1130717	3076219
Chandigarh	63536	119434	4270	115164	119434
Uttarakhand	717199	1355814	990776	365038	1355814
Haryana	1843109	3380721	2285112	1095609	3380721
NCT of Delhi	1075440	2012454	56716	1955738	2012454
Rajasthan	5639176	10649504	8414883	2234621	10649504
Uttar Pradesh	16185581	30791331	25040583	5750748	30791331
Bihar	9887239	19133964	17383701	1750263	19133964
Sikkim	32761	64111	49218	14893	64111
Arunachal Pradesh	107624	212188	172289	39899	212188
Nagaland	149785	291071	217482	73589	291071
Manipur	174700	338254	236843	101411	338254
Mizoram	85561	168531	93384	75147	168531
Tripura	234008	458014	365309	92705	458014
Meghalaya	288646	568536	490592	77944	568536
Assam	2363485	4638130	4187323	450807	4638130
West Bengal	5410396	10581466	7820710	2760756	10581466
Jharkhand	2767147	5389495	4367507	1021988	5389495
Orissa	2716497	5273194	4525870	747324	5273194
Chattisgarh	1859935	3661689	2924941	736748	3661689
Madhya Pradesh	5636172	10809395	8325731	2483664	10809395
Gujarat	4115384	7777262	4824903	2952359	7777262
Daman & Diu	14144	26934	7438	19496	26934
Dadra & Nagar Haveli	26431	50895	28504	22391	50895
Maharashtra	7035391	13326517	7688954	5637563	13326517
Andhra Pradesh	4714950	9142802	6152022	2990780	9142802
Karnataka	3675291	7161033	4517645	2643388	7161033
Goa	74460	144611	54014	90597	144611
Lakshwadeep	3797	7255	1815	5440	7255
Kerala	1768244	3472955	1823664	1649291	3472955
Tamil Nadu	3820276	7423832	3911302	3512530	7423832
Puducherry	67527	132858	44514	88344	132858
Andaman & Nicobar Islands	20770	40878	26415	14463	40878
INDIA	85732470	164478150	121285762	43192388	164478150

APPENDIX – 2.7

STATEWISE POPULATION, SEX RATIO, POPULATION DENSITY, LITERACY RATE AND PERCENTAGE DECADEAL GROWTH IN INDIA

Sl. No.	India, States, Union Territories	Population 2011	Sex Ratio 2011	Population Density per sq. km. 2011	Literacy rate 2011	Percentage decadal growth	
						1991-2001	2001-2011
	India	1210854977	943	368	72.99	21.54	17.68
1.	Jammu & Kashmir	12541302	889	56	67.16	29.43	23.64
2.	Himachal Pradesh	6864602	972	123	82.80	17.54	12.94
3.	Punjab	27743338	895	551	75.84	20.10	13.89
4.	Chandigarh	1055450	818	9258	86.05	40.28	17.19
5.	Uttarakhand	10086292	963	189	78.82	20.41	18.81
6.	Haryana	25351462	879	573	75.55	28.43	19.90
7.	Delhi	16787941	868	11320	86.21	47.02	21.21
8.	Rajasthan	68548437	928	200	66.11	28.41	21.31
9.	Uttar Pradesh	199812341	912	829	67.68	25.85	20.23
10.	Bihar	104099452	918	1106	61.80	28.62	25.42
11.	Sikkim	610577	890	86	81.42	33.06	12.89
12.	Arunachal Pradesh	1383727	938	17	65.38	27.00	26.03
13.	Nagaland	1978502	931	119	79.55	64.53	-0.58
14.	Manipur	2855794	992	115	79.21	24.86	12.05
15.	Mizoram	1097206	976	52	91.33	28.82	23.48
16.	Tripura	3673917	960	350	87.22	16.03	14.84
17.	Meghalaya	2966889	989	132	74.43	30.65	27.95
18.	Assam	31205576	958	398	72.19	18.92	17.07
19.	West Bengal	91276115	950	1028	76.26	17.77	13.84
20.	Jharkhand	32988134	948	414	66.41	23.36	22.42
21.	Orissa	41974218	979	270	72.87	16.25	14.05
22.	Chhatisgarh	25545198	991	189	70.28	18.27	22.61
23.	Madhya Pradesh	72626809	931	236	69.32	24.26	20.35
24.	Gujarat	60439692	919	308	78.03	22.66	19.28
25.	Daman & Diu	243247	618	2191	87.10	55.73	53.76
26.	Dadra & Nagar Haveli	343709	774	700	76.24	59.22	55.88
27.	Maharastra	112374333	929	365	82.34	22.73	15.99
28.	Andhra Pradesh	84580777	993	308	67.02	14.59	10.98
29.	Karnataka	61095297	973	319	75.36	17.51	15.60
30.	Goa	1458545	973	394	88.70	15.21	8.23
31.	Lakshadweep	64473	946	2149	91.85	17.30	6.30
32.	Kerala	33406061	1084	860	94.00	9.43	4.91
33.	Tamil Nadu	72147030	996	555	80.09	11.72	15.61
34.	Puducherry	1247953	1037	2547	85.85	20.62	28.08
35.	Andaman & Nicobar Islands	380581	876	46	86.63	26.90	6.86

Source : Census of India, 2011.

APPENDIX – 2.8

BIRTH AND DEATH RATES IN ASSAM

YEAR	BIRTH RATE			DEATH RATE		
	Combined	Rural	Urban	Combined	Rural	Urban
1991	30.9	31.7	21.3	11.5	11.8	6.9
1995	29.3	30.2	21.8	9.6	10.0	6.7
1996	27.6	28.9	20.7	9.6	10.2	5.8
1997	28.2	29.0	20.7	9.9	10.3	5.9
1998	27.9	28.7	20.2	10.0	10.5	6.0
1999	27.0	28.0	18.9	9.7	10.1	6.2
2000	26.9	27.9	18.6	9.6	10.0	6.1
2001	26.8	27.8	15.5	9.5	9.8	6.6
2002	26.6	27.5	18.3	9.2	9.6	6.0
2003	26.3	27.2	18.0	9.1	9.5	5.9
2004	25.1	27.0	14.3	8.8	9.3	5.5
2005	25.0	26.6	15.3	8.7	9.2	5.6
2006	24.6	26.1	15.4	8.7	9.2	5.8
2007	24.3	25.7	15.5	8.6	9.1	5.7
2008	23.9	25.3	15.7	8.6	9.0	5.6
2009	23.6	24.9	15.9	8.4	8.8	5.9
2010	23.2	24.4	15.8	8.2	8.6	5.8
2011	22.8	24.0	15.5	8.0	8.4	5.6
2012	22.5	23.7	15.6	7.9	8.3	5.6
2013	22.4	23.5	15.4	7.8	8.2	5.6
2014	22.4	23.6	15.5	7.2	7.6	5.3
2015	22.0	23.2	15.3	7.1	7.4	5.1
2016	21.7	22.8	15.0	6.7	7.1	4.9

Source : Registrar General of India.

APPENDIX – 2.9

INFANT MORTALITY RATE IN ASSAM AND INDIA

SECTOR	ASSAM/ INDIA	YEARS										
		2001	2005	2008	2009	2010	2011	2012	2013	2014	2015	2016
Rural	Assam	77	71	66	64	60	58	58	56	52	50	46
	India	72	64	58	55	51	48	46	44	43	41	38
Urban	Assam	34	39	39	37	36	34	33	32	27	25	22
	India	42	40	36	34	31	29	28	27	26	25	23
Total	Assam	74	68	64	61	58	55	55	54	49	47	44
	India	66	58	53	50	47	44	42	40	39	37	34

Source : Registrar General of India.

APPENDIX – 2.10

INFANT MORTALITY RATE BY SEX IN ASSAM AND INDIA

SECTOR	ASSAM/ INDIA	YEARS											
		2001	2005	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Male	Assam	69	68	64	62	58	56	55	54	53	49	47	43
	India	64	58	55	52	49	46	43	41	39	37	35	33
Female	Assam	80	69	67	65	64	60	56	57	55	49	47	45
	India	68	61	56	55	52	49	46	44	42	40	39	36
Total	Assam	74	68	66	64	61	58	55	55	54	49	47	44
	India	66	58	55	53	50	47	44	42	40	39	37	34

Source : Registrar General of India.

APPENDIX – 2.11

DISTRICT-WISE NUMBER OF VILLAGES, GAON PANCHAYAT, COMMUNITY DEVELOPMENT BLOCK, ANCHALIK PANCHAYAT AND ZILA PARISHADS IN ASSAM

Sl No.	District	Number of Villages (As per 2011 Census)	Number of Gaon Panchayat (as on 2011)	Number of Community Development Block (as on 2011)	Number of Anchalik Panchayat (as on 2011)	Number of Zila Parishad (as on 2011)
1.	Dhubri	1091	168	15	15	1
2.	Kokrajhar	1068	-	4	-	-
3.	Bongaigaon	563	65	5	5	1
4.	Goalpara	829	81	8	8	1
5.	Barpeta	835	129	11	11	1
6.	Nalbari	456	65	7	7	1
7.	Kamrup	1068	146	16	16	1
8.	Darrang	561	76	6	6	1
9.	Sonitpur	1876	158	14	14	1
10.	Lakhimpur	1184	81	9	9	1
11.	Dhemaji	1319	65	5	5	1
12.	Morigaon	632	85	5	7	1
13.	Nagaon	1412	239	18	20	1
14.	Golaghat	1125	102	8	8	1
15.	Jorhat	848	110	8	8	1
16.	Sivasagar	875	118	9	9	1
17.	Dibrugarh	1348	93	7	7	1
18.	Tinsukia	1168	86	7	7	1
19.	Karbi Anglong	2921	-	11	-	-
20.	Dima Hasao	695	-	5	-	-
21.	Karimganj	936	96	7	7	1
22.	Hailakandi	331	62	5	5	1
23.	Cachar	1040	163	15	15	1
24.	Chirang *	508	-	2	-	-
25.	Baksa *	690	-	7	-	-
26.	Kamrup (M)*	216	14	-	-	-
27.	Udalguri *	800	-	5	-	-
	Assam	26395	2202	219	189	20

*N. B * Indicates newly created Districts.*

APPENDIX – 2.12

COMPARATIVE STATEMENT ON PERCENTAGE OF POPULATION BELOW POVERTY LINE

Sl. No.	State	Using TENDULKAR Methodology (Poverty Headcount Ratio)								
		2004-05			2009-10			2011-12		
		Rural	Urban	Combined	Rural	Urban	Combined	Rural	Urban	Combined
1	Andhra Pradesh	32.30	23.40	29.90	22.8	17.7	21.1	10.96	5.81	9.20
2	Arunachal Pradesh	33.60	23.50	31.10	26.2	24.9	25.9	38.93	20.33	34.67
3	Assam	36.40	21.80	34.40	39.9	26.1	37.9	33.89	20.49	31.98
4	Bihar	55.70	43.70	54.40	55.3	39.4	53.5	34.06	31.23	33.74
5	Chhattisgarh	55.10	28.40	49.40	56.1	23.8	48.7	44.61	24.75	39.93
6	Delhi	15.60	12.90	13.10	7.7	14.4	14.2	12.92	9.84	9.91
7	Goa	28.10	22.20	25.00	11.5	6.9	8.7	6.81	4.09	5.09
8	Gujarat	39.10	20.10	31.80	26.7	17.9	23.0	21.54	10.14	16.63
9	Haryana	24.80	22.40	24.10	18.6	23.0	20.1	11.64	10.28	11.16
10	Himachal Pradesh	25.00	4.60	22.90	9.01	12.6	9.5	8.48	4.33	8.06
11	Jammu & Kashmir	14.10	10.40	13.20	8.1	12.8	9.4	11.54	7.20	10.35
12	Jharkhand	51.60	23.80	45.30	41.6	31.1	39.1	40.84	24.83	36.96
13	Karnataka	37.50	25.90	33.40	26.1	19.6	23.6	24.53	15.25	20.91
14	Kerala	20.70	18.40	19.70	12.0	12.1	12.0	9.14	4.97	7.05
15	Madhya Pradesh	53.60	35.10	48.60	42.0	22.9	36.7	35.74	21.00	31.65
16	Maharashtra	47.90	25.60	38.10	29.5	18.3	24.5	24.22	9.12	17.35
17	Manipur	39.30	34.50	38.00	47.4	46.4	47.1	38.80	32.59	36.89
18	Meghalaya	14.00	24.70	16.10	15.3	24.1	17.1	12.53	9.26	11.87
19	Mizoram	23.00	7.90	15.30	31.1	11.5	21.1	35.43	6.36	20.40
20	Nagaland	10.00	4.30	9.00	19.3	25.0	20.9	19.93	16.48	18.88
21	Odisha	60.80	37.60	57.20	39.2	25.9	37.0	35.69	17.29	32.59
22	Puducherry	22.90	9.90	14.10	0.2	1.6	1.2	17.06	6.30	9.69
23	Punjab	22.10	18.70	20.90	14.6	18.1	15.9	7.66	9.24	8.26
24	Rajasthan	35.80	29.70	34.40	26.4	19.9	24.8	16.05	10.69	14.71
25	Sikkim	31.80	2.90	31.10	15.5	5.0	13.1	9.85	3.66	8.19
26	Tamil Nadu	37.50	19.70	28.90	21.2	12.8	17.1	15.83	6.54	11.28
27	Tripura	44.50	22.50	40.60	19.8	10.0	17.4	16.53	7.42	14.05
28	Uttar Pradesh	42.70	34.10	40.90	39.4	31.7	37.7	30.40	26.06	29.43
29	Uttarakhand	35.10	26.20	32.70	14.9	25.2	18.0	11.62	10.48	11.26
30	West Bengal	38.20	24.40	34.30	28.8	22.0	26.7	22.52	14.66	19.98
31	Andaman & Nicobar							1.57	0.00	1.00
32	Chandigarh							1.64	22.31	21.81
33	Dadra & Nagar Haveli							62.59	15.38	39.31
34	Daman & Diu							0.00	12.62	9.86
35	Lakshadweep							0.00	3.44	2.77
	All India	42	25.5	37.2	33.8	20.9	29.8	25.70	13.70	21.92

Source: Planning Commission, Govt. of India.

APPENDIX-2.13

STATE- WISE INFORMATION ON SLUM POPULATION IN INDIA-CENSUS 2011

Sl	Area Name	Towns reporting Slums	Total No. of House-holds	Slum Population			% of total slum popn. to urban popn.	Slum Population (0-6yrs)		
				Persons	Male	Female		Persons	Male	Female
	INDIA	2613	13920191	65494604	33968203	31526401	17.4	8082743	4204451	3878292
1	Andhra Pradesh	125	2431474	10186934	5103377	5083557	36.1	1149779	593145	556634
2	Arunachal Pr.	5	3479	15562	8029	7533	4.9	2226	1102	1124
3	Assam	31	42533	197266	101424	95842	4.5	22229	11378	10851
4	Bihar	88	216496	1237682	649475	588207	10.5	208383	107994	100389
5	Chhattisgarh	94	413831	1898931	966623	932308	32.0	254080	130178	123902
6	Delhi	22	367893	1785390	974329	811061	10.9	229029	119508	109521
7	Goa	3	5497	26247	13826	12421	2.9	3240	1691	1549
8	Gujarat	103	345998	1680095	912571	767524	6.5	240589	126331	114258
9	Haryana	75	332697	1662305	887947	774358	18.8	225889	122124	103765
10	Himachal Pradesh	22	14385	61312	32555	28757	8.9	6509	3493	3016
11	Jammu & Kashmir	40	103633	662062	342422	319640	19.3	94204	50649	43555
12	Jharkhand	31	72544	372999	192908	180091	4.7	53465	27703	25762
13	Karnataka	206	707662	3291434	1650724	1640710	13.9	418295	212928	205367
14	Kerala	19	45417	202048	97429	104619	1.3	20327	10271	10056
15	Madhya Pradesh	303	1117764	5688993	2957524	2731469	28.3	771999	403360	368639
16	Maharashtra	189	2499948	11848423	6328217	5520206	23.3	1428850	743603	685247
17	Meghalaya	6	10518	57418	28737	28681	9.6	8241	4162	4079
18	Mizoram	1	15987	78561	38861	39700	13.7	10430	5292	5138
19	Nagaland	11	17152	82324	42651	39673	14.4	11114	5569	5545
20	Odisha	76	350032	1560303	800963	759340	22.3	188962	97551	91411
21	Punjab	73	293928	1460518	776388	684130	14.0	176257	94781	81476
22	Rajasthan	107	394391	2068000	1078991	989009	12.1	307035	161872	145163
23	Sikkim	7	7203	31378	16216	15162	20.4	3229	1621	1608
24	Tamil Nadu	507	1463689	5798459	2886993	2911466	16.6	614969	314363	300606
25	Tripura	15	34143	139780	70143	69637	14.5	14755	7467	7288
26	Uttar Pradesh	293	1066363	6239965	3298339	2941626	14.0	863392	457036	406356
27	Uttarakhand	31	93911	487741	257624	230117	16.0	66176	35131	31045
28	West Bengal	122	1391756	6418594	3321700	3096894	22.1	656780	337441	319339
29	A. N. Islands	1	3324	14172	7386	6786	9.9	1588	788	800
30	Chandigarh	1	21704	95135	53340	41795	9.3	14720	7697	7023
31	Puducherry	6	34839	144573	70491	74082	17.0	16002	8222	7780

CHAPTER-III

STATE INCOME

State Domestic Product (SDP) is one of the most important economic indicator that used to measure the growth and pattern of economic development of a State. SDP and other related macroeconomic aggregates are useful to meet the financial requirement of the Government apart from Planning and Policy formulations. It also reveals the extent and direction of changes in the levels of economic development of the State over a period of time.

The annual average growth rate (AAGR) of Gross SDP (GSDP) at constant (2011-12) price during 2011-12 to 2016-17 of the State of Assam is estimated at 6.11%, which indicates a favourable status of the State Economy. During the same period, the Agriculture and allied sector of the State has achieved the AAGR of 5.52% at constant prices. AAGR of Industry sector at constant price had shown comparatively a higher growth rate of 6.79% during this period. And AAGR of Service sector at constant price during this period is estimated at 7.37%. In the new series (base-2011-12), AAGR in respect of GSDP at current price for the period 2011-12 to 2016-17 is estimated at 11.80%. Net State Domestic Product (NSDP) during the period 2011-12 to 2016-17 has also shown an AAGR of 6.76% at constant price (base 2011-12) and 14.44% at current price.

3.1 GROSS STATE DOMESTIC PRODUCT AND NET STATE DOMESTIC PRODUCT AT CURRENT PRICES

As per quick estimates (QE), GSDP of Assam at current price had increased to Rs.249800.96 crore during 2016-17 registering a growth of 10.55% over the previous year. As per provisional estimates (PE), GSDP of Assam at current price is estimated at Rs.225971.33 crore for 2015-16, registering a growth of 15.45% over the previous year. NSDP of the State at current price has increased to Rs.222749.64 crore during 2016-17(QE), registering a growth of 11.19% over the previous year. NSDP of Assam at current price during 2015-16 (PE) estimated at Rs.200333.25 crore. This has also an increase of 15.9% during 2015-16 over the previous year.

3.2 GROSS STATE DOMESTIC PRODUCT AND NET STATE DOMESTIC PRODUCT AT CONSTANT PRICES (BASE YEAR 2011-12)

GSDP (QE) of the State at constant price has increased to Rs.192399.92 crore during the year 2016-17 registering a growth of 6.8% over the previous year. GSDP of Assam at constant price was estimated at Rs.180165.57 crore(PE) for the year 2015-16. This is also showing an increase of 9.05% over the year the year 2014-15. NSDP of Assam at constant price increased to Rs.173050.49 crore(QE) during 2016-17 at a growth of

6.43% over the previous year. NSDP of Assam was estimated at Rs.162591.47 crore (PE) for 2015-16. This has also a growth of 11.04% over the previous year.

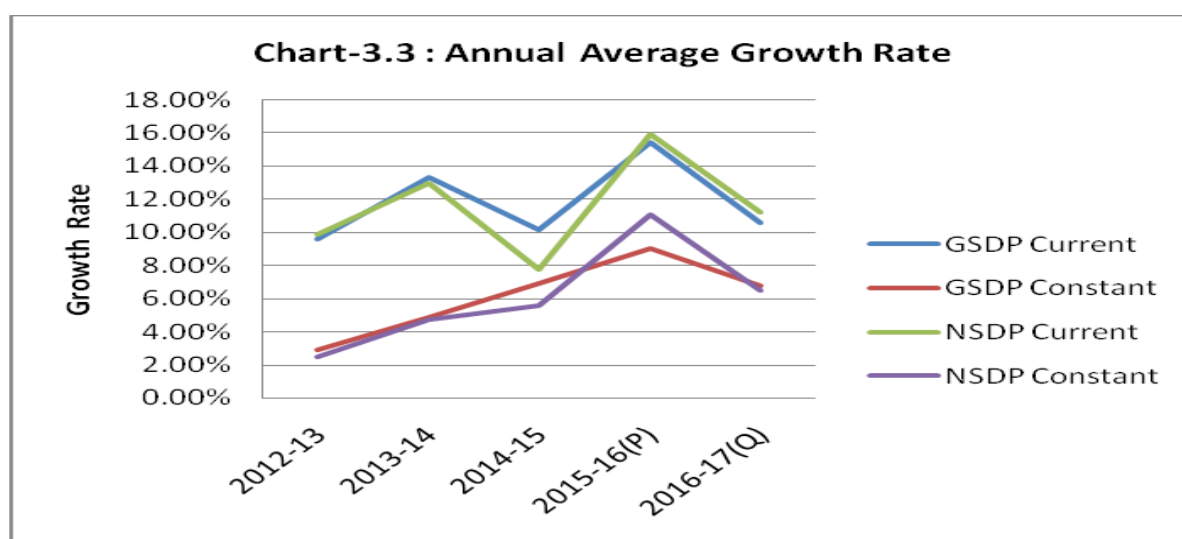
GSDP and NSDP of Assam at both current and constant prices during the period from 2011-12 to 2016-17 is presented at Table-3.1.

S. No	Year	Rs. in crore			
		GSDP		NSDP	
		Current	Constant	Current	Constant
1	2011-12	143174.91	143174.91	129354.12	129354.12
2	2012-13	156864.24	147342.38	142039.46	132517.60
3	2013-14	177745.22	154525.40	160441.53	138724.76
4	2014-15	195723.15	165212.30	172848.89	146425.39
5	2015-16(PE)	225971.33	180165.57	200333.25	162591.47
6	2016-17(QE)	249800.96	192399.92	222749.64	173050.49

PE-Provisional Estimates, QE-Quick Estimates

Source: Directorate of Economics & Statistics, Assam

Annual Growth Rate (AGR) in terms of GSDP and NSDP of Assam during the period from 2012-13 to 2016-17 at both current and constant prices is presented in Chart: 3.3



3.3 SECTORAL COMPOSITION OF GSDP

The sectoral composition of SDP is the contribution of different sectors in percentage to the economy. The contribution over a period of time indicates the real structural changes taking place in the economy, which facilitates formulation of various plans and programmes for overall economic development of the State. Table 3.2 shows the structural composition of the State economy during 2016-17 (QE) as compare to 2011-12.

The sectoral analysis revealed that during 2016-17(QE) the percentage contribution of Agriculture and allied sector to total GSDP of Assam at current price was 19.34%, industry sector 28.72%, service sector including taxes and subsidies 51.95%. Table 3.2 shows the contribution of various sectors in 2011-12 and 2016-17(QE) in current prices. Though the share of agriculture and its allied activities in

Sectoral Composition of GSDP at current prices		
	2011-12	2016-17(QE)
Industry	19.89%	19.34%
Agriculture and its Allied	30.63%	28.72%
Industry	43.97%	45.51%
Service	5.51%	6.44%
Taxes and Subsidies		

GSDP at current price had marginally come downed from 19.89% in 2011-12 to 19.34% in 2016-17(QE), yet the agriculture sector continues to occupy a significant place in the state economy and hence fluctuations in the production of food grains, vegetables and fruits are affecting the state economy. During 2011-12 to 2016-17(QE) the share of industry sector at current prices has slightly declined from 30.63% to 28.72% respectively. The slight decrease in agriculture and allied sector and industry has resulted increase in service sector as well as taxes and subsidies. During the period 2011-12 to 2016-17(QE) the share of service sector had increased from 43.97% to 45.51%. Moreover, the contribution of taxes and subsidies during the period has increased from 5.51% in 2011-12 to 6.44% in 2016-17(QE).

Agriculture and allied sector consists of (i) Crops (ii) Livestock (iii) Forestry and Logging and (iv) Fishing and aquaculture. In 2016-17(QE), the sub-sector contribution in Agriculture and allied sectors at current price are crops-73.3%, livestock-5.3%, forestry and logging-6.8% and fishing and aquaculture-12.6%. These sub-sector's contributions were almost similar in 2015-16 (PE). The sub-sector contribution in Agriculture and allied sectors at constant price are crops-74.9%, livestock-5.4%, forestry and logging-6.2% and fishing and aquaculture-13.5% in 2016-17 (QE). As per quick

Annual Growth Rate of GSDP in Agriculture Sector during 2016-17(QE)		
Sub-sectors	Current Prices	Constant Prices
Crops	12.19%	3.87%
Livestock	34.36%	18.67%
Forestry & Logging	2.55%	1.81%
Fishing	6.35%	4.84%
Agriculture Sector	11.69%	4.58%

estimates, AGR of GSDP in respect of Agriculture and allied sector at current price for the year 2016-17 is estimated 11.69% as against 9.22% in previous year. AGR for sub-sector is highest for Livestock (34%) and lowest for Forestry and Logging during 2015-16(PE) and 2016-17(QE). At constant price (base 2011-12), the overall growth of the agriculture and allied sector is 4.58% during 2015-16(PE) to 2016-17(QE). Among the sub-sectors AGR is highest in Livestock and lowest in Forestry and Logging.

Industry sector comprises (i) Mining & Quarrying (ii) Manufacturing (iv) Electricity, Gas, Water Supply & Other utility services. In 2016-17(QE), the AGR of this sector at current price as well as at constant price is around 5% over previous year. And among sub-sectors, the manufacturing sector growth is more than others and mining and quarrying has the least growth during 2016-17(QE) over 2015-16(PE).

At constant price, the contribution of the sub sectors to the Industry sector during 2016-17(QE) is estimated at 1.80% in Mining and Quarrying, 7.90% in Manufacturing, 7.20% in Electricity, Gas, Water Supply & Other Utility Services and 1.70% in Construction.

Sub-sectors	Current Prices	Constant Prices
Mining & Quarrying	1.90%	1.80%
Manufacturing	9.32%	7.90%
Electricity, Gas, Water Supply & Other Utility Services	6.50%	7.20%
Construction	3.50%	1.70%
Industry Sector	5.11%	4.32%

Service sector comprises of Trade, Repair, Hotel & Restaurants, Transport, Storage, Communication & Services related to Broadcasting, Financial Services, Real Estate, Ownership of Dwelling and Professional Services, Public Administration and Other Services and it is estimated to attain the growth of 12.03% for 2016-17(QE) over the previous year at current prices. At constant prices, it is estimated to achieve the growth of 8.53% for 2016-17(QE) over the preceding year.

At current price in 2016-17(QE), the share of growth of the sub sectors to the Service sector is estimated in Trade, Repair, Hotel & Restaurants (9.80%), Transport, Storage, Communication & Services related to broadcasting (10.53%), Financial Services (10.27%), Real Estate, Ownership of Dwelling and Professional Services (9.85%) and Public Administration & Other Services (16.60%).

Industry	Current Prices	Constant Prices
Trade, Repair, Hotel & Restaurants	9.80%	7.80%
Transport, Storage, Communication & Services related to Broadcasting	10.53%	8.65%
Financial Services	10.27%	5.70%
Real Estate, Ownership of Dwelling and Professional Services	9.85%	7.82%
Public Administration & Other Services	16.60%	11.30%
Service Sector	12.03%	8.53%

At constant price in 2016-17(QE), the contribution of the sub sectors to the Service sector is estimated in Trade, Repair, Hotel & Restaurants (7.80%), Transport, Storage, Communication & Services related to broadcasting (8.65%), Financial Services (5.70%), Real Estate, Ownership of Dwelling and Professional Services (7.82%) and Public Administration & Other Services (11.30%). The sectoral growth rates of GSDP at constant (2011-12) price during the period from 2011-12 to 2016-17(QE) are shown in Table: 3.6.

Table:3.6 depicts that the AAGR of GSDP at constant prices during the period from 2011-12 to 2016-17(QE) was highest in Electricity, Gas, Water Supply & Other Utility Services (9.94%) among all the sub-sectors, followed by Public Administration (9.84%), Other Services (9.67%) and Transport, Storage, Communication & Services related to

Broadcasting (9.37%). During the same period, Mining and Quarrying sector has reflected the negative annual growth rate (-1.68%).

TABLE: 3.6- SECTORAL GROWTH RATES OF GSDP AT CONSTANT (2011-12) PRICES DURING 2011-12 and 2016-17

(Rs. in Lakh)

Sector	2011-12 (Base Year)	2016-17 (QE)	Annual Average Growth Rate
Agriculture, Forestry & Fishing	2848113	3692204	4.94%
Mining & Quarrying	1464989	1317381	-1.68%
Manufacturing	1540255	2063116	5.66%
Electricity, Gas, Water Supply & Other utility Services	191883	306327	9.94%
Construction	1188747	1712911	7.35%
Industry	4385874	5399735	3.85%
Trade, Repair, Hotels & Restaurants	2045676	2948076	7.36%
Transport, Storage, Communication & Services related to Broadcasting	810091	1265500	9.37%
Financial Services	427077	552834	4.91%
Real Estates, Ownership of Dwelling and Professional Services	1112543	1193567	1.21%
Public Administration	821723	1307305	9.84%
Other Services	1077923	1703669	9.67%
Services	6295033	8970951	7.09%
Total Gross State Value Added at Basic Prices	13529020	18062890	5.59%
Gross State Domestic Product (GSDP)	14317491	19239992	5.73%
Per capita Net State Domestic Product (in Rs.)	45538	55867	3.78%

Source: Directorate of Economics & Statistics, Assam.

3.4. PER CAPITA INCOME

Per Capita Income of the State in terms of NSDP and the country in terms of Net National Income is presented in Table: 3.7. The per capita income of the State in terms of NSDP at constant (2011-12) prices is estimated at Rs.51040.00 for the year 2016-17(QE) against Rs.48725.00 in 2015-16(PE) with an increase of 4.75% during the period. And the same was Rs.41142.00 in the year 2011-12. AAGR during the period from 2011-12 to 2015-16 was 4.01%. The per capita NSDP at current price for the year 2016-17 was worked out at Rs.65698.00 as against Rs.60526.00 in 2015-16 registering a growth of 8.55%.

Table: 3.7- Per Capita Income

(in Rs.)

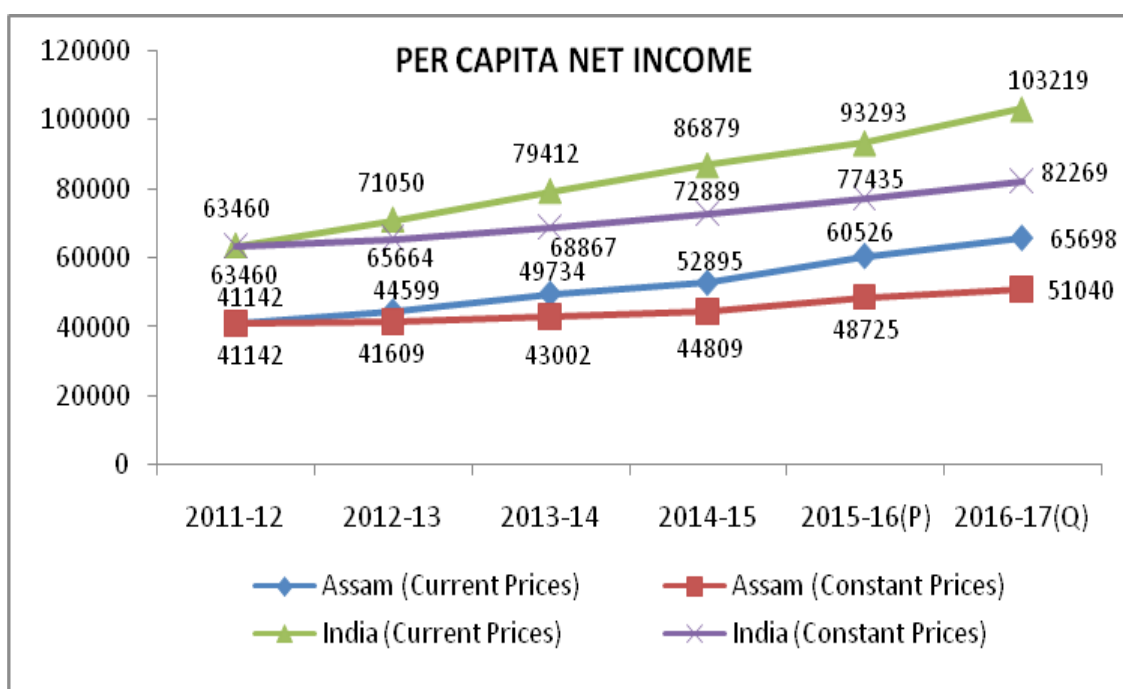
Year	Assam	India

	At Current Prices	At Constant Prices	At Current Prices	At Constant Prices
1960-61*	433	8769	373	8889
1970-71*	743	9351	763	10016
1980-81*	1673	9334	1852	10712
1990-91*	5315	10915	5621	14330
2000-01*	12803	12447	17295	20362
2004-05**	16782	16782	24143	24143
2008-09**	24099	18922	40775	31754
2009-10**	28383	20406	46249	33901
2010-11**	33087	21146	54021	36342
2011-12#	41142	41142	63460	63460
2012-13#	44599	41609	71050	65664
2013-14#	49734	43002	79412	68867
2014-15#	52895	44809	86879	72889
2015-16#	60526(PE)	48725(PE)	93293	77435
2016-17#	65698(QE)	51040(QE)	103219 (PE)	82269(P.E)

* From 1960-61 to 2000-01 the base year is 1999-2000, ** From 2004-05 to 2010-11 the base year is 2004-05 #From 2011-12 to 2016-17 the base year is 2011-12

Source: Directorate of Economics and Statistics, Assam and Central Statistics Office (MOSPI), Govt. of India

The Average growth rate of Net Per Capita Income of the State vis-à-vis India at both current and constant prices during the period 2011-12 to 2016-17(QE) is shown in the following Line Diagram. It is seen that the net per capita income for all-India average is higher than Assam over the years.



Appendix: 3.1
GROSS STATE DOMESTIC PRODUCTS OF ASSAM
New base (2011-12) series

(Rs. In Lakh)

Sl. No.	INDUSTRY	At Current Prices					
		2011-12	2012-13	2013-14	2014-15	2015-16(P)	2016-17(Q)
1	2	3	4	5	6	7	8
1	Agriculture, Forestry and Fishing	2848113	3391548	3692959	3959543	4324789	4830241
1.1	Crops	2061487	2496905	2720261	2942082	3241287	3636258
1.2	Livestock	159289	179160	155267	173606	192274	258334
1.3	Forestry & Logging	231388	246368	311458	307004	320066	328224
1.4	Fishing and aquaculture	395949	469115	505973	536851	571162	607425
2	Mining & Quarrying	1464989	1448306	1423477	1481001	2329074	2373326
A	Primary Sector	4313102	4839854	5116436	5440544	6653863	7203568
3	Manufacturing	1540255	1531538	1904299	2092300	2338900	2556916
4	Electricity, Gas, Water Supply and other utility services	191883	210901	257083	344289	372743	396962
5	Construction	1188747	1270304	1537481	1678700	1784874	1847345
B	Secondary Sector	2920885	3012743	3698863	4115289	4496517	4801223
6	Trade, Repair, Hotels & Restaurants	2045676	2284041	2573962	2940861	3423589	3759101
6.1	Trade and repair services	1961211	2191727	2473790	2832073	3303168	3626781
6.2	Hotel and Restaurants	84465	92314	100172	108788	120421	132320
7	Transport, Storage, Communication and services related to broadcasting	810091	929196	1086729	1141031	1353865	1486543
7.1	Railways	158334	186316	215234	252509	298801	328083
7.2	Transport by means other than Railways	436288	510169	546285	576851	676179	742445
7.2.1	Road Transport	356262	422930	474743	519253	588398	646061
7.2.2	Water Transport	43626	47129	25033	4395	4467	4905
7.2.3	Air Transport	0	255	9711	16949	30325	33297
7.2.4	Services Incidental to Transport	36400	39855	36798	36254	52989	58182
7.3	Storage	6594	7277	8377	8874	9657	10603
7.4	Communication & Services related to Broadcasting	208875	225434	316833	302797	369228	405412
8	Financial Services	427077	457213	515905	543651	612070	672053
9	Real Estate, Ownership of dwelling & Professional Services	1112543	1225917	1316472	1395607	1432393	1572768
10	Public Administration	821723	929477	982734	1177074	1291575	1505976
11	Other Services	1077923	1182533	1493924	1675355	2033535	2371102
C	Tertiary Sector	6295033	7008377	7969726	8873579	10147027	11367543
12	Total GSVA at Basic Prices	13529020	14860974	16785025	18429412	21297407	23372334
13	Taxes on Products	1203476	1346785	1519305	1725309	1945496	2406579
14	Subsidies on Products	415005	521335	529808	582406	645770	798817
15	Gross State Domestic Product	14317491	15686424	17774522	19572315	22597133	24980096
16	Population (in '00)	314410	318480	322600	326780	331010	344388
17	Per Capita (in Rs.)	45538	49254	55098	59894	68359	72535
D	Agriculture	2848113	3391548	3692959	3959543	4324789	4830241
E	Industry Sector	4385874	4461049	5122340	5596290	6825591	7174550
F	Service Sector	6295033	7008377	7969726	8873579	10147027	11367543
G	Taxes on Products -Subsidies on Products	788471	825450	989497	1142903	1299726	1607762
	GSDP	14317491	15686424	17774522	19572315	22597133	24980096

Appendix: 3.2
NET STATE DOMESTIC PRODUCTS OF ASSAM
New base (2011-12) series

(Rs. In Lakh)

Sl. No.	INDUSTRY	At current Prices					
		2011-12	2012-13	2013-14	2014-15	2015-16(P)	2016-17(Q)
1	2	3	4	5	6	7	8
1	Agriculture, Forestry and Fishing	2620851	3131489	3394131	3576248	3881543	4373661
1.1	Crops	1888760	2298656	2485157	2625216	2869167	3251025
1.2	Livestock	153834	172787	148379	166229	184773	250706
1.3	Forestry & Logging	228850	243579	307943	303339	316781	324924
1.4	Fishing and aquaculture	349407	416467	452652	481464	510822	547006
2	Mining & Quarrying	1288077	1272547	1218973	1240709	2112074	2156030
A	Primary Sector	3908928	4404036	4613104	4816957	5993617	6529691
3	Manufacturing	1274688	1304587	1659125	1740262	1959374	2168037
4	Electricity, Gas, Water Supply and other utility services	130994	136995	170118	202877	208050	229498
5	Construction	1131858	1203628	1444115	1511089	1600628	1660312
B	Secondary Sector	2537540	2645210	3273358	3454227	3768052	4057848
6	Trade, Repair, Hotels & Restaurants	2002198	2231416	2510971	2786621	3239800	3688144
6.1	Trade and repair services	1919528	2141229	2415462	2687253	3129954	3566896
6.2	Hotel and Restaurants	82670	90187	95509	99368	109846	121248
7	Transport, Storage, Communication and services related to broadcasting	654962	752139	843946	918756	1047307	1175354
7.1	Railways	102300	122431	126937	151591	155650	174748
7.2	Transport by means other than Railways	376730	442585	470879	504569	596418	668405
7.2.1	Road Transport	307628	366903	420388	458972	520199	584496
7.2.2	Water Transport	37671	40886	13913	2682	2658	3188
7.2.3	Air Transport	0	221	4744	11476	24826	27619
7.2.4	Services incidental to Transport	31431	34575	31834	31439	48735	53102
7.3	Storage	5654	6315	7086	7470	8028	8806
7.4	Communication & Services related to Broadcasting	170278	180808	239044	255126	287211	323395
8	Financial Services	420333	449114	507287	533742	600353	660336
9	Real Estate, Ownership of dwelling & Professional Services	942080	1026126	1086805	1130108	1157474	1297841
10	Public Administration	634052	722921	768977	901514	977059	1191460
11	Other Services	1046848	1147534	1450208	1600061	1949937	2287484
C	Tertiary Sector	5700473	6329250	7168194	7870801	8971930	10300618
12	Total NSVA at Basic Prices	12146941	13378496	15054656	16141986	18733599	20888157
13	Taxes on Products	1203476	1346785	1519305	1725309	1945496	2075844
14	Subsidies on Products	415005	521335	529808	582406	645770	689037
15	Net State Domestic Product	12935412	14203946	16044153	17284889	20033325	22274964
16	Population (in '00)	314410	318480	322600	326780	331010	344388
17	Per Capita (in Rs.)	41142	44599	49734	52895	60526	64680
D	Agriculture, Forestry and Fishing Sector	2620851	3131489	3394131	3576248	3881543	4373661
E	Industry Sector	3825617	3917757	4492331	4694936	5880126	6213878
F	Service Sector	5700473	6329250	7168194	7870801	8971930	10300618
G	Taxes on Products -Subsidies on Products	788471	825450	989497	1142903	1299726	1386807
NSDP		12935412	14203946	16044153	17284889	20033325	22274964

Appendix: 3.3
GROSS STATE DOMESTIC PRODUCTS OF ASSAM
New base (2011-12) series

(Rs. In Lakh)

Sl. No.	INDUSTRY	At Constant (2011-12) Prices					
		2011-12	2012-13	2013-14	2014-15	2015-16(P)	2016-17(Q)
1	2	3	4	5	6	7	8
1	Agriculture, Forestry and Fishing	2848113	3314074	3209159	3295165	3530647	3692204
1.1	Crops	2061487	2496905	2372688	2442685	2661377	2764438
1.2	Livestock	159289	172234	162088	168554	168036	199413
1.3	Forestry & Logging	231388	231855	232953	221406	225418	229503
1.4	Fishing and aquaculture	395949	413080	441430	462520	475816	498850
2	Mining & Quarrying	1464989	1349018	1251079	1276493	1294087	1317381
A	Primary Sector	4313102	4663092	4460238	4571658	4824734	5009585
3	Manufacturing	1540255	1426544	1673668	1802930	1912063	2063116
4	Electricity, Gas, Water Supply and other utility services	191883	198124	215835	271628	285753	306327
5	Construction	1188747	1183219	1351276	1446532	1684278	1712911
B	Secondary Sector	2920885	2807887	3240779	3521090	3882094	4082354
6	Trade, Repair, Hotels & Restaurants	2045676	2127460	2262227	2534132	2734764	2948076
6.1	Trade and repair services	1961211	2041474	2174187	2440390	2635163	2830153
6.2	Hotel and Restaurants	84465	85986	88040	93742	99601	117923
7	Transport, Storage, Communication and services related to broadcasting	810091	867559	963007	1028905	1173933	1265500
7.1	Railways *	158334	177728	199736	215650	239371	258042
7.2	Transport by means other than Railways	436288	473213	474536	492782	564423	608448
7.2.1	Road Transport	356262	392293	412390	443579	491150	529460
7.2.2	Water Transport	43626	43715	21745	3754	3729	4020
7.2.3	Air Transport	0	237	8436	14479	25313	27287
7.2.4	Services Incidental to Transport	36400	36968	31965	30970	44231	47681
7.3	Storage	6594	6750	7276	7671	8061	8690
7.4	Communication & Services related to Broadcasting *	208875	209868	281459	312801	362078	390320
8	Financial Services #	427077	448132	472252	479116	523022	552834
9	Real Estate, Ownership of dwelling & Professional Services	1112543	1119995	1105795	1144128	1129202	1193567

10	Public Administration #	821723	857488	840311	959113	1174578	1307305
11	Other Services	1077923	1077970	1249518	1321779	1530700	1703669
C	Tertiary Sector	6295033	6498604	6893110	7467172	8266199	8970951
12	Total GSVA at Basic Prices	13529020	13969583	14594127	15559920	16973027	18062890
13	Taxes on Products	1203476	1247593	1318035	1451179	1539995	1737114
14	Subsidies on Products	415005	482938	459622	489869	496465	560012
15	Gross State Domestic Product	14317491	14734238	15452540	16521230	18016557	19239992
16	Population (in '00)	314410	318480	322600	326780	331010	344388
17	Per Capita (in Rs.)	45538	46264	47900	50558	53992	55867
D	Agriculture, Forestry and Fishing Sector	2848113	3314074	3209159	3295165	3530647	3692204
E	Industry Sector	4385874	4156905	4491858	4797583	5176181	5399735
F	Service Sector	6295033	6498604	6893110	7467172	8266199	8970951
G	Taxes on Products -Subsidies on Products	788471	764655	858413	961310	1043530	1177102
	GSDP	14317491	14734238	15452540	16521230	18016557	19239992

Appendix: 3.4
NET STATE DOMESTIC PRODUCTS OF ASSAM
New base (2011-12) series

(Rs. in Lakhs)

Sl. No.	INDUSTRY	At Constant (2011-12) Prices					
		2011-12	2012-13	2013-14	2014-15	2015-16(P)	2016-17(Q)
1	2	3	4	5	6	7	8
1	Agriculture, Forestry and Fishing	2620851	3054015	2952105	2904219	3260495	3419851
1.1	Crops	1888760	2298656	2171636	2107447	2447413	2550474
1.2	Livestock	153834	165861	155983	162157	163862	193037
1.3	Forestry & Logging	228850	229066	229840	218472	223086	227171
1.4	Fishing and aquaculture	349407	360432	394646	416143	426135	449169
2	Mining & Quarrying	1288077	1173259	1063789	1073044	1079637	1142720
A	Primary Sector	3908928	4227274	4015894	3977263	4340132	4562571
3	Manufacturing	1274688	1199593	1444523	1573198	1688069	1833410
4	Electricity, Gas, Water Supply and other utility services	130994	124218	134264	165972	176155	198522
5	Construction	1131858	1116543	1263421	1349852	1588742	1617375
B	Secondary Sector	2537540	2440354	2842208	3089022	3452966	3649307
6	Trade, Repair, Hotels & Restaurants	2002198	2074835	2204895	2462719	2767119	2875707
6.1	Trade and repair services	1919528	1990976	2121132	2373541	2670051	2762737
6.2	Hotel and Restaurants	82670	83859	83763	89178	97068	112970
7	Transport, Storage, Communication and services related to broadcasting	654962	690502	735336	773131	851189	927578
7.1	Railways *	102300	113843	119148	125440	132863	137866
7.2	Transport by means other than Railways	376730	405629	404613	434276	500603	549942
7.2.1	Road Transport	307628	336266	362090	395319	436756	481200
7.2.2	Water Transport	37671	37472	11411	2242	2168	2508
7.2.3	Air Transport	0	203	3821	9685	20696	22493
7.2.4	Services Incidental to Transport	31431	31688	27291	27030	40983	43741
7.3	Storage	5654	5788	6103	6446	6706	7204
7.4	Communication & Services related to Broadcasting *	170278	165242	205472	206969	211017	232566
8	Financial Services #	420333	440033	464052	469925	513195	541951
9	Real Estate, Ownership of dwelling & Professional Services	942080	920204	901777	923667	899468	963833
10	Public Administration#	634052	650932	640941	711254	912230	1021186
11	Other Services	1046848	1042971	1208960	1274248	1479317	1652286
C	Tertiary Sector	5700473	5819477	6155961	6614944	7422518	7982541
12	Total NSVA at Basic Prices	12146941	12487105	13014063	13681229	15215617	16194419
13	Taxes on Products	1203476	1247593	1318035	1451179	1539995	1639017
14	Subsidies on Products	415005	482938	459622	489869	496465	528387
15	Net State Domestic Product	12935412	13251760	13872476	14642539	16259147	17305049
16	Population (in '00)	314410	318480	322600	326780	331010	344388
17	Per Capita (in Rs.)	41142	41609	43002	44809	48465	50249
D	Agriculture, Forestry and Fishing Sector	2620851	3054015	2952105	2904219	3260495	3419851
E	Industry Sector	3825617	3613613	3905997	4162066	4532603	4792027
F	Service Sector	5700473	5819477	6155961	6614944	7422518	7982541
G	Taxes on Products -Subsidies on Products	788471	764655	858413	961310	1043530	1110630

Appendix:3.5
Movement of Gross State Domestic Products(GSDP)of Assam at Current and Constant(2011-12) Prices

Year	Gross State Domestic Products (Rupees in Lakh)		Per Capita Gross State Domestic Product (in Rupees)	
	At Current Prices	At Constant Prices	At Current Prices	At Constant Prices
2004-05	5339771	5339771	18993	18993
2010-11	11268796	7344442	37053	24149
2011-12	14317491	14317491	45538	45538
2012-13	15686424	14734238	49254	46264
2013-14	17774522	15452540	55098	47900
2014-15	19572315	16521230	59894	50558
2015-16(P)	22597133	18016557	68359	54056
2016-17(Q)	24980096	19239992	72535	55867

Appendix:3.6
Movement of Net State Domestic Products(GSDP)of Assam at Current and Constant(2011-12) Prices

Year	Net State Domestic Products (Rupees in Lakh)		Per Capita Net State Domestic Product (in Rupees)	
	At Current Prices	At Constant Prices	At Current Prices	At Constant Prices
2004-05	4718074	4718074	16782	16782
2010-11	10062671	6430998	33087	21146
2011-12	12935412	12935412	41142	41142
2012-13	14203946	13251760	44599	41609
2013-14	16044153	13872476	49734	43002
2014-15	17284889	14642539	52895	44809
2015-16(P)	20033325	16259147	60526	48465
2016-17(Q)	22274964	17305047	64680	50249

CHAPTER-IV STATE FINANCE

Goods and Services Tax (GST) is an *indirect tax* which was introduced in India on 1st July 2017 and was applicable throughout the country. GST replaced multiple cascading taxes levied by the *Central* Government and *State* Governments in India. The introduction of GST is a very noteworthy step in the field of indirect tax reforms in India. By merging a large number of Central and State taxes into a single tax, GST is expected to significantly ease multiple taxation and make taxation overall easy for the industries. For the end customer, the most beneficial will be in terms of reduction in the overall tax burden on goods and services. Introduction of GST is also making Indian products competitive in domestic and international markets.

4.1 ASSAM BUDGET 2017-18

Government of Assam annual Budget 2017-18 reflects the receipts, expenditures, deficit/surplus and balance at disaggregated and overall level. In Annual Budget 2017-18 overall receipt was estimated Rs.247412.67 crore (BE) against Rs.247835.46 crore (RE) during 2016-17. However, the receipt under consolidated fund has increased in 2017-18 to Rs.84732.16 crore (BE) against Rs.70146.01 crore (RE) in 2016-17.

In 2017-18, the total expenditure was estimated at Rs.247779.86 crore (BE) against Rs.249001.88 crore (RE) during 2016-17. Overall, it was estimated a Rs.367.19 crore (BE) deficit in 2017-18 against Rs.1166.42 crore (RE) deficit during 2016-17. Adjusting against the closing balance it was estimated at Rs. 2349.80 crore (BE) deficit in 2017-18 against Rs.1982.61 crore (R.E) deficit during 2016-17. The broad category- wise budget estimates in 2017-18 as compared to revised estimates in 2017-18 is shown at Table: 4.1.

TABLE-4.1: BUDGET ESTIMATES FOR 2017-18 AND REVISED ESTIMATES FOR 2016-17
(Rupees in crore)

Receipts / Expenditure Heads		2016-17 (RE)	2017-18 (BE)
A.	Receipts		
I.	Consolidated Fund		
	Revenue Account	59007.64	70719.61
	Capital Account	11138.37	14012.55
	Total (I)	70146.01	84732.16
II.	Contingency Fund Accounts	100.00	100.00
III.	Public Accounts	177589.45	162580.51
	Total (II+III)	177689.45	162680.51
	Total Receipts (A)	247835.46	247412.67
B.	Expenditure		
I.	Consolidated Fund		
	Revenue Account	65676.78	68319.45
	Capital Account	17340.43	17603.24
	Total (I)	83017.21	85922.69
II.	Contingency Fund Account	100.00	100.00
III.	Public Accounts	165884.67	161757.17
	Total (II+III)	165984.67	161857.17
	Total Expenditure (B)	249001.88	247779.86
C.	Transactions during the year (A-B)		
	Surplus (+)		
	Deficit (-)	(-) 1166.42	(-) 367.19
D.	Opening balance		
	Surplus (+)		

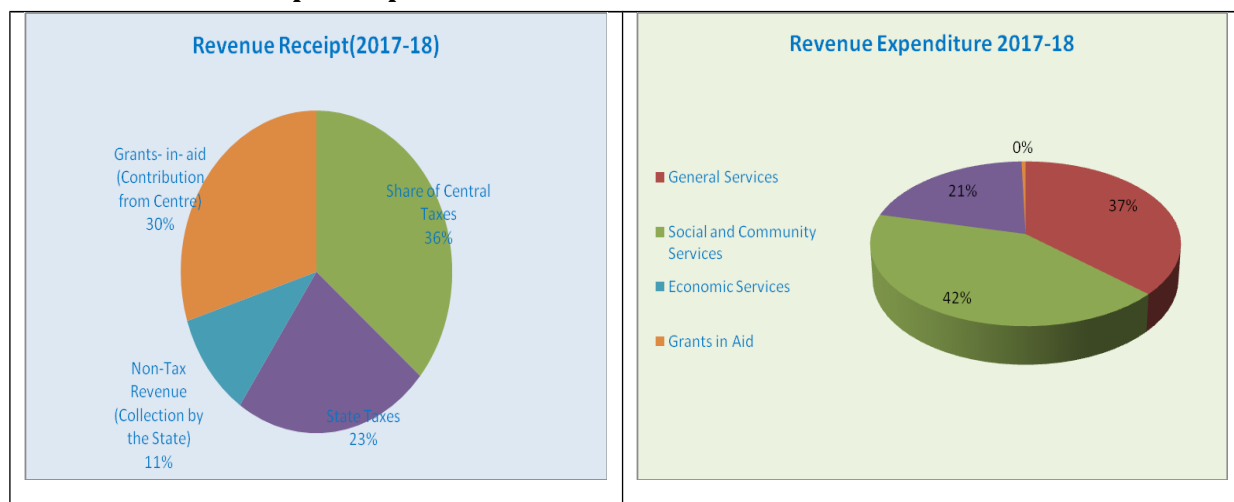
	Deficit (-)	(-) 816.19	(-) 1982.61
E.	Closing balance (C+D)		
	Surplus (+)		
	Deficit (-)	(-) 1982.61	(-) 2349.80

RE = Revised Estimates, BE = Budget Estimates

Source: Assam Budget in Brief 2017-18, Directorate of Economics and Statistics, Assam

4.2 ASSAM BUDGET 2017-18

4.2.1 Revenue Receipt & Expenditure



The revenue receipts can broadly be categorized as a share of central taxes, state taxes, non-tax revenue and grants-in-aid from Government of India. The component of revenue receipts and revenue expenditures are shown in the Table: 4.2. In 2017-18 Budget, the estimates under revenue receipts of the Government of Assam was estimated at Rs.70719.61 crore (BE) against revenue expenditure at Rs.68319.45 crore, with a surplus margin of Rs.2400.16 crore in Revenue Account. The expected growth of revenue receipt during 2017-18 is estimated at 6.86% over 2016-17.

During 2017-18, an amount of Rs.23960.29 crore is expected from the state's own resources with contribution of Rs.16496.32 crore as tax revenue and Rs.7463.97 crore as non-tax revenue. It is expected that the total state tax collections will increase during 2017-18 by 11.58% over 2016-17.

The major source of revenue receipt of the Government during 2017-18 will be , the share of central and state taxes received amount of Rs.42045.58 crore (59.51%) ,followed by grants-in-aid from the centre at Rs. 21170.06 crore (29.93%) and non-tax revenue at Rs.7463.97 crore (10.56%) respectively.

Table:4.2- Revenue Receipt & Expenditure:2017-18

(Rupees in crore)

Sl. No.	Revenue Receipt			Revenue Expenditure		
	Item	Amount	% share	Item	Amount	% share
1	Share of Central Taxes	25589.26	36.18	General Services	25223.43	36.92
2	State Taxes	16496.32	23.33	Social and Community Services	28688.88	41.99
3	Non-Tax Revenue	7463.97	10.56		14088.33	20.62

	(Collection by the State)			Economic Services		
4	Grants- in- aid (Contribution from Centre)	21170.06	29.93	Grants in Aid	318.81	0.47
	Total Receipts	70719.61	100.00	Total Expenditure:	68319.45	100.00

Source: Assam Budget in Brief 2017-18, Directorate of Economics and Statistics, Assam

4.2.2 Year wise Revenue Receipt

The total revenue receipt of the State has been increasing steadily from Rs.27455.40 crore in 2011-12 to Rs. 49219.81 crore in 2016-17 (Actual) and Rs.70719.61 crore (BE) in 2017-18. The increase is 1.8 in 2016-17 (Actual) and 2.6 in 2017-18 (BE) over 2011-12.

The proportion of tax revenue to total revenue in 2011-12 was 61.6 % had decreased to 59.5% in 2017-18(BE). The grants-in-aid from the Centre, which constituted 28.0% in 2011-12, registered a rise of 29.9% in 2017-18(BE). The total revenue receipt under different heads is shown in Table.4.3.

The revenue receipts during 2011-12 to 2017-18 (BE) shows a progressive growth in the State. However, the State's Own Resources share to total revenue receipts was 38.26% in 2011-12 had declined to 33.39% in 2016-17. During the same period, the State's Own Resources had increased by 56.43%. The revenue receipt of the State consists of its own tax and non-tax revenue, central tax transfer and grants-in-aid from Govt. of India. The State's own tax revenue has estimated at Rs. 5210.90 crore (BE) in 2017-18 against Rs.7638.24 crore in 2011-12. On the other hand, the State's own non-tax revenue was estimated at Rs.7463.97 crore in 2017-18(BE) from Rs.2866.76 crore in 2011-12 with an increase of 160.36% during the period.

Table:4.3- Year-wise Revenue Receipt during 2011-12 to 2017-18 (B.E)

(Rs. in crore)

Year	State's Own Resources			Transfer from the Centre				Total Revenue Receipt
	Tax Revenue	Non-Tax Revenue	Total	Share in Central Taxes	Plan Grants	Non-Plan Grants	Total	
2011-12	7638.24	2866.76	10505.00	9283.53	6876.55	790.32	16950.40	27455.40
2012-13	8250.21	2473.59	10723.80	10601.26	8017.88	1348.04	19967.18	30690.98
2013-14	8994.92	2705.03	11699.95	11574.52	8257.40	680.92	20512.84	32212.79
2014-15	9449.81	2412.89	11862.70	12283.71	12544.13	1490.95	26318.79	38181.49
2015-16	10106.50	2741.57	12848.07	16784.88	9494.27	3330.48	29609.63	42457.70
2016-17 (Actual)	12079.56	4353.12	16432.68	20188.64	10444.07	2154.41	32787.12	49219.81
2017-18 (BE)	Grants							
	5210.90	7463.97	12674.87	36874.69	21170.06		58044.75	70719.62

Source: Department of Finance (Economic Affairs), Govt. of Assam

The receipt of Central tax transfers was estimated at Rs.36874.69 crore (BE) in 2017-18 against the amount of Rs.20188.64 crore received in 2016-17.

4.2.4. Revenue Expenditure under Different Heads

The total revenue expenditure from the revenue account was estimated at Rs.68319.45 crore in 2017-18(BE) against Rs.62459.04 crore in 2016-17 (RE) with an annual increase of 9.38% during the period. During the period 2011-12, expenditure under revenue heads was Rs.26528.55 crore. Out of the total revenue outlay for 2017-18 (BE), Social and Community Services account for 41.99%, General Services 36.92%, Economic Services 20.62% and Grants-in-Aid 0.47%. The relative shares of expenditures in 2011-12 under the four heads viz. General Service, Social and Community Services, Economic Services and Grants-in-aid & contribution were 36.6%, 38.7%, 15.5% and 9.2 % respectively.

TABLE : 4.4- REVENUE EXPENDITURE UNDER DIFFERENT HEADS

(Rupees in Crore)

Sources of revenue	2011-12	2014-15	2015-16	2016-17 (RE)	2017-18 (BE)
1. General Services	9707.73	12921.60	12656.04	21301.51	25223.43
1.1 Organs of State	248.01	296.58	424.49	545.78	556.44
1.2 Fiscal Services	259.32	398.16	421.00	682.68	698.41
1.1 Interest Payments and	2207.50	2469.98	2775.91	3384.53	3956.72
1.1 Administrative Services	3600.61	4019.14	3469.87	8248.99	8468.92
1.1 Pension and	3392.29	5737.74	5564.77	8439.53	11542.94
2. Social & Community Services	10277.17	108087.74	17740.36	30064.14	28688.88
2.1 Education, Sports, Art and	6132.64	11164.47	10710.22	16233.89	14935.73
2.1 Medical, Family Planning,	4122.13	6125.06	2855.79	11544.25	12188.98
2.1 Others	22.40	798.21	4174.35	2286.00	1564.17
3. Economic Services	4098.11	7075.32	6239.86	13616.68	14088.33
3.1 General Economic	256.39	440.54	254.78	613.46	582.90
3.1 Agriculture and allied	1191.82	2088.08	1667.03	4100.13	3515.30
3.1 Industry and Mineral	319.09	394.63	320.44	703.69	790.33
3.1 Water and Power	594.26	847.06	672.15	1386.91	1901.15
3.1 Transport and	726.06	1477.12	1404.88	2224.93	1984.38
3.1 Other Economic Services	1010.49	1827.89	1920.58	6743.12	5314.27
4. Grants-in-aid & contribution	2445.54	993.50	375.16	694.45	318.81
Total Expenditure (1+2+3+4)	26528.55	39078.16	37011.42	65676.78	68319.45

Source: Assam Budget in Brief 2017-18

4.2.4. Plan and Non-Plan Expenditure

From 2017-18 the concept of plan and non-plan expenditure is abolished. However, for proper comparison we are analyzing the plan and non-plan expenditure till 2016-17. The revenue expenditure of the State under Plan and Non-plan heads are presented in Table:4.5.

Table: 4.5- Plan and Non-Plan Expenditure**(Rs.in crore)**

Year	Plan Expenditure		Non-Plan Expenditure				Total Revenue Expenditure
	Total	Salary	Total	Interest	Salary	Pension	
2011-12	6487.76	668.89	20040.79	2074.40	10978.54	3136.07	26528.55
2012-13	6495.09	818.12	22641.83	2114.91	12452.21	3778.87	29136.92
2013-14	7027.65	773.01	24962.23	2198.45	14841.44	4264.13	31989.88
2014-15	9390.82	877.83	29687.35	2333.74	16702.00	5237.02	39078.17
2015-16	9435.57	1381.55	27575.85	2618.44	17102.92	5985.23	37011.42
2016-17(Actual)	13433.64	1450.04	35929.08	2963.75	17759.09	6564.64	49362.72
2017-18(BE)	Interest	Salary	Pension	Total Revenue Expenditure			
	3746.75	54890.32	9682.38	68319.45			

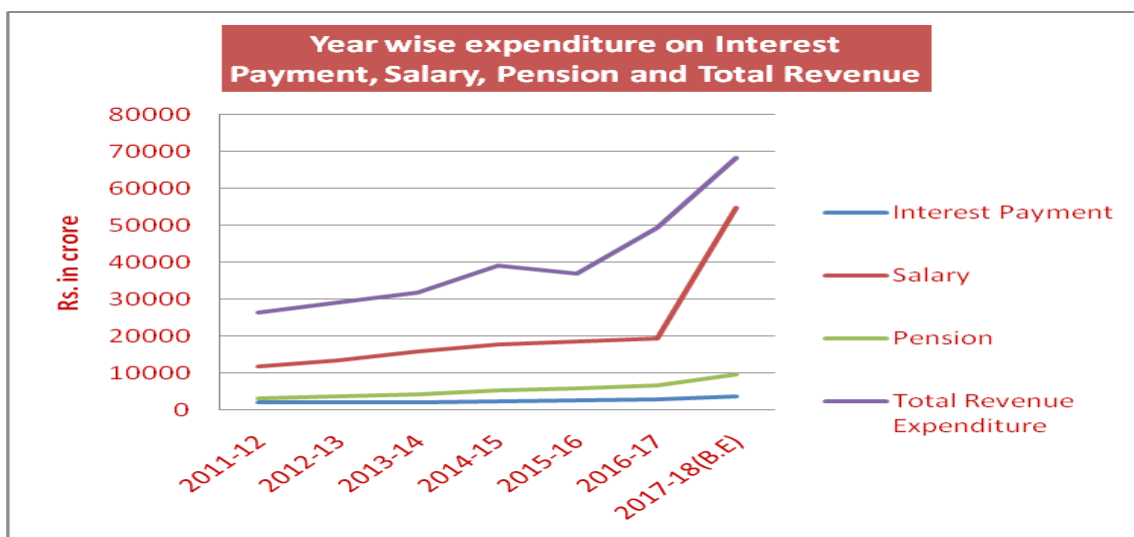
Source: Department of Finance (Economic Affairs), Govt. of Assam

Table: 4.5 shows the trend of actual expenditure of the State from 2011-12 to 2017-18. The total revenue expenditure had increased from Rs.26528.55 crore in 2011-12 to Rs.68319.45 crore in 2017-18 (BE), with a drop during 2014-15 to 2015-16. The increase during 2011-12 to 2017-18 was 157.5%.

A component of non-plan revenue expenditure was interest payment. Although the expenditure on interest payment during 2011-12 to 2016-17 had shown an increasing trend yet the share of interest payment to the total revenue expenditure had decreased during the period. Under non-plan head, the share of expenditure on pension to total non-plan revenue expenditure was about 15.65%, which increased to 18.27% in 2016-17. The share of pension expenditure to total revenue expenditure for 2017-18 (BE) is estimated at 14.17%.

The share of interest payment, salary and pension during 2017-18 (BE) were 5.48%, 80.34% and 14.18% respectively. The interest payment had increased from Rs.2074.40 crore in 2011-12 to Rs.3746.75 crore in 2017-18(BE). As compare to 2016-17 the interest payment had increased to 26.42% in 2017-18(BE). Similarly, for salary expenditure, it had increased from Rs.11647.43 crore in 2011-12 to Rs.54890.32 crore in 2017-18(BE). During 2016-17 and 2017-18 (BE) the salary expenditure had increased 371.27%. The pension expenditure had increased from Rs.3136.07 crore in 2011-12 to Rs.6564.64 crore in 2017-18(BE). During 2016-17 to 2017-18(BE) the increase in pension expenditure was 9.68%.

Chart: The trend of the expenditure under different revenue heads:



4.2.5. Trend of Revenue Expenditure

The revenue expenditures are basically in three parts namely, development expenditure, non-development expenditure and grants-in-aid & contributions. The development expenditures are again divided into two parts namely social services and economic services. The break-up of total revenue expenditure for the state of Assam during 2011-12 to 2017-18 (BE) is shown in Table: 4.6. The share of expenditure on social services to total revenue expenditure has marginally decreased from 43.22% in 2011-12 to 41.99% in 2017-18(BE). The share of expenditure on economic services to total revenue expenditure has increased from 17.58% in 2011-12 to 20.66% in 2017-18(BE). The share of non-development expenditure to total revenue expenditure remains almost same during the last seven years at 37%. Also grant-in-aid and contributions are on a decreasing trend since 2011-12 to 2017-18(BE).

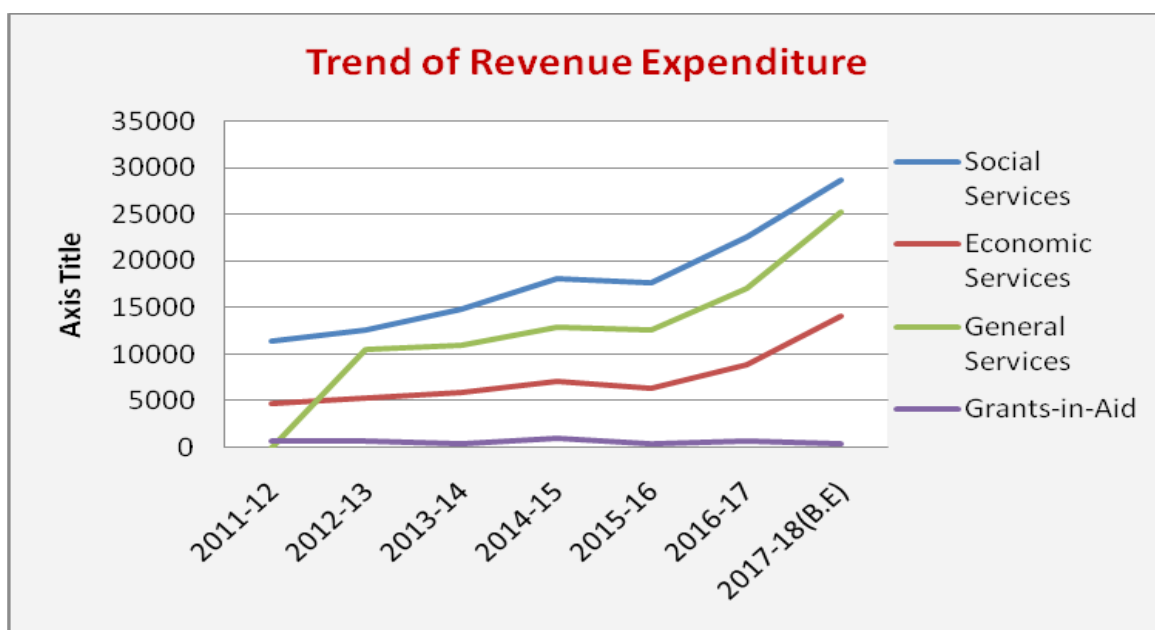
Table: 4.6- Trend of Revenue Expenditure

(Rs. in crore)

Year	Development Expenditure			Non-Development Expenditure	Grants-in- Aid & Contributions	Total
	Social Services	Economic Services	Total	General Services		
2011-12	11465.79 (43.22%)	4663.27 (17.58%)	16129.06 (60.80%)	9743.67 (36.73%)	655.83 (2.47%)	26528.56 (100.00%)
2012-13	12617.46 (43.30%)	5209.38 (17.88%)	17826.84 (61.18%)	10570.29 (36.28%)	739.79 (2.54%)	29136.92 (100.00%)
2013-14	14850.09 (46.42%)	5835.53 (18.24%)	20685.62 (64.66%)	10928.50 (34.16%)	375.76 (1.18%)	31989.88 (100.00%)
2014-15	18087.75 (46.29%)	7075.32 (18.11%)	25163.07 (64.39%)	12921.60 (33.07%)	993.50 (2.54%)	39078.17 (100.00%)
2015-16	17740.36 (47.93%)	6239.87 (16.86%)	23980.23 (64.79%)	12656.03 (34.19%)	375.16 (1.01%)	37011.42 (100.00%)
2016-17	22673.14 (45.93%)	8914.03 (18.06%)	31587.17 (63.99%)	17123.19 (34.69%)	652.36 (1.32%)	49362.72 (100.00%)
2017-18 (BE)	28688.88 (41.99%)	14088.33 (20.66%)	42777.21 (62.61%)	25223.43 (36.92%)	318.81 (0.47%)	68319.45 (100.00%)

Source: Department of Finance (Economic Affairs), Govt. of Assam

Chart- Trend of revenue expenditure under different sub- heads during 2011-12 to 2017-18(BE)



4.3 CAPITAL BUDGET-2017-18

The capital budget was of Rs.17603.24 crore expenditure against a receipt of Rs.14012.55 crore in 2017-18 (BE) and overall there is a deficit of Rs.3590.69 crore during the year. Under the sub heads, public debt and loan & advances by the state, the receipt is more than the expenditure.

Table:4.7- CAPITAL BUDGET 2017-18

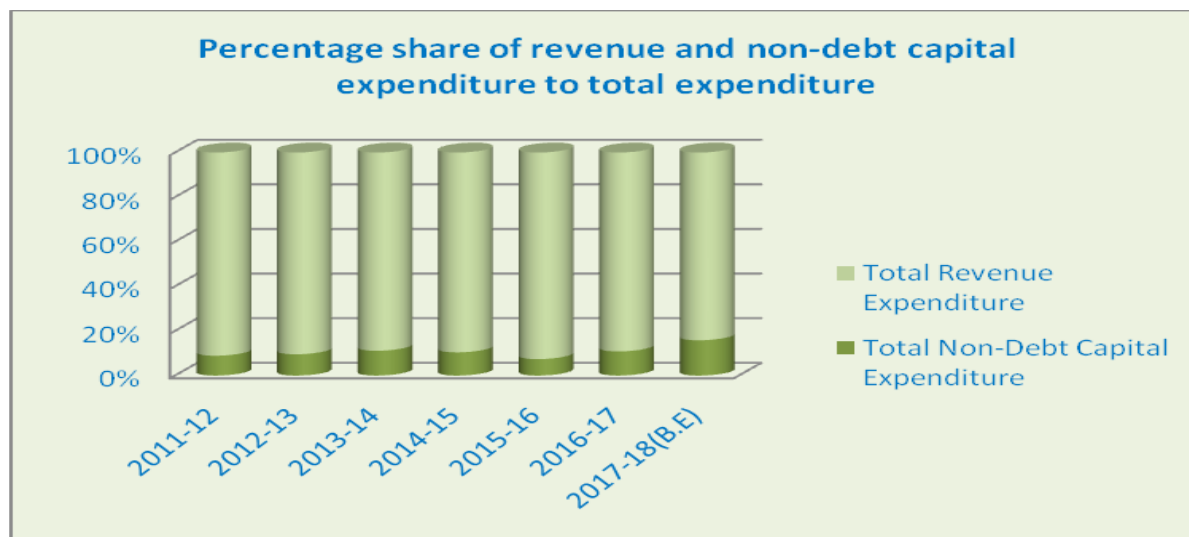
	Heads	(Rupees in crore)
A.	Expenditure	
	(i) Capital Outlay	12389.43
	(ii) Public Debt	4703.41
	(iii) Loans and Advances by the State Government	460.40
	(iv) Appropriation to Contingency Fund	50.00
	(v) Inter-State Settlement	--
	Total (A)	17603.24
B.	Receipt	
	(i) Public Debt	11265.32
	(ii) Loans and Advances by the State Government	2747.23
	(iii) Inter-State Settlement	--
	Total (B)	14012.55
C.	Net Result (B-A)	
	Surplus (+) / Deficit (-)	(-) 3590.69

Source: Assam Budget in Brief: 2016-17

4.3.1. Non-Debt Capital Expenditure

Non-debt capital expenditure consists of capital outlay and lending and this excludes loan repayment. The trend of actual capital expenditure during the period from 2011-12 to 2017-18(BE) is presented in Table: 4.08.

Chart- Percentage share of revenue and non-debt capital expenditure to total expenditure from 2011-12 to 2017-18(BE)



The total capital outlay to total expenditure was 8.60% in 2011-12 and it is expected to reach 15.26% in 2017-18 (BE). During the period from 2011-12 to 2017-18, the share of lending to total expenditure of the state has slightly increased from 0.30% to 0.58%. The share of total non-debt capital expenditure to total expenditure was around 10.84% in 2016-17 and it is expected to increase 15.83% in 2017-18(BE).

Table:4.08- Non-Debt Capital Expenditure (including plan and non-plan)

Rs. in crore

Year	Capital Outlay			Lending			Total Non-Debt Capital Expenditure	Total Revenue Expenditure	Total Expenditure
	Plan	Non-Plan	Total	Plan	Non-Plan	Total			
2011-12	2431.34	74.67	2506.01	81.81	6.47	88.28	2594.29	26528.55	29122.84
2012-13	2544.96	72.32	2617.28	71.34	389.31	460.65	3077.93	29136.92	32214.85
2013-14	3088.59	100.65	3189.24	316.01	506.03	822.04	4011.28	31989.88	36001.16
2014-15	3827.13	85.14	3912.27	306.67	324.04	630.71	4542.98	39078.17	43621.15
2015-16	2704.05	-13.14	2690.91	108.30	151.79	260.09	2951.00	37011.42	39962.42
2016-17	5270.25	231.83	5502.08	227.97	271.41	499.38	6001.46	49362.72	55364.18
2017-18 (B.E)			12389.43			460.40	12849.83	68319.45	81169.28

Source: Department of Finance (Economic Affairs), Govt. of Assam

4.3.2. RECEIPT AND EXPENDITURE ON CAPITAL ACCOUNT:

Table: 4.09 shows total capital receipts and capital expenditure from 2013-14 to 2016-17 and budget estimate for the year 2017-18.

Table: 4.09- Receipt and Expenditure on Capital Account

Rs. in crore

Year	Receipts		Total	Expenditure		
	Total*	Of which Internal Debt		Of which		
				Capital Outlay	Disbursement of Loans and Advances	Repayment of Public Debt
2013-14	1202.14	1147.46	5188.50	3189.24	822.03	1177.23
2014-15	6155.59	6095.80	6170.02	3912.28	630.71	1627.03
2015-16	6008.18	5447.50	4919.90	2690.91	260.09	1968.90
2016-17	3920.31	3844.36	8044.09	5502.08	499.38	2042.63
2017-18 (B.E)	14012.55	11265.32	16905.25	11741.44	460.40	4703.41

*It includes misc. Capital Receipts, Borrowings (excluding Small savings, State Provident Funds etc.) and recoveries of loans & advances

Source: Department of Finance (Economic Affairs), Govt. of Assam

The capital receipts declined by 34.75% during 2016-17 over the previous year due to decrease in internal debt as compared to the previous year. During the year 2017-18 (BE), it is expected to increase by 3.57 times over the previous year and internal debt is expected to contribute by 80.39%.

4.3.3. BORROWINGS AND REPAYMENT:

The status of Borrowing, Repayment and Net Loans of the State during the period from 2011-12 to 2016-17 and budget estimate for the year 2017-18 is presented in Table: 4.10.

Table:4.10- Borrowings and Repayment

Rs. in crore

Year	Borrowings (including, Small, Savings, State Provident Fund etc.)	Repayment of loans (including Small Savings, State Provident Fund etc.)	Net Loans
2011-12	2114.47	1673.26	441.21
2012-13	2757.75	2094.62	663.13
2013-14	2650.77	1794.77	856.00
2014-15	7776.79	3931.43	3845.36
2015-16	7205.80	2816.57	4389.23
2016-17	5649.45	2993.91	2655.54
2017-18(B.E)	13058.52	5593.46	7465.06

Source: Department of Finance (Economic Affairs), Govt. of Assam

The sources of borrowings of the State Government are loans from the market, loans from financial institutions/banks. NSSF loans, loans from the Centre against EAPs and State Provident Fund and GIS. State Government usually resorts to borrowing to meet the fiscal deficit.

4.3.4. DEBT POSITION

The Debt-GSDP Ratio and the Ratio of interest payment to total revenue receipts are the standard criteria for determining the debt sustainability of a State. Year wise Debt Position of Assam is shown in the Table: 4.11.

Table : 4.11- Year-wise Debt Position in Assam

Year	Outstanding Debt	GSDP at Current Prices	Rs. in crore
			Debt-GSDP Ratio (%)
2011-12	25936.49	143174.91	18.12
2012-13	26599.61	156864.24	16.96
2013-14	27455.62	177745.22	15.45
2014-15	31300.99	195723.15	15.99
2015-16	35690.22	225971.33	15.79
2016-17	38345.77	249800.96	15.35
2017-18(BE)	54810.83	279271.07	19.63

Source: Department of Finance (Economic Affairs), Govt. of Assam

The outstanding debt position of the State has improved gradually since few years back. The Debt-GSDP ratio has gradually come down from 18.12% in 2011-12 to 15.35% in 2016-17. The Debt-GSDP ratio of the State for 2017-18(BE) is expected to reach 19% above.

4.3.5. DEBT STOCK AND INTEREST PAYMENT

The total debt stock and interest to total revenue receipts in terms of percentage is shown in Table: 4.12. The ratio of interest payment to total revenue receipt has been gradually come down from 7.56% in 2011-12 to 6.02% in 2016-17 and it is expected to fall further to 5.30% in 2017-18 (BE).

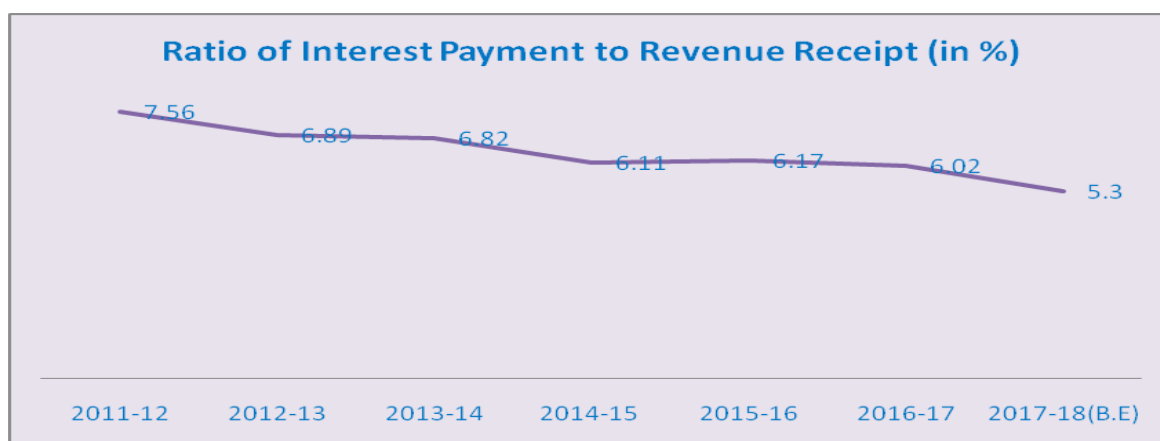
Table:4.12- Interest Payment to Revenue Receipt

Year	Total Revenue Receipt	Debt Stock	Interest Payment	Rs. in crore
				Ratio of Interest Payment to Revenue Receipt (in %)
2011-12	27455.40	25936.49	2074.40	7.56
2012-13	30690.98	26599.61	2114.91	6.89
2013-14	32212.79	27455.62	2198.45	6.82
2014-15	38181.49	31300.99	2333.74	6.11
2015-16	42457.70	35690.22	2618.44	6.17
2016-17	49219.81	38345.77	2963.75	6.02
2017-18 (BE)	70719.62	45810.83	3746.75	5.30

Source: Department of Finance (Economic Affairs), Govt. of Assam

The ratio of interest payment to revenue receipt remains well below the benchmark of 15% prescribed by the 12th Finance Commission.

Chart- Year-wise ratio of interest payment to total revenue receipt



4.3.6. FISCAL SECNARIO OF THE STATE

Table: 4.13 shows the trend of fiscal parameters of the State from 2011-12 to 2017-18 (BE). The figure of GSP at current prices from 2011-12 is taken as per new series of national accounts. The fiscal scenario in the State had a positive trend from 2005-06 onwards due to the fiscal reform measures adopted in 2004-05. After a heavy downslide in 2009-10 (as experienced worldwide), the revenue deficit turned into surplus till 2013-14 followed by revenue deficit of Rs.896.68 crore in 2014-15.

TABLE:4.13- FISCAL PARAMETERS

(Rs. in crore)

Year	Revenue Deficit(+)/ Surplus(-)	Fiscal Deficit(+)/ Surplus(-)	Primary Deficit(+)/ Surplus(-)	Fiscal Deficit(+)/ Surplus(-) as % of GSDP	GSDP at Current Price
2011-12	(-)926.85	(+)1646.05	(-)428.44	(+)1.15	143175
2012-13	(-)1554.07	(+)1516.49	(-)598.42	(+)0.97	156864
2013-14	(-)222.91	(+)3782.30	(+)1583.85	(+)2.13	177745
2014-15	(+)896.68	(+)5429.54	(+)3095.80	(+)2.95	195723
2015-16	(-)5446.28	(-)3005.47	(-)5623.91	(-)1.49	225971
2016-17	(-)142.92	(+)6125.78	(+)3162.03	(+)2.73	249800
2017-18 (B.E)	(-)2400.16	(+)7702.43	(+)3955.68	(+)2.98	279271

Source:

During the year 2015-16, the revenue surplus was raised to Rs.5446.28 crore with a fiscal surplus of Rs.3005.47 crore. The year 2016-17 shows that revenue surplus of Rs.142.92 crore, fiscal deficit of Rs. 6125.78 crore and primary deficit of Rs.3162.03 crore. The budget estimate of 2017-18 expects a revenue surplus of Rs.2400.06 crore and is expected to have a fiscal deficit of Rs.7702.43 crore. During the year 2016-17 the State showed that a fiscal deficit of 2.73% of GSP and it is expected that the fiscal deficit to remain at 2.98% of GSDP in 2017-18 (BE).

4.4. ACHIVEMENT OF TAXATION DEPARTMENT DURING 2015-16 and 2016-17

Finance (Taxation) Department is responsible for collection of major share of tax revenue of the State. It contributes more than 80% of the own tax revenue earned by the State annually. Taxation Department administered 10 different Taxation Acts during 2016-17 and collection of revenue under different Taxation Acts during the years from 2011-12 to 2016-17 is presented in Table: 4.14. The Assam Taxation (Liquidation of Arrear Dues) (Amendment) Act, 2016 was introduced in order to liquidate outstanding dues under all Acts administered by Taxation Department. Under this act, an amount of Rs.452.58 crore was collected during 2016-17. The collection of taxes under The Assam Value Added Tax Act, 2003 has sharply increased from Rs.7013.93 crore in 2015-16 to Rs.8176.31 crore in 2016-17 reflecting a growth of 16.57% over the preceding year.

On the other hand, Collection of taxes under Central Sales Tax Act has increased from Rs.474.05 crore in 2015-16 to Rs.558.26 crore in 2016-17 registering a growth of 17.76% over the previous year. In case of the Assam Agricultural Income Tax Act there is a decrease in collection of taxes in 2016-17 as compared to the 2015-16. During the year 2016-17 the Department collected Rs.10293.75 crore under different taxation Acts as against Rs.8504.57 crore in 2015-16 thereby achieving a growth of 21.04% during the period.

Table:4.14 -Collection of Taxes under different Taxation Acts in Assam

Rs. in crore

Taxation Act	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
The Assam Value Added Tax Act, 2003	5181.44	5689.88	6288.54	6859.24	7013.93	8176.31
The Central Sales Tax Act, 1956	512.51	533.25	559.47	492.01	474.05	558.26
Assam Health Infrastructure and Services Development Fund, 2009(w.e.f. 01-07-2015)	-	-	-	-	5.74	17.07
The Assam Entry Tax Act, 2008	518.75	364.14	404.69	382.88	580.93	1015.49
The Assam Professions, Trades Calling & Employment Tax Act, 1947	164.27	168.31	186.36	191.38	183.05	184.27
The Assam Electricity Duty Act, 1964	36.67	41.82	40.54	44.00	48.68	49.44
The Assam Amusement and Betting Tax Act, 1939	5.87	63.07	38.93	44.37	64.87	153.18
The Assam Taxation on Luxuries (Hotels & Lodging Houses) Act, 1989	5.89	8.04	8.67	10.55	9.74	14.49
The Assam Taxation (on Specified Land) Act, 1990	95.64	99.72	102.43	101.66	91.14	102.02
The Assam Agriculture Income Tax Act, 1939	83.27	82.33	89.99	51.07	32.45	23.22
Total	6604.31	7050.56	7719.62	8177.16	8504.57	10293.75
Growth Rate	27.4	6.8	9.5	5.9	4.0	21.0

Source: Commissionerate of Taxes, Assam

CHAPTER – V

AGRICULTURE

Assam's economy is fundamentally based on agriculture. Over 75 percent of the state's population depends on agriculture as farmers, agricultural labourers, or both for their livelihood. A majority of state's population, almost 86% of an estimated 26.81 million in 2011, live in rural areas. As compared to other states of India, Assam is still dependent on the agricultural sector. Total land under cultivation was 2.83 million hectares in 2014-15 which almost 36 percent of total geographical land area of the state. The average size of land holding per household was only 1.10 hectares during the year 2014-15 and more than 85 percent of farmer families are either small or marginal farmers with average land holding of only 0.63 hectare. However, agriculture as a sector still continues to support more than 75 percent of its population, either directly or indirectly, providing employment and support to more than 50 percent of its total workforce.

Numerous studies have shown that small and fragmented land holdings are one of the principal causes of low productivity because such land holdings do not facilitate economic and efficient use of modern technology (e.g., agricultural machinery, chemicals, and hybrid seed). Assam is far behind in the use of modern agricultural technology to improve its agricultural productivity compared to the rest of the country. For example, the agricultural productivity index for Assam was 131.52 in 2015-16 (Base year 2007-08=100). Government of Assam has declared 2015-16, as the "Year of Agriculture". A "Task Force on Agricultural Development" was constituted by the State Government.

The contribution of Agriculture Sector towards the State Economy has shown a growing trend in terms of GSDP at current prices from 2014-15. As per quick estimates, annual growth rate in crop sector at current prices for 2016-17 is estimated at 12.2% against 10.2% in 2015-16(PE).

AGRICULTURE:

ROAD TO PROSPERITY:

Farmers in the state feed the entire population. But their contribution to the socio-economic upliftment is yet to be recognized. Recognizing the services of farmers, our Government will issue I-Cards to the farmers. These Identity Cards will bring a sense of recognition to their contribution to the state's economy besides being used as a unique identity to develop the database of each of the farmers in the Government's initiatives for development of agriculture.

TABLE– 5.1		
TREND OF GROWTH OF AGRICULTURAL SECTOR [GSDP at Current (2011-12) Prices]		
<i>(Figure in percentage)</i>		
Y e a r s	Contribution to GSDP (Figure in Rs. Lakh)	Annual Growth Rate over the previous year
2014-15	2942082	8.15%
2015-16 (P)	3241287	10.2%
2016-17 (Q)	3636258	12.2%

Source: Directorate of Economics and Statistics, Assam.

Zero Interest on Crop Loans

Financial inclusion is the heart of several programmes of our Government. The low-level of Credit-Deposit Ratio in Assam leaves a great scope for expansion of credit flow to the rural areas particularly to the farmers.

Our Government is exploring innovative ways to increase the credit flow. To encourage the uptake of credit by our farmers, we propose to introduce "Zero Interest Crop Loans" by giving 100 percent interest subventions on agricultural loans taken by farmers of Assam upto Rs.1.00 lakh.

Perhaps, we are the first State in the country to take such a transformative intervention to drive agricultural loans. This will encourage our farmers to avail loans for agricultural purposes and help the rural economy. For this purpose, Rs.25 crore has been allocated in the budget 2017.

Financial Incentives for Farmers using Kisan Credit Cards (KCC)

As per bank records, over 9.60 lakh KCC were issued in Assam. However, active credit cards are just a little over 1.34 lakhs. Data shows over 80 percent of inactive KCC cards. To activate these inactive KCC's, our Government proposes to introduce a one-time cash incentive of Rs.3000 per inactive KCC holding farmer if he renews the card. A detailed guideline will be issued for this purpose. Rs. 65 crores will be allotted for this in the budget 2017-18.

AGRICULTURE DEPARTMENT: GROUNDWORKS FOR PROSPERITY LAID:

A series of measures including zero interest crop loans to farmers, financial incentives for farmers using KCC, interest subsidy to farmers on agricultural machinery and equipments etc. Last year, providing Identity Cards to the farmers, was spoken about. This process is at an advanced stage and Identity Cards will be issued to all farmers in the State within the fiscal year 2017-18. In tune with the dream of Hon'ble PM for 'Harkhet Me Pani', District Irrigation Plan, Annual action Plan and State Irrigation Plan, have been prepared. It will help us to develop Irrigation facilities for the State in a holistic manner.

Year	Total Rice	Wheat	Total Pulses	Total Food grains	Total oilseeds [excl. Coconut]
2011-12	4716	49	73	4857	156
2012-13	5128	44	84	5279	187
2013-14	5193	40	104	5418	186
2014-15	5223	29	111	5459	206
2015-16	5125	24	108	5348	216
2016-17 (P)	5127	23	108	5353	204

Source: Directorate of Economics and Statistics, Assam.

For continuing the above, mission of increase of area under irrigation, 61,000 Shallow tube wells were undertaken to install under NABARD programme. Proposing for another 39,000 STWs in 2017-18 was sanctioned, as part of the last tranche.

The dream to make the name of Majuli as Assam's trade mark of organic products in the name "O Majuli" so that Majuli will be known as World's popular organic brand in addition to its current status of World's largest Riverine Island.

Assam has a rich and diverse soil conditions, very conducive for agriculture and agricultural productivity. But, due to unpredictable weather conditions, along with erratic rainfall and the presence of various impediments like floods, soil erosion etc., agricultural productivity has been suffering at times. Yet, the State Agriculture Department, has been able to give thrust to increase the production of food grains by the implementation of double cropping patterns for the provision of food security and nutrition to its ever growing population, by the adoption of strategies for the increase and enhancement of food productivity and cropping intensity. The State Agriculture Department, has also prioritized the optimum and efficient use of available resources for increasing production and productivity of agricultural and horticultural crops, through use of best technologies as available and wherever feasible.

Various steps have been taken for increasing production and productivity like the formulation of State and District specific plans depending on prevailing agro-climatic conditions, growth potentials and specific requirements of districts have been given attention on namely use of quality and HYV seeds, adoption of multi cropping productivity patterns, provision of assured irrigation facilities, use of improved farm mechanization procedures, special use of bio-fertilizers and bio-pesticides, practices of organic farming, development of marketing infrastructure for encouraging the farming community and see to the creation of maximum potentials for income and employment opportunities.

The development of agriculture sector in hill districts of the State, namely East Karbi-Anglong, West Karbi-Anglong and Dima Hasao are suffering due to presence of various weakness, and prevalent conditions, namely low infrastructural facilities, low productivity due to practice of extensive Jhum cultivation and non-availability of markets etc. The need is of changing the pattern of cultivation in these hilly districts, which is posing as a great challenge before the State Government. It is a priority for the future to see the development of Agriculture, in these districts by introduction of new schemes for the production of cash crops, horticultural crops and practice of settled agriculture in terrace lands. Development of Agriculture in these hilly areas needs attention for infrastructural development and access to markets. Areas of concern to be looked into for the exploitation of horticultural potentialities, introduction of cultivation suitable for fruits like citrus, spices, their value addition, which will bring in substantial contribution to the economy of these hill districts of the state.

REQUIREMENT OF FOOD GRAINS DURING THE TWELFTH FIVE YEAR PLAN PERIOD

The Food grains requirements, during the Twelfth Five Year Plan period in Assam has been estimated on the basis of growth of population (Projected) of Census 2001, as presented in Table-5.3. To fulfil the needs of food requirements, the State Agriculture Department has given thrust in the areas like making availability of quality seeds and various inputs to farmers, enhancement of areas under assured irrigation, enhancement of areas under farm power, emphasis on Seed replacement Rate, increase in coverage of areas under HYV/Hybrid paddy, increase areas under pulses, Oilseeds, institutional support of credit, crop insurance to farmers, marketing reforms introduced by establishment of markets on PPP modes and procurement of paddy at GP level etc.

TABLE– 5.3: Food Requirement during the Twelfth Five Year Plan period in Assam

Year	Projected Population (in lakh)	Adult Population (in lakh)	Food requirement (in lakh MT)				Total Food grains (in lakh MT)
			Rice	Wheat	Pulses	Oilseeds	
2012-13	316.97	253.58	41.65	5.55	2.78	3.70	50.91
2013-14	322.34	257.87	42.35	5.65	2.82	3.76	51.77
2014-15	327.79	262.23	43.07	5.74	2.87	3.83	52.64
2015-16	333.34	266.67	43.80	5.84	2.92	3.89	53.53
2016-17	338.40	270.72	44.46	5.92	2.96	3.95	54.35

Figure rounded off to nearest Zero.

Source: Draft Annual Plan 2014-15, Planning and Development Department, Assam

AGRICULTURE SCENARIO (2016-17)

WEATHER AND RAINFALL

The climate of Assam is humid, with a sub-tropical nature, having warm humid summers and cool dry winters. Due to its unique geographical location, along with the presence of varied physiography, Assam has an array of climatic conditions. Assam is situated in the high rainfall zone with annual average rainfall of 2297.4 mm. The state normally receives 2 percent of rainfall in Winter Season (January-February), 25 percent in Summer Season (March-May), 65 percent in Mansoon Season (June-September) and 7 percent in Post-Mansoon Season (October-December). However, Assam is prone to floods and sometimes there is also the presence of drought like situations with the lack of rains. Thus, though the State has enough natural potentialities for growing food grains in abundance, it at times faces losses impacting on its contribution and share to the national granary, due to the presence of erratic and unpredictable weather conditions, as experienced specially during the last few years.

It has been observed that the impact of climate change has affected and led to erratic rainfall and unpredictable mansoon behaviour patterns in the state. This has in turn affected the agricultural productions to a great extent in the state. The experience of crop season wise pattern of average rainfall is evident from Table-5.4

TABLE- 5.4: CROP SEASON WISE AVERAGE RAINFALL IN ASSAM

(Figure in mm)

Year	Kharif season				Rabi season				All Season			
	Actual	Normal	Deviation from normal (%)	Pattern	Actual	Normal	Deviation from normal (%)	Pattern	Actual	Normal	Deviation from normal (%)	Pattern
2012	1953.2	2001.0	(-)2.0	Normal	198.6	294.8	(-)32.6	Deficient	2151.8	2295.8	(-)6.3	Normal
2013	1529.5	2016.3	(-)24.0	Deficient	177.3	294.8	(-)40.0	Deficient	1706.8	2311.1	(-)26.1	Deficient
2014	1774.6	2001.0	(-)11.0	Normal	79.8	294.8	(-)73.0	Scanty	1854.4	2295.8	(-)62.0	Deficient
2015	1936.5	2001.0	(-) 3.2	Normal	196.5	294.8	(-) 33.3	Deficient	2133.0	2295.8	(-)7.1	Normal
2016	1789.7	2001.0	(-)11.0	Normal	289.2	294.8	(-) 2.0	Normal	2078.9	2295.8	(-)9.4	Normal

Source: Directorate of Agriculture, Assam

RAINFALL DURING 2016-17

It is evident from the Table 5.4, that the State had experienced 2078.9 mm rainfall during 2016-17, against normal rainfall of 2295.8 mm. During the kharif crop season, 1789.7 mm of rainfall occurred in the state (against a normal of 2001 mm). Thus, according to the State Agriculture Department, the pattern of overall rainfall in the State was Normal, during the kharif season, both in total rainfall and its spread being [(-) 11.0] percent below normal. The State has experienced "normal" rainfall during the Rabi Season with only 289.2mm of actual rainfall against a normal of 294.8 mm recording a deviation of (-) 2.0 percent.

The occurrence of rainfall was 'normal' during both Kharif Season and Rabi Season in 2016 and the overall rainfall pattern throughout the state was also 'Normal' during 2016-17, though the spread and pattern of rainfall varies from district to district, during the period. To know about the details of rainfall experienced by the districts in Assam, during the year 2016-17, is evident from Table-5.5 below:

TABLE- 5.5: MONTHWISE Rainfall in Assam during Kharif and Rabi Season, 2017-18

Months	Rainfall during Kharif 2016-17			
	Actual (mm)	Normal (mm)	Deviation from Normal	Pattern
April, 2016	325.9	172.9	88	Excessive
May, 2016	326.2	304.2	7	Normal
June, 2016	300.8	427.3	-30	Deficient
July, 2016	396	454.2	-13	Normal
August, 2016	168.5	356.7	-53	Deficient
September, 2016	272.3	285.7	-5	Normal
Total During Kharif, 2016-17	1789.7	2001	-11	Normal
Rainfall during Rabi 2016-17				

Months	Actual (mm)	Normal (mm)	Deviation from Normal	Pattern
October, 2016	100.3	131.8	-24	Deficient
November, 2016	40.3	24.9	62	Excess
December, 2016	5.4	11.8	-55	Deficient
January, 2017	1.1	16.2	-93	Scanty
February, 2017	42	32	32	Excess
March, 2017	100.1	78.1	28	Excess
Total during Rabi, 2016-17	289.2	294.8	-2	Normal

Source: Directorate of Agriculture, Assam.

TABLE: 5.6- PATTERN OF RAINFALL IN ASSAM DURING KHARIF AND RABI 2017-18
(in mm)

Month/ Year	Pattern of Rainfall during Kharif 2015-16					
	Normal	Deficient	Scanty	Excess	No Rain	N.A.
April, 2016	1 (Dist)	-	1 (dist.)	24 (Dist)	-	1 (Dist)
May, 2016	18 (Dist)	2 (Dist)	-	5 (Dist)	-	2 (Dist)
June, 2016	10(Dist)	13 (Dist)	1 (dist.)	1 (Dist)	-	2 (Dist)
July, 2016	12(Dist)	8 (Dist)	1(Dist)	4 (dist.)	-	2 (Dist)
August, 2016	1 (Dist)	15 (Dist)	9 (dist.)	-	8 (Dist.)	2 (Dist)
September,2016	12 (Dist)	8 (Dist)	1 (Dist)	4 (Dist)	-	2 (Dist)
Month/ Year	Pattern of Rainfall during Rabi 2015-16					
	Normal	Deficient	Scanty	Excess	No Rain	N.A.
October, 2016	8 (Dist)	13 (Dist)	- (Dist)	2 (Dist)	-	1 (Dist)
November, 2016	1 (Dist)	3 (Dist)	7 (Dist)	7 (Dist)	8 (Dist)	1 (Dist)
December, 2016	1 (Dist)	1 (Dist)	11 (Dist)	2 (Dist)	5 (Dist)	1 (Dist)
January, 2017	-	-	12(Dist)	-	14 (Dist)	1 (Dist)
February, 2017	5 (Dist)	4 (Dist)	3 (Dist)	14 (Dist)	-	1 (Dist)
March,2017	11 (Dist)	3 (Dist)	1 (Dist)	11 (Dist)	-	1 (Dist)

Note: Figure refers to number of districts

Source: Directorate of Agriculture, Assam.

AREA UNDER CROPS

The Production of all agricultural crops including food grains is directly related to area coverage of various crops produced and cultivated. In Assam, the soil, topography, rainfall and climate in general are very conducive for agricultural activity, mainly for the cultivation of paddy. Therefore, concentration of area under paddy production and cultivation is high both from the side of farmers as well as the Agriculture Department. As per final estimates, the total area under paddy cultivation during the year 2016-17 was 24.67 lakh hectares or 92.50 percent of the total area under food grains in the state.

Total area under paddy showed a decline in the state, due to decline in area covered under Autumn Rice and Summer Rice. This is also due to choice of farmers to switch over to Winter Rice. The final forecast estimates show (Table-5.7) that the area under Autumn Rice has declined from 4.36 lakh hectares in 2004-05 to 1.96 lakh hectares in 2014-15 and further declined to 1.91 lakh hectares in 2015-16 and to 1.68 hectares in 2016-17. The area under Summer Rice has declined from 4.16 lakh hectares in 2014-15 to 4.05 lakh hectares in 2015-16 and declined to 4.08 hectares in 2016-17. This led to the decline of total rice area to 24.85 lakh hectares in 2015-16 from 24.95 lakh hectares in 2014-15 and 24.67 hectares in 2016-17. However, the area under Winter Rice, the principal kharif crop of the State, has slightly increased from 18.83 lakh hectares in 2014-15 to 18.89 lakh hectares in 2015-16 to 18.91 lakh hectares in 2016-17.

The area under Wheat and Pulses has both declined in the year 2015-16 from its previous year figures, while that of Oilseeds has increased from 3.28 lakh hectares in 2014-15 to 3.30 lakh hectares in 2015-16 to 3.38 lakh hectares in 2016-17. The trend of crop-wise land utilisation in Assam during the last thirteen years is evident from table 5.7 below:

TABLE- 5.7: AREA UNDER CROPS IN ASSAM DURING THE PERIOD 2011-12 to 2016-17

(In lakh hectares)

Year	Autumn Rice	Winter Rice	Summer Rice	Total Rice*	Wheat	Total Pulses	Total Food grains	Total Oilseeds (excl. Coconut)
2011-12	2.76	18.76	3.94	25.46	0.40	1.32	27.43	2.76
2012-13	2.38	18.57	3.93	24.88	0.34	1.42	26.92	3.05
2013-14	2.23	18.81	3.99	25.03	0.31	1.50	27.13	3.05
2014-15	1.96	18.83	4.16	24.95	0.24	1.48	27.00	3.07
2015-16	1.91	18.89	4.05	24.85	0.21	1.42	26.83	3.11
2016-17	1.68	18.91	4.08	24.67	0.17	1.46	26.67	3.18

*Total may not be equal due to rounding off.

Source: Directorate of Economics and Statistics, Assam

PRODUCTION

As per final estimates, [reference Table-5.2] total food grains production in the State had increased from 5418'000 thousand tonnes in 2013-14 to 5459'000 thousand tonnes in 2014-15. The **Table-5.2** also reveals that the total foodgrains production in the State was the highest in 2014-15. However, there is a decline from this figure to 5348'000 in 2015-16 and an increase to 5353'000 in 2016-17. The total production of Rice in the State has declined from 5223'000 tonnes in 2014-15 to 5125 '000 tonnes in 2015-16 and increased to 5127'000 tonnes in 2016-17.

The total production of Wheat has decreased from 29'000 tonnes in 2014-15 to 24'000 tonnes in 2015-16 and 23'000 tons in 2016-17. Whereas Oilseeds has increased from 206 '000 tonnes in 2014-15 and to 216'000 tonnes in 2015-16 and declined to 204'000 tonnes in 2016-17. However, production of total Pulses has declined from 111

'000 tonnes in 2014-15 to 108'000 tonnes in 2015-16 and remained at 108'000 tonnes in 2016-17.

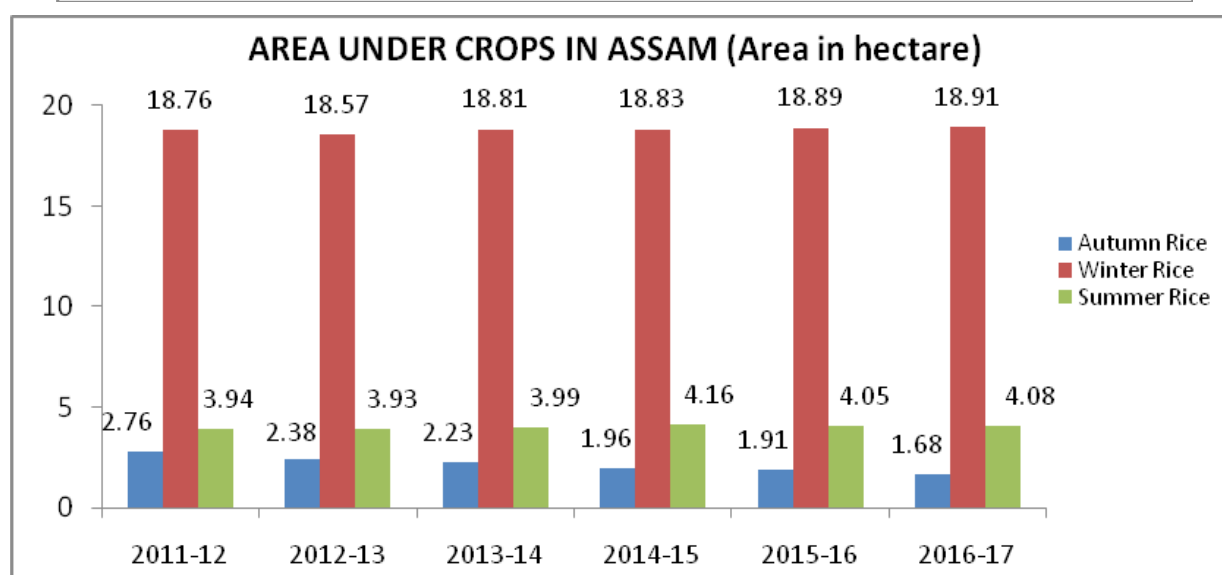
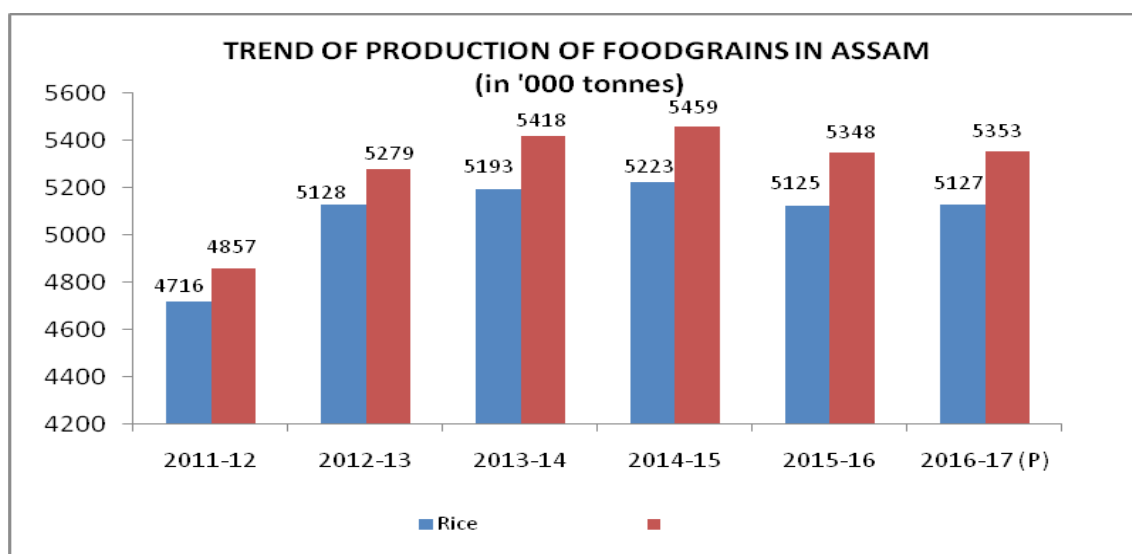


TABLE- 5.8
YIELD RATE OF PRINCIPAL
AGRICULTURAL CROPS IN ASSAM

(Kg/hect)

YIELD RATE

Since 2011-12, in case of yield rate of Autumn Rice is maintaining a continuous

Year	Autumn Rice	Winter Rice	Summer Rice	Total Pulses	Total Oilseeds (excl. Coconut)
2011-12	1242	1785	2744	560	563
2012-13	1317	1998	2965	597	610
2013-14	1340	2002	2981	695	611
2014-15	1454	2005	2940	749	670
2015-16	1364	2003	2818	757	664
2016-17 (P)	1380	2023	2773	735	644

Source: Directorate of Economics and Statistics, Assam.

increasing trend up to 2014-15, and it reached the level of 1454 kg/hectares. However, in the year 2015-16, it declined to 1364 kg/hectares and increased to 1380 kg/hectares in 2016-17.

The productivity of winter rice, maintained an increasing trend since the year 2011-12 to 2014-15. However, Winter Rice productivity, declined from 2005 kg/hectares in 2014-15 to 2003 Kg/hectares in 2015-16 and increased to 2023Kg/hectares in 2016-17. The productivity of Summer Rice also continued to maintain an increasing trend during the period 2011-12 to 2013-14. It declined in the year 2014-15 to 2940 kg/hectares and further declined to 2818 kg/hectares in the year 2015-16, and further declined to 2773 Kg/ Hectares in 2016-17.

The productivity of both Pulses and Oilseeds has, gradually increased from 2012-13 to 2016-17. However, the productivity of Oilseeds has declined in 2015-16, from its previous year figure and further declined in 2016-17, from its figure in 2015-16.

AREA UNDER HIGH YIELDING VARIETY (HYV)

Total area under HYV of Autumn Rice, Summer Rice and Winter rice was 19.18 lakh hectares during 2016-17 (Table-5.9) as compared to the The area coverage of 18.87 lakh hectares during the year 2015-16.

From the above table, it is evident that the area coverage under HYV Rice during the period to 2014-15, remained 60 percent or more. However the area coverage under HYV Rice was 6.3 percent less during 2013-14 in comparison to its

previous year 2012-13. According to the Agriculture Department, increasing concentration of area under HYV Rice was possible due to bumper production of rice in the state, as an outcome of additional impetus for enhancing productivity and farm income thereby. Moreover, the production of HYV Summer Rice is more than that of both Winter Rice and Autumn Rice, due to various practices taken up during summer season, being free of any risk factor. Considering the productivity, cultivators prefer the seed of HYV Rice, namely, Mala, IR-36, Lachit, Masuri, Joya, Ranjit, Ratna, China Bora, Biplov, Bahadur, Kaveri, Krishna etc.

HYBRID RICE

Year	Autumn Rice	Winter Rice	Summer Rice	Total HYV Rice area
2011-12	2.19	12.8	4.02	19.01(74.0)
2012-13	1.60	11.70	3.61	16.91(68.0)
2013-14	1.43	12.22	2.24	15.89(63.5)
2014-15	1.28	12.42	3.95	17.65(70.7)
2015-16	1.26	13.70	3.37	18.87 (75.93)
2016-17	1.07	14.09	3.47	19.18

*Total figure may not be equal due to rounding off to nearest zero;
Figure in bracket shows the percentage to Total Rice Area.
Source: Directorate of Agriculture. Assam.*

The State Agriculture Department has put special efforts for increasing the cultivation of hybrid variety of rice on experiment basis in the State since 2009-10 considering the productivity of hybrid rice more than double in comparison to HYV rice and also to enhance farm income [Table 5.10]. The area coverage of hybrid rice has increased to 234.0 thousand hectares or 9.1 percent of the total area under rice in the State during the year 2013-14, in comparison to 97.2 thousand hectares or 3.9 percent of the total area under rice in the State during the year 2012-13.

Year	Kharif Rice (Autumn + Winter)	Rabi Rice (Summer Rice)	Total*
2011-12	2.5	21.7	24.2 (1.0)
2012-13	12.4	84.8	97.2 (3.9)
2013-14	28.0	206.0	234.0(9.1)
2014-15	N.A.	N.A.	167.0
2015-16	N.A.	N.A.	140.3
2016-17	N. A.	N. A.	160.5

N.A. – Not Available
*Total figure may not be equal due to rounding off to nearest zero.
Figure in bracket shows the percentage to Total Rice Area.
Source: Directorate of Agriculture, Assam.

The total area coverage of hybrid rice has declined to 167.0 in 2014-15 and further declined to 140.3 in the years 2015-16. In the year 2016-17. Hybrid Rice in Assam was 160.5 as per records given by Directorate of Agriculture, Assam.

INDEX OF AGRICULTURAL PRODUCTION

The Index of Agricultural Production for all crops (Base triennium ending 2007-08=100) for the State stands at 145.32 in 2014-15 in comparison to 141.56 in 2013-14 and 135.70 in 2012-13. In respect of food crops, the Index of Agricultural Production for the State was 157.43 in 2014-15, in comparison to 155.81 in 2013-14 and 152.29 in 2012-13. The All-India Agricultural Production Index for all major crops, stands at 129.2 [Base Triennium ending 2007-08=100] in 2014-15 in comparison to 128.9 in 2013-14. In respect of food crops, the Index of Agricultural production for India as a whole was 123.1 in 2014-15. In the year 2015-16, the index of agricultural production shows a decline in food, non-food crops and in the total of all commodities as reflected in Table 5.11. The Table-5.11 shows the trend of Index of Agricultural Production in the State for the last five years.

TABLE- 5.11

INDEX OF AGRICULTURAL PRODUCTION IN ASSAM AND INDIA

(Base : Triennium ending 2007-08=100)

Year	Assam			India		
	Food	Non-Food	All Commodities	Food	Non-Food	All Commodities
2012-13	152.29	115.11	135.70	119.4	129.1	124.2
2013-14	155.81	123.81	141.56	123.3	136.1	129.6
2014-15	157.43	130.24	145.32	116.4	131.5	123.9

2015-16	154.54	127.98	142.72	115.2	122.0	116.0
2016-17 (P)	154.36	131.82	144.33	129.7	122.4	126.1

N. B.: 1. The Agricultural indices for Assam are constructed on the basis of crops covered by Crop Forecast.

2. Figure rounded to nearest zero.

3. Data for 2015-16 in Assam are based on Provisional Estimates.

Source: Directorate of Economics and Statistics, Assam.

LAND UTILIZATION STATISTICS

As per the Land Utilization Statistics for the year 2014-15(Provisional), the total reporting area of the State was 78.44 lakh hectares. Out of the total reporting area, net sown area constitutes 28.27 lakh hectares or 36.04 percent, 18.53 lakh hectares or 23.62 percent was under forest, 24.60 lakh hectares or 31.36 percent was 'land not available for cultivation' and 5.29 lakh hectares or 6.74 percent was other uncultivable area. While Fallow land constitutes 2.23 percent of the total reporting area with around 1.75 lakh hectares, land under still water and water logged area together constitutes 2.15 lakh hectares or 2.74 percent. The area under Social forestry was only 0.11 lakh hectare or 0.14 percent of the total reporting area. The Gross Cropped Area in the State was 40.83 lakh hectare in 2014-15 compared to 41.00 lakh hectare in 2013-14 showing and decline of 0.17 lakh hectare in 2014-15.

The area sown more than once has decreased from 12.80 lakh hectare in 2013-14 to 12.55 lakh hectare in 2014-15 while net cropped area increased from 28.20 lakh hectare in 2013-14 to 28.27 lakh hectare in 2014-15. Thus the ratio of area sown more than once to the net area sown was 44 percent during 2014-15 compared to 45 percent during 2013-14. The ratio of net sown area to gross cropped area, on the other hand, was calculated at 39 percent during the year 2014-15 compared to 68 percent during the year 2013-14.

AGRICULTURAL HOLDING

It reveals from the Agricultural Census, 2010-11 that there were 27.2 lakh operational holdings in Assam covering an operated area of 29.99 lakh hectares as against 27.5 lakh operational holdings covering an operated area of 30.49 lakh hectares in 2005-06 and 27.1 lakh operational holdings covering an operated area of 31.1 lakh hectares in 2000-01. Thus, the agricultural operated area shows decreasing in the State by 3.69 percent in 2010-11 over 2000-01 which largely affected by soil erosion of ever widening Brahmaputra River, increasing urbanization, industrialization, expansion of roadways and other infrastructural development activities, conversion of agricultural land for setting up of industries as well to homestead land to accommodate ever increasing population etc. The Table 5.12 depicts the trend of number of holding and area between the Agricultural censuses, 2000-01, 2005-06 and 2010-11.

TABLE- 5.12: AGRICULTURAL CENSUSES 2000-01, 2005-06 AND 2010-11

Size class (In hectare)	Number of holding			Area operated (in hectare)		
	2000-01	2005-06	2010-11	2000-01	2005-06	2010-11
Marginal (Below 1.0)	1699107	1752989	1831115	662780	760145	774796
Small (1.0-2.0)	561039	591431	496574	730513	718383	687156
Semi-medium (2.0-4.0)	351521	317859	303528	957959	846006	817982
Medium (4.0-10.0)	95500	82933	84869	498797	425403	437372
Large (10.0 & above)	4970	4902	4137	263529	298606	271763
Total	2712137	2750114	2720223	3113578	3048543	2999070

Total figure may not be equal due to rounding off to nearest zero

Source: Directorate of Economics and Statistics, Assam.

The disaggregated data also shows that the marginal holdings with less than one hectare of land accounted for 67.3 percent of the total holdings and 25.8 percent of the total operated area of the State in 2010-11 compared to 63.7 percent of the total holdings and 24.9 percent of the total operated area of the State in 2005-06. It also reveals from the Table 5.13 that the small holding with size class between 1-2 hectares, shared 18.25 percent of the total holdings and 22.91 percent of the total operational area and the large holdings (10 hectares and above) constituted only 0.15 percent of the total number of holdings and 9.1 percent of the total operated area in the State in 2010-11.

The Table 5.13 shows the trend of agricultural holdings and operated area in the State from 1970-71 to 2010-11.

**TABLE- 5.13: AGRICULTURAL HOLDINGS AND OPERATED AREA IN ASSAM
(AS PER AGRICULTURAL CENSUSES)**

Agricultural Census Year	Number of Holdings(in'000)	Total operated area (in thousand hect.)	Average size of Holdings (in hect.)
1970-71	1964.38	2882	1.47
1976-77	2254.65	3079	1.37
1980-81	2298.59	3121	1.36
1985-86	2419.16	3161	1.31
1990-91	2523.38	3205	1.27
1995-96	2683.00	3138	1.17
2000-01	2712.14	3114	1.15
2005-06	2750.11	3049	1.11
2010-11	2720.22	2999	1.10

Total may not be equal due to rounding off to nearest zero.

Source: Directorate of Economics and Statistics, Assam.

HORTICULTURE

Assam has a diverse and unique agro climate conditions, is traditionally very rich in horticultural production, as the climatic conditions are very conducive for growing a wide variety and range of various horticultural crops like various types of fruit, vegetables, flowers, spices, nut crops, tuber crops, medicinal and aromatic plants and mushrooms etc., and their value addition, has made it possible and a viable option for both farmers and entrepreneurs to increase their income. Assam is encompassed as one under 14 global bio-diversity hotspots. The State has enough options for farming as well as making investments in horticulture sector. The sector has also become a means for nutritional security for both urban and rural masses, is making rapid progress towards commercialization to be sustained for economic development and progress of the rural farming community and also has the capacity of opening up enough opportunities for employment generation of unemployed youth in the State.

Horticulture as sector, is very important for Assam, for two reasons-

- 1) Firstly, it has an inherent capacity for employment generation and
- 2) Secondly, income generation is high at farmers level. No other sector can claim to be in a better position in this regard, specially for a State like Assam.

Horticultural crops occupies about 15 percent of the gross cultivable area of the state, with an annual production of more than 67 lakhs metric tonnes of various horticultural produces, thereby significantly contributing towards food and nutritional security of the State. As a sector, in Assam horticulture has a commitment which no other sector may come up or be paralleled to, judging in terms of its importance and contribution in achieving nutritional security and being a most viable component of an environment friendly industrial base. In Assam, horticulture produce is joining importance, on a day by day basis, being a sunrise area for diverse nature of its products, higher biomass production per unit area, and thereby more income gaining option, scope for improvement with minimum investment, massive employment generation capacity, unveiling of new horizons for value additions and the science itself being intellectually satisfying with aesthetic outlook having universal appeal both for developed and developing nations.

To keep in view of the requirements against projected population growth of Assam, by the year 2020 and also to give top most priority for commercialization of the sector, crop specific strategies are being formulated, which includes a gist of targets of various major area of Horticulture to be covered and included.

After 2020, Assam will be able to make inroads towards commercialization of the Horticulture sector for gaining sustainable development of the rural farming community. To make the horticulture sector more viable and sustainable, due emphasis has also been given on raising the productivity of various commercially potential crops through use of better technology, management and provision of planting materials to farmers. Similarly, due importance is also given on various aspects and provision of facilities namely, pre-harvest treatment, proper harvest techniques, setting up of collection centers with grading facilities, transport facilities and marketing facilities etc.

According to the Directorate of Horticulture and Food Processing Assam, the growth rate of Area, Production and Productivity of Horticulture sector has been assessed at 50.32 percent, 91.0 percent and 20.31 percent respectively. The

Horticulture Directorate has also taken up positive steps towards self-employment opportunities under Horticulture sector by helping 15,000 rural farm women for engaging themselves by the setting up of 350 nos. of small and 4 nos. Medium Fruits Processing Units. The details of the performance of the Horticulture sector, with the increase in Area, Production and productivity of horticultural crops are evident from Table 5.14 below.

TABLE- 5.14: AREA, PRODUCTION & PRODUCTIVITY OF HORTICULTURAL CROPS

Year	Fruits			Spices			Vegetables		
	Area (Lakh hect.)	Pro-Duction (lakh MT)	Producti-vity (Kg./ hectare)	Area (Lakh hect.)	Pro-Duction (lakh MT)	Producti-vity (Kg./ hectare)	Area (lakh hect.)	Pro-Duction (lakh MT)	Producti-vity (Kg./ hectare)
2000-01	1.09	12.41	11384	0.81	1.52	1879	1.95	24.71	12672
2005-06	1.13	13.52	12005	0.86	2.12	2475	2.32	18.18	16485
2006-07	1.14	13.72	12139	0.86	2.14	2476	2.36	38.87	16469
2007-08	1.16	14.08	14142	0.88	2.18	2478	2.38	39.18	16462
2008-09	1.34	16.61	12425	0.93	2.80	3023	2.46	44.20	17923
2009-10	1.27	15.65	12370	0.94	2.35	2505	2.51	42.55	16952
2010-11	1.37	16.56	12485	1.01	2.30	2277	2.57	44.33	17231
2011-12	1.38	17.75	12885	1.04	2.56	2464	3.66	52.51	24325
2012-13	1.51	20.74	13760	1.10	3.28	2970	3.86	60.34	27536
2013-14	1.42	20.25	14219	1.04	2.67	2578	3.65	53.30	24797
2014-15	1.44	20.12	13869	1.08	2.97	2749	3.91	134.78	25455
2015-16	1.44	20.56	-	1.09	3.58	-	2.80	516.32	
2016-17 (Estimated)	1.62	23.72		1.24	5.47		2.88	541.68	

Total may not be equal due to rounding off to nearest zero.

Source: Directorate of Horticulture & Food Processing, Assam, Khanapara, Guwahati-22

INTEGRATED NUTRIENT MANAGEMENT (INM)

FERTILIZER AND MANURE

Fertilizer is a very important input of agriculture, and it plays a dominant role in augmenting the productivity of crops. Therefore, thrust has been given on "Integrated Nutrient Management" (INM) to make a major breakthrough in the direction of the following objectives:

- i) Less use and dependence and use on inputs from outside source and encourage farmers to utilize on farm resources.
- ii) Economize the production cost by using optimum dose of fertilizer.

The trend in the use of bio-fertilizer, compost and green manures and organic farming practices have been increasing gradually, as the application of chemical fertilizer is posing a major threat in depletion soil nutrients. The State Government is also giving much stress on timely availability of fertilizers at the door step of farmers during peak period of cultivation. AAIDC, NAFED, GPSS, and organizations like IFFCO, BVFCL, Green Chemicals Ltd, Testa Agro Industries Ltd. have been playing a pivotal role in distribution of fertilizer through their respective branches located at various corners of the State. At present, there are 416 nos. of whole sale points and 6855 nos. of fertilizer sale points in Assam.

CONSUMPTION OF FERTILISER:

To augment the productivity of crops thrust has been given to increase the consumption of chemical fertilizers under the banner of "Integrated Nutrient Management" as consumption of nutrients (NPK) per hectare in the state is much lower than the National average. The consumption of fertilizer in Assam is low because of low consumption during kharif season. Farmers are reluctant to invest on fertilizer due to fear of loss for heavy rainfall and flood. Consumption of fertilizers during summer and rabi season is low due to non-availability. According to the State Agriculture Department, the consumption of fertiliser in the State was 68.6 kgs per hectare during the year 2014-15 compared to 65.4 kgs per hectare during 2013-14. In the year 2015-16, the consumption of fertilizers in the state was 62.6 kgs per hectare. The details of consumption of fertilizers in Assam is presented in the Table 5.15 below:

TABLE- 5.15
CONSUMPTION OF (CHEMICAL) FERTILISERS
(Fig in '000 MT)

Fertilizer	Year								
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Nitrogen	114.0	135.6	129.3	155.0	135.3	151.3	155.9	169.2	153.506
Phosphorus	52.5	56.1	47.2	60.0	36.0	41.7	50.2	33.5	37.6140
Potash	59.1	71.9	71.4	75.0	44.8	80.1	80.3	39.9	39.8450
Consumption (kg/Ha)	57.8	63.2	67.1	74.6	58.5	65.4	68.6	62.6	55.03

Total may not be equal due to rounding off to nearest zero.

Source: Draft Annual Plan 2014-15, Planning and Development Department and Directorate of Agriculture.

SOIL HEALTH MANAGEMENT

The State Agriculture Department has taken up initiatives to preserve depletion of soil nutrients and sustain the Crop Production System. Use of Bio-fertilizers has given tremendous results in crop production, increase in productivity and maintenance of soil health by narrowing the gap between nutrient removals and supply along with additional applications of Micronutrient, lime, green manure and vermi compost including FYM. Lately, the trend in the use of Bio-fertilizer has increased significantly due to motivation through extension machinery and initiation of demonstration programmes by the State Agriculture Department. Special thrust has been given for the use of Bio-fertilizer by initiating Programme 'Input support to the agriculturist having KCC' under State Priority Scheme, which has been implemented since 2006-07, with an aim to attract the farming

communities to go for credit support in cultivating crops. The consumption of Bio-fertilizers in Assam can be known from Table-5.16 below:

TABLE – 5.16: CONSUMPTION OF BIO-FERTILISER

ITEM	YEAR						
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Bio-Fertilizer (MT)	175	350	365	380	N.A.	N.A.	N. A.
Micronutrient (MT)	142	500	548	697	N.A.	N.A.	N. A.
Lime(Lakh MT)	1.4	0.05	0.2	0.3	N.A.	N.A.	N. A.
Organic Manure (including FYM) (Lakh MT)	82.67	85.00	88.00	97.00	N.A.	N.A.	N. A.

Note: N.A.- Not Available
Source: Directorate of Agriculture, Assam.

The season-wise consumption of fertilizers in terms of nutrients for the last three years is shown in Table-5.17 below.

TABLE-5.17: CONSUMPTION OF FERTILIZERS IN TERMS OF NUTRIENTS

(In MT)

Nutrient	2014-15			2015-16			2016-17		
	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total
N	72466	83449	155915	75783.62	93433.53	169217.15	67311.11	86195.29	153506.40
P	22984	27200	50184	16464.46	17065.35	33530.01	12545.63	25069.08	37614.71
K	39878	40457	80335	19300.62	20583.76	39884.40	16000.00	23845.00	39845.00
Total	135328	151106	286434	111548.70	131082.86	242631.56	95856.74	135109.37	230966.11

Source : Directorate of Agriculture, Assam.

In addition, there are 11 nos.(eleven) State owned Soil Testing Laboratories functioning in the State, of which 7 nos. are Static and 4 nos. are Mobile. One Soil Testing Laboratory is also functioning under Private Sector. All these Soil Testing Laboratories have total annual analyzing capacity of 90,000 soil samples.

TABLE– 5.18: SOIL SAMPLE ANALYZED AND SOIL HEALTH CARD ISSUED (NOS)

Soil Testing Labs	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	
							Tested	Issued
State Owned	59296	60147	61608	61608	60229	67226	78119	165973
Private	776	400	321	N.A.	N.A.	N.A.	N. A.	N. A.
Total	60072	60547	61929	N.A.	N.A.	67226	78119	165973

Note: N.A. – Not Available

Source: Draft Annual Plan, 2014-15, Planning and Development Department and Directorate of Agriculture.

INTEGRATED PEST MANAGEMENT (IPM)

For sustainable agricultural production the key component is Integrated Pest Management (IPM). Assam has a diverse eco-system and sub-tropical climate, the crop production is associated with loss of biotic stress problem which share 20-30 percent of the yield loss. Excessive and injudicious use of chemical pesticides in the field as well as horticultural crops result into development of pest resistance, pest resurgence, pest replacement and pesticides residue problem. Intensification of agriculture with the introduction of HYV, Hybrid, STW, Mechanization and other advance inputs also enhance the pest population dynamics and pest status. In order to facilitate the availability of the Bio-Control Agent (BCA) in the biological pest management intensive IPM (BIPM), the thrust has been given to increase production of the already established BCA and the newly introduced BCA in the State Bio-Control Laboratory (SBCL).

The State Agriculture Department is trying to popularize the use of bio-pesticides and other methods of IPM by organizing training demonstrations. As a result, the consumption of bio-pesticide is increasing in the State.

The trend of consumption of both chemical and bio-pesticides during the last nine years is evident from Table - 5.19.

TABLE- 5.19: CONSUMPTION OF PESTICIDES

(Figure in MT)

Pesticide Consumption	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Chemical Pesticide	150.0	143.0	150.0	160.0	183.0	205.0	180.0	185.0	308.55
Bio-Pesticide	18.0	19.0	24.0	87.0	143.0	180.0	135.0	150.0	188.00

Source: Directorate of Agriculture, Assam.

SEED: DEVELOPMENT OF SEED SECTOR

The most vital component for increasing production & productivity of crops is seed. Quality seed is the primary input for crop production. Certified Seed production is a process through which seeds are produced in conformity with the standard variety, characters by taking specific measure as required for seed production. In Assam, production of certified seed has been taken up in the Field Trial Stations (FTSs), in some of the State Govt. Seed Farms and Assam Seed Corporation's seed farms. But, there is a dearth of quality seeds in the State and so the Seed Replacement Rate (SRR) stands at a very low level. Moreover, the State has to depend on outside sources for quality seeds of some crops every year to meet the demand immediately after every natural calamity. To meet the growing demand and increase quality seed production, the Agricultural Department has taken the following steps:

- Expansion of Seed Village Programme;

- Production of certified seeds of Paddy, Pulse & Oilseeds in Seed Village in large scale;
- To focus on capacity building of Registered Seed Growers;
- Strengthen Seed Farms to facilitate production, processing & storage of seeds.

SEED REPLACEMENT RATE (SRR)

Seed and its provision, is the most basic key input for any crop productivity and without which the impact of overall other inputs applied in crop production cannot be expected. The State Agriculture Department has continuously made efforts towards it, through its popularisation of HYV, SRR has been increased and is carried on to a great extent. Achievements of SRR of some of the important crops for last eight years are shown in Table-5.20 below:

TABLE- 5.20: SEED REPLACEMENT RATE (SRR) IN ASSAM

(Figure in %)

Crops	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Paddy	33.0	50.0	46.8	47.9	31.1	32.77	45.26	44.37
Blackgram	64.4	48.0	79.7	25.8	40.5	44.66	32.00	33.00
Greengram	33.0	38.0	100.0	37.5	45.2	76.00	34.91	35.54
Lentil	50.6	34.0	26.2	100.0	54.1	30.11	57.42	57.01
Pea	88.0	37.0	40.5	59.7	46.7	-	-	-
Rape & Mustard	60.0	16.0	26.2	46.8	38.1	45.24	42	43.00
Sesamum	30.7	4.0	0.9	0.0	0.0	-	-	-
Jute	22.5	42.0	51.1	10.2	19.2	63.22	55.83	54.21

Source: Directorate of Agriculture, Assam

SEED CERTIFICATION

Assam State Seed Certification Agency (ASSCA) is the Nodal Agency, who has been entrusted with the important responsibility of Seeds Certification of namely Paddy, Mustard and Pulses as per feasibility in the State. For planting crops namely Coconuts, Litchi, and Guava etc are under consideration for the purpose of certification. Under ASSCA, there are 3 (three) nos. of notified Seed Testing Laboratories located at Guwahati, Jorhat and Silchar. The total annual testing capacity of these three notified laboratories is about 20,000 samples. Seed testing and certification guidelines are to be strictly followed for proper quality control and certification as per set norms. Table 5.21 below shows the performance of seed certification taken up in Assam, during the last eight years.

TABLE- 5.21: STATUS OF SEED CERTIFICATION

(Figure in Quintal)

Crop(Seeds)	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Paddy	19750	18960	28686	18555	18555	15848	22454	131707
Mustered	3840	3840	7450	9210	11324	8456	7630	28791
Blackgram	1250	1250	2800	700	1840	2098.5	1688	2237
Potato	-	-	3412	11300	23350	9000	-	23600

Source: Draft Annual Plan 2014-15, Planning and Development Department and Directorate of Agriculture.

SYSTEM OF RICE INTENSIFICATION (SRI)

The annual growth of production of major crops mainly rice and food grains in the State is significantly increasing due to adoption of SRI system of Rice intensification and the use of Hybrid seeds. As compared to normal practices, adoption of SRI system enhances the productivity of Rice significantly and also facilitates use of low volume of seeds, fertilizers, water, low cost of production and further also shortens the crop duration period and thereby opens up and increases the scope of double cropping as added benefits. The status of Rice Intensification for the last seven years is shown in Table below:

TABLE- 5.22: STATUS OF SYSTEM OF RICE INTENSIFICATION

Year	Area under SRI (in Ha)	Average Yield under Normal Practice (Ton/Ha)	Average Yield under SRI (Ton/Ha)	Percentage of increase over normal practice
2008-09	882.20	2.65	5.08	219
2009-10	43836.00	5.80	5.85	209
2010-11	50438.00	2.65	5.65	217
2011-12	57900.00	2.88	5.70	205
2012-13	65150.00	2.90	6.14	212
2013-14	-	-	-	-
2014-15	79456.00 (RKVY) 11070.00 (BGREI) 4080.00 Total=94606.00	3.28	6.58	100.00
2015-16	2500	-	-	-
2016-17	12510 (RKVY) 2200 (NFSM) 4400 (BGREI) Total=19110	-	-	-

Source: Directorate of Economics and Statistics, Assam

CROP DEVELOPMENT (MISSION DOUBLE CROPPING)

Under double/multiple cropping, the net cropped area is about 48 percent or 13.49 lakh hectares. To attract farmers towards the practice of taking up double/multiple cropping, the State Government has taken up initiatives to drive massive cultivation of Summer Paddy, Rabi Pulses and Oilseeds, as per feasibility/potentiality under Mission Double Cropping with additional coverage of 1.00 lakh hectares, and areas under mono cropping with an allocation of Rs. 6200.00 lakh. Additional area of 3.0 lakhs hectares is proposed to be covered under double cropping to increase cropping intensity to 160.0 percent.

FARM MECHANIZATION AND IRRIGATION

Farm mechanization though is a very important input for timely agricultural operation, is slow in Assam. The main problems in this regard which are also major constraints are highly fragmented and small land holdings, which stands as an hindrance in bringing the entire farming community under high volume of mechanization. Moreover, low Farm Power provision in the State also hampers the achievement of coveted schemes of double or multiple cropping. However, an effort to boost up farm mechanization is carried on in a systematic and schematic manner. The State Agriculture Department, has taken up initiatives to procure farm equipment like Tractors, Power Tillers and other farm machineries under various Externally Aided, Centrally Sponsored and State Plan Schemes for the benefit of farmers mainly for Small and Marginal farmers. According to the State Agriculture Department, the Farm power created in the State till the end of 2014-15 is 1.78 HP per hectare which was 1.52 HP per hectare till the end of 2012-13 and 1.02 HP per hectare till the end of 11TH Five Year Plan period in comparison to 2.05 HP per hectare at national level. Various farm machineries and equipments during the period 2006-07 to 2014-15 is evident from the Table 5.23.

TABLE- 5.23: STATUS OF FARM MECHANISATION

(Figure in Nos.)

Year	Tractors	Power Tillers	Power Pumps	Small Implements	Rotovators	Farm power available [HP per hectare]
2006-07	338	2112	3994	958	-	0.54
2007-08	855	4232	9960	850	-	0.60
2008-09	1719	861	18163	1527	158	0.60
2009-10	511	3782	30634	92492	59	0.69
2010-11	962	3136	85506	0	65	0.90
2011-12	824	5138	12852	-	335	1.02
2012-13	588	3339	24337	N.A.	93	1.52
2013-14	0	73	15000	N.A.	N.A.	N.A.
2014-15	460	1559	60656	N.A.	430	1.78
2015-16	0	1492	-	-	-	1.3
2016-17	0	6557	-	-	14	1.31

IRRIGATION

For the achievement of more agricultural growth in the State there is considerable potential by increasing cropping intensity, raising crop yield and diversifying into pulses and oilseeds through better irrigation facilities and looking into its provisions. Considering the uncertainties faced in the production of Kharif crops due to floods and high rainfall, the State Agriculture Department is giving more emphasis on Rabi crops by assigning top priority to develop assured irrigation facilities through installation of Pump Sets (Shallow Tube Well & Low Lift Pump). Irrigation by way of Shallow Tube Well and Low Lift Pumps is considered to be the efficient method of water utilization for crop growth.

TABLE- 5.24: IRRIGATION INFRASTRUCTURE CREATED BY THE AGRICULTURE DEPARTMENT

Component of irrigation	Nos. installed								
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Shallow Tube Wells (Nos)	30080	53208	141452	25704	43938	30000	55590	9274	-
Low Lift Pumps (Nos)	6246	8060	29560	0	4736	0	5066	854	-

Source: Directorate of Agriculture, Assam.

TABLE- IRRIGATION POTENTIAL CREATED BY AGRICULTURE DEPARTMENT & UTILIZABLE IRRIGATION (As on 31st March, 2015)

Irrigation Potential Created	11.27 lakh hectares (40% of net cropped Area)
Area under utilizable assured irrigation	7.33 lakh hectare (26% of net Cropped Area)

At present, only 11.27 lakh hectares has been covered by Irrigation Potential created by the Agriculture Department i.e.; 40% percent of net cropped area has been covered. The area under utilizable assured irrigation is 7.33 lakh hectares i.e.; 26 percent of net cropped area. To increase the irrigation command of additional assured irrigation area by 2.0 lakh hectares and to regain the loss of area coverage by deplorable condition of STWs installed prior to 2000, the scope/popularity towards use of assured irrigation in the field of Agriculture is felt one of the most prime needs of the department. Therefore, the department proposed to install 1.00 lakh STWs under RIDF Scheme of NABARD.

CROP INSURANCE

The state of Assam has been experiencing floods almost every year and about 4.75 lakh hectares of area in the State is chronically flood prone and about 0.94 lakh hectares area is draught prone. Therefore, the Crop Insurance is a very important area to look into to help farmers at the time when there is crop loss/crop damage due to recurring natural calamities, severe pest infestations and diseases in notified crops.

The Government of India has launched a Crop Insurance programme under the nomenclature "National Agricultural Insurance Scheme" (NAIS). All farmers who avail loans from financial institutions are covered under the scheme and it is optional for non-loanee farmers. Here 50 percent of the premium amount is contributed as subsidy to small and marginal farmers which will be shared equally by Government of India and State Government. This scheme is expected to be a critical instrument for development in the field of crop production by providing financial support to the farmers in the event of crop failure and help in maintaining flow of agricultural credit. This programme covers 8 (Eight) crops i.e. 3 crops in Kharif Season and 5 crops in Rabi season.

THE CROPS ARE

Kharif Season : Autumn / Ahi Paddy, winter / Sali Paddy and Jute.

Rabi Season : Rape & Mustard, Wheat, Potato, Sugarcane and summer/Boro Paddy.

This scheme, under the Area Approach, not only facilitate insurance coverage to each of the notified crop damage within the defined area for widespread calamities but also on an individual basis for localized calamities such as hailstorm, landslide, cyclone and flood. National Agriculture Insurance Scheme, unfortunately, has not been able to provide the desired solution to the risk in the agriculture sector in the State. Various reasons for the same are lack of awareness, low subsidy premiums (10 percent) for small and marginal farmers, delayed claim settlement, slow response of banks in issuance of Kissan Credit Cards etc., has in turn affected large number of farmers of the State from getting benefit from the NAIS. Moreover, some important horticulture crops like ginger etc. are not covered under the Scheme.

TABLE-5.25: AGRICULTURE CREDIT YEARWISE KCC ISSUED & FINANCING

Year	No. of KCCs issued	Credit limit Sanctioned (Rs. in Crore)
2001-02	8,041	8.98
2002-03	43,977	49.11
2003-04	51,815	40.02
2004-05	88,732	88.02
2005-06	63,853	79.05
2006-07	50,130	60.75
2007-08	44,621	69.19
2008-09	26,881	51.89
2009-10	1,49,822	42.98
2010-11	1,21,584	197.59
2011-12	3,78,101	131.54
2012-13	2,65,797	932.20

2013-14	3,08,306	15.06
2014-15	2,81,889	1331.36
2015-16	2,17,460	1089.09
2016-17	3,96,776	952.55

Source: Directorate of Agriculture

NATIONAL AGRICULTURAL INSURANCE SCHEME (NAIS)

- National Agricultural Scheme (NAIS) has been implemented in the State since Rabi 1999-2000
- Cropped covered : Autumn Rice, Winter Rice, Summer (Boro) Rice, Wheat, Jute, Rape & Mustard, Potato and Sugarcane
- Calculation of claim under NAIS :

$$\text{Claim} = \frac{\text{Shortfall in yield}}{\text{Threshold yield}} \times \text{Sum Insured for the farmers in the concerned notified area}$$

- i) Shortfall in Yield = Threshold yield – Actual yield for the Defined Area: Threshold yield = 3 years of Average yield for paddy and 5 years of Average yield for other crops.
- ii) As per Scheme, the Agriculture Insurance Co. of India Ltd. (AICL) pays 100% amount of premium collected towards claim if any, and the remaining portion of the claim is equally shared by Govt. of India and Govt. of Assam.
- iii) The scheme provides 10% subsidy to small & marginal farmers. Total premium subsidy is also shared equally between Govt. of India and Govt. of Assam.

TABLE– 5.26: CROP SEASON-WISE PERFORMANCE OF NATIONAL AGRICULTURAL INSURANCE SCHEME (NAIS) IN ASSAM

Season & Year	Area covered (Ha)	Sum Insured (Rs in Crore)	Premium Received (Rs. In crore)	Total Claims (Rs. In crore)	Farmers covered (No.)	Farmers benefited (No.)
Kharif 2006	8304.30	10.838	0.173	0.919	8800	3882
Rabi 2006-07	4757.90	9.115	0.246	0.077	5818	491
Kharif 2007	7541.80	11.721	0.205	0.067	8938	2181
Rabi 2007-08	5854.91	13.598	0.504	0.045	10780	853
Kharif 2008	7332.90	8.265	0.172	0.054	7458	198
Rabi 2008-09	20126.26	41.715	1.244	0.669	28359	3592
Kharif 2009	24099.81	48.018	0.978	0.687	24619	3727
Rabi 2009-10	19003.26	57.200	1.755	3.292	27288	7512
Kharif 2010	17277.05	4.655	0.987	0.597	21433	2598
Rabi 2010-11	10464.97	31.033	1.293	0.163	14675	533
Kharif 2011	18281.07	62.040	1.551	2.022	23770	5457
Rabi 2011-12	20317.33	73.911	2.734	1.450	32547	15405
Kharif 2013	24195.66	89.454	2.237	0.137	32053	1654
Rabi 2012-13	13925.24	63.917	2.088	0.983	24012	1954
Kharif 2013	21410.64	96.459	2.495	0.361	30678	561

Rabi 2013-14	23537.00	73.630	2.125	0.924	21943	1770
Kharif 2014	2567.67	10.99	2.748	0.281	2895	62
Rabi 2014-15	15379.43	87.68	2.434	2.490	23643	598
Kharif 2015	2227.60	9.811	0.245	-	2312	61
Rabi 2015-16	The scheme has been withdrawn					
Kharif 2016						

Source: Directorate of Agriculture, Assam.

MODIFIED NATIONAL AGRICULTURAL INSURANCE SCHEME (MNAIS)

- The scheme is being implemented on pilot basis in 50 districts in the country. NAIS is withdrawn from those districts in which MNAIS will be implemented.
- Unit of insurance for major crops is Village / Village Panchayat.
- Scheme is compulsory for loanee farmers & voluntary for non-loanee farmers. Uniform seasonality norms will be applicable for both loanee & non-loanee farmers.
- Sum insured can be opted up to 150% of the value of average yield. Premium subsidy is available up to the value of threshold yield / loan amount only.
- Entire claim will be borne by the implementing agency. The scheme provides account payment up to 25% of likely claim for immediate relief to the farmers.
- Minimum indemnity level will be 70% against 60% in case of NAIS.
- Calculation of threshold yield: Average yield of last 7 years excluding up to 2 years of declared natural calamity.
- The scheme is implemented in two districts of Assam viz., Kamrup and Dhubri from Rabi, 2010-11.

The summary of progress of implementation of MNAIS in the above mentioned districts presented in the Table - 5.27 below:

TABLE- 5.27: STATUS OF MNAIS (Kamrup & Dhubri district)

Season & Year	Area covered (hectare)	Sum insured (Rs. In crore)	Premium received (Rs. In crore)	Total Claims (Rs. In crore)	Farmers covered (No.)	Farmers benefited (No.)
Rabi, 2010-11	1564.19	4.98	0.12	0.039	2097	-
Kharif, 2011	3192.02	13.89	0.80	0.193	4641	711
Rabi, 2011-12	2670.87	8.75	0.32	0.060	3942	299
Kharif, 2012	3375.95	9.038	0.326	0.598	2722	388
Rabi, 2012-13	1849.32	12.284	0.298	0.096	2229	216
Kharif, 2013	2628.82	13.443	0.424	Not yet settled	3604	Not yet settled
Rabi, 2013-14	486.33	2.911	0.126	Not yet settled	828	Not yet settled

Kharif, 2014	From Kharif 2014, a new scheme (WBCIS) was introduced and continued till Kharif 2016
Kharif 2015	

Source: Directorate of Agriculture, Assam.

WEATHER BASED CROP INSURANCE SCHEME (WBCIS)

- With the objective to overcome the shortcoming regarding delay in settlement of claims etc. under NAIS, a Pilot Weather Based Crop Insurance Scheme (WBCIS) was introduced for implementation in 20 States on pilot basis. WBCIS has been implemented in Assam since Rabi, 2013-14.
- WBCIS is intended to provide insurance protection to the farmers against adverse weather incidence. Such as deficit and excess rainfall, high or low temperature, humidity etc. which are deemed to impact adversely the crop production
- WBCIS is based on actuarial rates of premium but to make the scheme attractive, premium actually charged from farmers have been restricted to at par with NAIS. The difference between actuarial rates and premium actually paid by farmers are borne by the Government (both Centre and State concerned on 50:50 basis). Besides. A cap on premium payable by farmers for annual commercial/horticultural crops has been provided.
- The scheme is available to all the farmers- loanee and non-loanee-irrespective of their size of holding. As under NAIS, the loanee farmers area covered on compulsory basis in a notified area for notified crops whereas for non-loanee farmers scheme is voluntary.
- Further, to provide competitive service private insurance companies i.e. ICICI-Lombard. IFFCO-TOKIO. M.S Cholamandalam and HDFC-ERGO General Insurance Companies have been involved for implementation besides Agriculture Insurance Company of India (AIC).

TABLE-5.28: STATUS OF WEATHER BASED CROP INSURANCE SCHEME (WBCIS)

Season & Year	Area covered (Ha.)	Sum Insured (Rs. In crore)	Premium Received (Rs. In crore)	Total Claims (Rs. In crore)	Farmers covered (No.)	Farmers benefited (No.)
Rabi 2013-14	924.230	5.825	0.495	Not yet settled	1844	Not yet settled
Kharif 2014	11480.45	69.854	7.023	11.963	21710	19471
Rabi 2014-15	853.350	4.282	0.514	0.291	1593	771
Kharif 2015	17681.425	107.536	10.758	NA	29149	NA
Rabi 2015-16	23538	51.892	5.310	-	13551	-
Kharif 2016	36364					
Rabi, 2016-17	4313					
PMFBY	-					
Kharif 2017	38519584					

Source: Directorate of Agriculture, Assam.

PROCUREMENT OF PADDY AS A MEASURE OF PRICE SUPPORT

Assam has been able to become marginally surplus in Rice production for remarkable improvements achieved in productivity through better input management practices and adoption of improved technology. But the problem of disposal of produce by the farmers at un-remunerative prices discourages them considerably in the adopting improved measures that can result in more yields. With the consideration of the interest of the farmers the State Government has engaged Assam State Agricultural Marketing Board (ASAMB) for procurement of paddy at Minimum Support Price apart from procurement to be done by FCI. Table-5.29 shows MSP procurement for the last 8 years from 2008-09 to 2015-16.

TABLE-5.29: MSP & PROCUREMENT OF MINIMUM SUPPORT PRICE OF AGRICULTURAL PRODUCE (Rs. Per quintal)

Commodity	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Paddy (Common)	1000.00	1000.00	1080.00	1250.00	1310.00	1360.00	1410.00	1470.00
Paddy (Grade-A)	1030.00	1030.00	1110.00	1280.00	1345.00	1400.00	1450.00	1510.00
Wheat	1100.00	1320.00	1285.00	1350.00	1400.00	1450.00	1525.00	1625.00
Maize	840.00	880.00	980.00	1175.00	1310.00	1310.00	1325.00	1365.00
Arahar	2300.00	3000.00	3200.00	3580.00	4300.00	4350.00	4425.00#	5050.00
Greengram	2760.00	3170.00	3500.00	4400.00	4500.00	4600.00	4650.00#	5228.00
Blackgram	2520.00	2900.00	3300.00	4300.00	4300.00	4350.00	4425.00#	5000.00
Lentil	1870.00	2250.00	2800.00	2900.00	2950.00	3075.00	3325.00*	3525.00
Gram	1760.00	2100.00	2800.00	3000.00	3100.00	3175.00	3425.00*	3675.00
Rape & Mustard	1830.00	1850.00	2500.00	3000.00	3050.00	3100.00	3350.00	3600.00
Sesamum	2580.00	2900.00	3400.00	4200.00	4500.00	4600.00	4700.00	5000.00
Jute (TD-5)	1375.00	1575.00	1675.00	2200.00	2300.00	2400.00	2700.00	3000.00
Sugarcane	139.13	145.00	170.00	210.00	220.00	230.00	230.00	250.00

- Bonus of Rs. 200.00 per quintal is payable over and above the Minimum Support Price.

*-Bonus of Rs. 75.00 per quintal is payable over and above the Minimum Support Price.

TABLE-5.30: STATUS OF PROCUREMENT OF PADDY IN ASSAM AT MINIMUM SUPPORT PRICE

Procurement Agency	Year-wise procurement of Paddy under CMR (MT)							
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
FCI	12146.00	23282.00	34073.00	20104.00	45.00	6461.00	529875.8	372443.12
ASAMB	Nil	Nil	Nil	7895.34	236.00	7577.15	101307.4	159646.9
NAFED	Nil	Nil	Nil	Nil	Nil	Nil	Nil	33765.38
NACOF	Nil	Nil	Nil	Nil	Nil	Nil	Nil	37087.00
NCCF	Nil	Nil	Nil	Nil	Nil	Nil	Nil	22202.44
Total	12146.00	23282.00	34073.00	27999.00	281.00	14038.15	631183.2	625144.84

TABLE-5.31: STATUS OF PROCUREMENT OF JUTE IN ASSAM BY JUTE CORPORATION OF INDIA (JCI) AT MINIMUM SUPPORT PRICE

Region	Districts covered	2014-15		2015-16		2016-17	
		Quantity procured (Qtl.)	Value of produce (In Rs.)	Quantity procured (Qtl.)	Value of produce (In Rs.)	Quantity procured (Qtl.)	Value of produce (In Rs.)

Guwahati	Darrang, Kamrup, Goalpara, Barpeta	290.06	649374	998.81	4933768	69088.48	2363964.65
Nagaon	Nagaon, Morigaon	5400.56	-	4942.53	-	65143.04	221302.60
Dhubri	Dhubri, Bongaigaon	Nil	Nil	Nil	Nil	14404.78	-
Total	8 (eight) districts	5694.62	649374	5941.34	4933768	148636.30	2585267.25

Organisations	Storage Capacity (in MT)
FCI	296584
Central Warehousing Corporation	73400
State Warehousing Corporation	252622
ASAMB	46610
Total	469216
<i>Source: Directorate of Agriculture, Assam</i>	

AGRICULTURE MARKETING AND STORAGE

Marketing of Agriculture produces in the State is a serious problem for the farming community. Lack of organized marketing facility, lack of storage infrastructure near the field, poverty and need of money after harvest for repayment of agricultural debt forced the farmers to dispose off their hard earned produces at the earliest and that too at low prices. However, there is good potential for development of Agricultural Marketing Infrastructure and Storage facilities with Private Sector Participation. Keeping in view of the interest of farmers the State govt. has encouraged procurement of Paddy at Minimum support Price by engaging the Assam State Agriculture Marketing Board in addition to the procurement done by the FCI.

At present, there are 24 Regulated Market Committees, 20 Primary Market Yards, 143 Trader's Shop, 532 Auction Platform/retailers Shed, 806 Rural Primary Markets, 405 Wholesale Markets, One Organic Market, 18 Packaging Room, 42 Drying Platform and 15 Processing units in the State. The Regulated Markets have been covered under AGMARKNET. As regards to cold storage infrastructure in the State, there

Market Infrastructure	Number
Cold Storage	4
Wholesale Market Developed (Out of 405 nos.)	3
Rural Primary Market (Out of 735 nos)	43
Organic Market	1
Sale Counter	11
Seed Storage Godown	-
Drying Platform	33
Three/Four Wheel Auto Van	-
<i>Source: Directorate of Agriculture, Assam</i>	

are 26 numbers of cold storages (Govt. Sector-3, private sector-23) are available in the State at present.

To assist the farmers for carrying vegetables to the distant market, the Assam State Agriculture Marketing Board provided transport subsidy to 980 farmers. The State Government proposed to construct three-storied Market at Pamohi (Guwahati), Growers Consumers Market Complex at Ulubari (Guwahati) and establish 11 nos. of Sale Counters for marketing of farm products. For transportation of agricultural produces from field to market as many as 1102 numbers of three/four wheelers are provided during the year 2012-13. During the year 2013-14, the State Agriculture Department has planned to provide 2372 numbers of three/four wheel Auto Vans, 35 numbers of refrigerated vans and develop 15 numbers of Rural Hats to the farmers to facilitate marketing of farm produce. The Department has also taken initiative for establishment of market infrastructure, storage facility and to eradicate the transportation bottlenecks by distributing 224 auto vans, 610 mini trucks and providing transport for carrying the produces from remote areas to different markets. The rural connectivity scheme implemented under PMGSY is a major step towards benefit of farmers to take out their agricultural products to nearest urban markets.

Some of the major steps taken up to boost up marketing support and for post harvest management:

- Farming community has been mobilized to form 25 numbers of Farmer Producer Organizations (FPO) for securing better produce price;
- Rural farm women have been empowered by training and providing mini processing units of Pulses and oil seeds from which they can earn from their homes;
- Tie up has been made for export of Red Bao Paddy to USA and the process has started in 2012-13 on regular basis;
- Export of Pineapple cubes, orange, ginger, dendrobium orchids to other States and Countries have already been started;
- 0.56 lakh SHGs assisted to take up Agri-Horti activities including post harvest management; etc.

NATIONAL MISSION ON OILSEEDS & OIL PALM

The State is highly deficient in Oil seed production. To achieve targeted area coverage of 4.65 lakh hectares and 3.44 lakh MT production during 2014-15 to drive the State towards self sufficiency at the end of 12TH Five Year Plan an amount of Rs.5000.00 lakh has been earmarked for launching Mini-Mission-I-Development of Cultivation of vegetable oilseeds crop, Mini-Mission-II-Development of Cultivation of Oil Palm and Mini-Mission-III-Development of Cultivation of Tree Borne Oil seeds.

ESTABLISHMENT OF MINI OIL MILL WITH PACKAGING UNIT:

For employment generation from value added products of oilseeds and to facilitate the farming community to assure supply of pure cooking oil locally with maximum return from oilseeds cultivation. The State Agriculture Department proposed to establish 800 mini oil mills with packaging unit involving an amount of Rs.2000.00 lakh. The Scheme will be envisaged for marketing linkage of oil produced involving ASAMB.

WOMEN WELFARE SCHEME AS A GENDER RESPONSIVE BUDGET:

Rural women are considered as the most productive workforce in all aspects of cultivation/crop production and processing to marketing. Development of farming women has been given special thrust by the State Govt. for which the scheme has been formulated which will cover 500 women. 200 spice and pulses grinding mills, 200 numbers of power weeder and 50 numbers of paddy transplanter will be provided to the women SHGs for their economic upliftment during the year 2014-15 with special reference to Chief Minister's Vision of Women & Children of 2016.

BRING GREEN REVOLUTION TO EASTERN INDIA INCLUDING ASSAM:

Central and State Governments have chalked out a strategy to achieve the planned growth in agriculture sector particularly with a view to achieving self-sufficiency in food production to provide food security. Several interventions with emphasis such as Bringing Green Revolution to Eastern India (**BGREI**), double cropping, supply of improved seeds, fertilizer and technology equipment etc. have been taken. Under this new initiative **BGREI**, the Government of India covers the states namely Assam, Bihar, Chhatisgarh, Jharkhand, Odisha, Eastern U.P. and West Bengal because of having excellent potential for increasing food grain production and productivity but is mired by low credit availability, poor extension facilities and infrastructure bottlenecks etc. To remove these impediments on a priority basis and transform these States into the best performing States steps have been taken by putting better Seed Replacement Ratio, adequate and timely availability of critical inputs, improving infrastructure facilities and other required programmatic interventions including bank credit etc.

In Assam, the scheme was launched in 2010-11 as a sub-scheme of RKVY to overcome the constraints limiting the productivity of rice based cropping system in the state by adopting short term activities related to Transfer of Technology through Rice demonstration in farmers field along with activities pertaining to assets building

like creation of irrigation facilities to maximize agricultural production on sustainable basis. The scheme targets the main food grain crop of the State, i.e. Rice. After 3 years (2010-11 to 2012-13) of implementation of the scheme the productivity and production of Rice has been increased by 21 percent and 19 percent respectively. For successful implementation of the Scheme, [though the scheme is a sub-scheme of RKVY], separate fund has been provided by the Govt. of India. During the period 2010-11 to 30th September, 2013, the State has received an amount of Rs.19501.00 lakh from the Govt. of India.

PRADHAN MANTRI FASAL BIMA YOJANA:

Every single farmer of country is the root of our economy. We rely heavily on the work done by our farmers. The crops cultivated by farmers are distributed all over the country and in some cases to other countries too. Although farmers do a great deal of work for us, their very own work have no security. Bad weather can lead to damage of their crops. It is a 100% loss case for the farmers who rely only on farming. Many poor farmers across the country borrow money for farming and in the scenario when crops are damaged; they find themselves in middle of nowhere. This leads to acts like Suicide which is unacceptable. We can't let that happen. So, the need of any scheme that could help the farmers was always there. Recently, Pradhan mantri Narendra modi announced the scheme named as "Pradhan Mantri Fasal Bima Yojana". If implemented carefully, this scheme alone can help the farmers to great extent. Our farmer brothers are now no longer alone. If the crop damages due to any reason, the Government will come forward. With the Launch of this crop insurance scheme, there will be some relief for our Farmer brothers.

HIGHLIGHTS OF PMFBY:

- There will be a uniform premium of only 2% to be paid by farmers for all Kharif crops and 1.5% for all Rabi crops. In case of annual commercial and horticultural crops, the premium to be paid will be only 5%.
- The premium rates to be paid by farmers are very low and balance premium will be paid by the Government to provide full insured amount to the farmers against crop loss in any natural calamities.
- There is no upper limit on Government subsidy. Even if balance premium is 90%, it will be borne by the Government.
- Earlier, there was a provision of capping the premium rate which is low claims being paid to farmers. Now this is removed and farmers will get claim against full sum insured without any reduction.
- The use of technology will be encouraged to a great extent. Smart phones, Remote sensing drone and GPS technologies will be used to capture and upload data of crop cutting to reduce the delays in the claim payment.
- The insurance plan will be handled under a single insurance company, Agriculture Insurance Company of India (AIC).

- PMFBY is a replacement scheme of National Agriculture Insurance Scheme (NAIS) and Modified National Agriculture Insurance Scheme (MNAIS) and hence exempted from the service tax.

OBJECTIVES OF THE SCHEME:

- To provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests & diseases.
- To stabilize the income of farmers to ensure their continuous process in farming.
- To encourage farmers to adopt innovative and modern agricultural practices.
- To ensure flow of credit to the agriculture sector.

ASSAM SITUATION ABOUT PMFBY:

The Assam government will roll out the Pradhan Mantri Fasal Bima Yojana in the state from this season with an aim to benefit over 5.5 lakh farmers in 2016-17. "Assam is all set to implement the Pradhan Mantri Fasal Bima Yojana from Rabi season this year. Our target for the season in 2016-17 under PMFBY is 5,53,000 farmers. During the current season, a wide range of crops, including summer paddy, wheat, potato, sugarcane, rapeseed and mustard will be covered. Under the PMFBY scheme, paddy, jute, black gram and green gram will be covered during Kharif next year. To improve yield data quality and timeliness, smart phones will be used." For effective rolling out of the scheme, training of Agriculture Department officials and publicity-cum-awareness programmes among the farmers will be organised in coming days. Contingency fund proposal/supplementary demand proposal has already been submitted to the State Government for implementation of the scheme.

APPENDIX – 5.1: AREA, PRODUCTION AND AVERAGE YIELD UNDER FOOD AND NON- FOOD CROPS COVERED BY CROP FORECAST IN ASSAM, 2016-17 (PROVISIONAL)

Sl. No.	Commodities	Area (In Hect.)	Production (In Tonnes)	Average Yield (In Kg/Hect)
1	Autumn Rice	168044	228146	1380
2	Winter Rice	1890960	3767357	2023
3	Summer Rice	408132	1131872	2773
	Total Rice	2467136	5127375	2105
4	Maize	31333	91219	2911
5	Wheat	17452	23454	1344
6	Other Cereals and Small Millets	4749	2927	616
	Total Cereals	2520670	5244975	2107
7	Gram	2429	1582	650
8	Tur (Arahar)	5721	4910	858
9	Rabi Pulses	138205	101037	731
	Total Pulses	146355	107529	735
	Total Food Grains	2667025	5352504	2031
10	Sesamum	11874	8390	706
11	Rape and Mustard	294018	189233	644
12	Linseed	4970	3023	607
13	Castor	744	346	460
14	Nizer	5975	3315	555
15	*Coconut (2012-13, 2013-14 & 2014-15)	20602	153508	59

	Total Oilseeds	338183	204307	644
16	Cotton (b)	882	427	82
17	Jute (c)	75140	802747	1923
18	Mesta	3544	21344	1084
	Total Fibres	79566	824518	1865
19	Banana	49266	854853	17352
20	Pineapple	16267	268915	16531
21	Orange	15037	203524	13535
22	Papaya	6922	141752	20478
23	Potato	106437	777829	7308
24	Sweet Potato	5254	28584	5440
25	Tapioca	3266	30050	9201
26	Onion	8266	81282	9833
	Total Fruits and Vegetables	210715	2386789	
27	Arecanut (2012-13, 2013-14 & 2014-15)	65102	56098	138
28	Chillies	20546	18207	886
29	Turmeric	16804	16747	997
30	Sugarcane	31383	1207167	38466
31	Tobacco	227	115	501
	Total Misc. Crops	134062	1298334	
	All Crops	3429551		

Note:

(a) In terms of million nuts (b) Bales of each 170 Kgs (c) Bales of each 180 Kgs.

(d) In terms of dry nuts (e) Nuts per bearing tree(f) * in total Oil seeds coconut is excluded

Source: Directorate of Economics and Statistics, Assam

APPENDIX - 5.2
INDEX NUMBERS OF AREA, PRODUCTION AND PRODUCTIVITY FOR FOOD AND NON-FOOD
CROPS IN ASSAM, 2016-17 (PROVISIONAL)
(Base Triennium ending 2007-08=100)

Sl. No.	Commodities	Area Index	Production Index	Productivity Index
1	Autumn Rice	47.45	65.56	138.15
2	Winter Rice	114.81	168.28	146.57
3	Summer Rice	126.40	154.66	122.36
4	Total Rice	110.30	154.50	140.07
5	Maize	170.64	684.98	401.42
6	Wheat	31.13	33.13	106.43
7	Other Cereals and Small Millets	68.40	83.13	121.54
8	Total Cereals	104.81	153.95	146.89
9	Gram	129.82	167.41	128.95
10	Tur	97.08	116.08	119.57
11	Other Rabi Pulses	131.25	180.33	137.39
12	Total Pulses	128.78	175.48	136.26
13	Total Food Grains	105.23	154.36	146.69
14	Linseed	65.12	77.79	119.46
15	Castor	62.36	67.98	109.00
16	Sesamum	93.54	115.92	123.92
17	Rape & Mustard	125.22	153.98	122.97
18	Coconut	109.52	104.37	95.30
19	Nizer	69.26	75.00	108.29
20	Total Oilseeds	114.55	125.13	109.24
21	Jute	125.56	122.22	97.33
22	Cotton	64.90	67.24	103.61
23	Mesta	67.47	79.35	117.62
24	Total Fibres	123.23	120.48	97.77
25	Plantation Crop (TEA)	94.73	125.45	132.43
26	Chillies	127.61	179.66	140.79
27	Turmeric	134.12	194.08	144.70
28	Areca nut	98.29	99.00	100.72
29	Total Condiments & Spices	106.31	120.67	113.50
30	Potato	141.54	149.34	105.51
31	Banana	111.97	140.89	125.83
32	Total Fruits and Vegetables	125.63	144.79	115.26
33	Sugarcane	121.95	123.21	101.03
34	Tobacco	45.31	43.40	95.78
35	Total Misc. Crops	121.45	122.70	101.02
36	Total Non-Food Crops	119.19	131.82	110.59
37	All Commodities	108.16	144.33	133.44

1. The Agricultural Indices is constructed only on the basis of crops covered by the Crop Forecast.
2. The Area and Production of Areca nut and Coconut are final estimates for the year 2014-15.

Source: Directorate of Economics and Statistics, Assam

CHAPTER – VI

IRRIGATION

Irrigation is an essential input of agriculture. Assam agriculture is primarily rain-fed. But, due to adverse and unpredictable weather condition as well as to pursue double/multiple cropping and modernization of agriculture practices in the state agricultural sector to cope with the growing need of agricultural production to feed the burgeoning population, irrigation is highly essential in Assam. Besides, availability of assured irrigation facility is pre-requisite for a sustained development in the agriculture sector. Thus irrigation development plays a significant role in the efforts towards economic development of the state too.

The land use pattern in Assam indicates that out of the total geographical area of 78.44 lakh hectare the gross cropped area of the State is 40.82 lakh hectare (2014-15) and the net area sown is 28.19 lakh hectare. The ultimate irrigation potential of the State is estimated at 27 lakh hectare which constitutes of 66.14% of the Gross cropped area. It is planned to irrigate 17 lakh hectare through Minor Irrigation Schemes and 10 lakh hectare through Major & Medium Irrigation Projects. Moreover, out of the 17 lakh hectare area planned to irrigate through Minor Irrigation Schemes an area of 10 lakh hectare through Minor Irrigation Schemes taken from surface water resources and the rest 7 lakh hectare from ground water sources.

There are three types of Irrigation Schemes executed in Assam. These are

1. Surface Flow Irrigation Scheme :

This type of Irrigation Schemes is done by constructing diversion weir across the river to convey water through canal system by surface gravity flow. This type of Schemes consists of Major, Medium and Minor Irrigation Schemes.

2. Surface Lift Irrigation Scheme :

This type of Irrigation Schemes is also taken up on surface water sources by lifting of water by pump from river, lake or pond etc. and water is conveyed through canal system.

3. Ground Water Lift Irrigation Schemes :

This type of Irrigation Schemes is done on lifting ground water by installing Deep Tube wells or Shallow Tube wells and drawing water to the crop field through canal or through over ground flow or underground network of pipe.

The development programmes for improvement of irrigation facility in Assam is taken up under two broad heads, viz. Minor Irrigation and Major & Medium Irrigation. While the Irrigation Schemes are classified as Major, Medium and Minor, they are categorized as Surface Flow, Surface Lift (for major/ Medium and Minor) and Ground Water Lift (for Minor only). Three Departments, viz. Irrigation, Agriculture and Panchayat and Rural Development are associated with development of irrigation facilities in the State. The State Irrigation Department, being the Nodal Department for development of irrigation in the state, executes and maintains Major, Medium and Minor Irrigation Schemes, the irrigation works of the other two departments are confined to Minor Irrigation schemes like Shallow Tube Wells, Low Lift Points and Temporary Minor Irrigation Schemes only. The State Agriculture Department and the Panchayat and Rural

Development Department execute the Minor Irrigation schemes (Shallow Tube Wells, Low Lift Points and Temporary small diversions) the Irrigation Department alone executes and maintains Major, Medium and Minor Irrigation Schemes both on surface water and ground water sources.

Out of the Gross Cropped Area of 40.82 lakh hectares (2014-15) of the State, the Irrigation Department alone created irrigation potential of 8.04 (approx) lakh hectares up to March, 2017 by operating both completed and ongoing irrigation schemes of which 2.79 lakh hectares through both Major and Medium Irrigation Projects and the rest 5.25 lakh hectares through Minor Irrigation Schemes. Under Minor Irrigation Sector, a potential of 1.49 lakh hectares was also created through Shallow Tube Wells (STWs) and Low Lift points (LLPs) installed by the Assam State Minor Irrigation Development Corporation (ASMIDC) Limited. It is pertinent to mention that ASMIDC Ltd. was created in 1980 and its field work was started from 1981-82. As many as 35571 Shallow Tube Wells and 14164 Low Lift Points (total being 49735 Nos.) were installed creating an irrigation potential of 149205 hectares in the plain districts of Assam except in Barak Valley. But its field works have been suspended since 1992-93 (April, 1992) even though the STWs and LLPs installed through ASMIDC Ltd. contributed a lot towards creating irrigation potential of 149205 hectares. The position of creation of irrigation potential under different sectors is presented in Table 6.1.

TABLE – 6.1: IRRIGATION POTENTIAL CREATED (AIA) UPTO MARCH, 2017

(In hectares)

Department/Agency	Major & Medium Irrigation Sector	Minor Irrigation Sector	Total
Irrigation Department	279423	524912	804335
ASMIDC Ltd (now merged with Irrigation, Deptt.)	NIL	149205	149205

Source: Chief Engineer, Irrigation Department, Assam

The State Agriculture Department has also created a huge irrigation potential through the private Shallow Tube wells (STWs) and Low Lift Points (LLPs).

The sources of Agriculture Department, Assam states that considering 10 years running life of STWs and LLPs the operational STW/ LLP will be less and the irrigation potential at present (up to March, 2017) is 757184 hectare.

CREATION OF IRRIGATED AREA AND UTILISATION OF POTENTIAL

It is pertinent to mention that since 1996-97 Central assistance was taken from Accelerated Irrigation Benefit Programme (AIBP) in Major/ Medium Irrigation Sector only with the allocation pattern 90:10 (Central Assistance: State Share). Subsequently Since 2000-01 the central assistance under AIBP received in respect of Minor Irrigation Sector also with the same allocation pattern. Assistance from Non-Lapsable Central Pool of Resources (NLCPR), Assam Rural Infrastructure for Agricultural Services Programme (ARIASP) funded by World Bank and subsequently under RIDF from National Bank for Agriculture and Rural Development (NABARD), Command Area Development & Water

Management (CADWM), North Eastern Council (NEC) apart from State Plan allocation like TSP, SCSP etc. was also taken. The creation of irrigation potential through Government Irrigation Schemes under Irrigation Department during the last few years are as follows.

TABLE- 6.2: IRRIGATION POTENTIAL CREATED THROUGH GOVT. IRRIGATION SCHEMES BY IRRIGATION DEPARTMENT
(In hectare)

Year	Major & Medium Irrigation	Minor Irrigation	Total
2010-11	4426	16456	20882
2011-12	10678	15029	25707
2012-13	270	9485	9755
2013-14	8000	11713	19713
2014-15	16170	38774	54944
2015-16	-	24935	24935
2016-17	640	21050	21690

Source: Chief Engineer, Irrigation Department, Assam

PROGRAM UPTO MARCH 2017

a) Major and Medium Irrigation Sector:

At present there are 3(three) AIBP funded ongoing Major/Medium Irrigation Projects (Dhansiri I/P, Borolia I/P and Buridehing I/P) and all are in different stages of progress. Reconstruction of flood damaged Bordikorai Irrigation Project (Major) in Sonitpur District has been taken up for Rs. 638.49 lakh under One Time ACA to revive lost potential of 1050 hectares during 2016-17.

Under Assam Bikash Yojana, revival/ improvement work of Rupahi Irrigation Project (Medium) was taken up with the estimated amount of Rs. 2.47 Crore to restore lost potential of 5668 Hectares. The project is in progress.

The State Irrigation Department has planned to complete all the ongoing projects within the 12th Five Year Plan period. In addition, one Major Irrigation Project viz., Puthimari Irrigation Project at an estimated potential of 12280 hectare and 3 medium Irrigation Projects–Burisuti Medium Irrigation Project, Dikhow Medium Irrigation project and Buroi Medium Irrigation Project having potential of 6500 hectares, 6000 hectares and 5000 hectares respectively have been proposed in the 12TH Five Year Plan with estimate costs of Rs. 1225.09 crore for creating additional potential of 29780 hectares (net Irrigation area).

b) Minor Irrigation Sector:

During the year 2016-17, the Irrigation Department under AIBP, received a sanction of 267 nos. of minor irrigation schemes at an estimated cost of Rs.75842.27 lakh to achieve a target of 57772 hectares. Under the Non Lapsable Central Pool of Resources (NLCPR) fund, 7nos of schemes have been taken up during 2016-17 at the cost of Rs.1287.32 lakh for a target of 6775 hectare.

Under NEC funded Minor Irrigation Schemes 2 (two) out of 7 have been completed achieving a potential of 635 hectares. Works of another three new Minor irrigation Schemes are in progress with estimated amount of Rs.110 lakh to achieve a potential of 969 hectares.

Under Scheduled Caste Sub-Plan (SCSP), the Department has taken up works of 255 nos. of minor schemes out of which 171 nos. have been and 84 nos. completed and 84 are ongoing during 2016-17. Under the Tribal Sub-Plan (TSP) Schemes the Irrigation Department has taken up works of 105 minor irrigation schemes out of which till March 2017, 79 nos. schemes have been completed. Under the Assam Vikash Yojana, Rs.76.73 lakhs have been allocated to create an Irrigation potential of 413 hectare for completion of 6 Minor irrigation schemes during 2016-17.

(c) COMMAND AREA DEVELOPMENT AND WATER MANAGEMENT (CADWM):

At present 6 (six) nos. of schemes namely Kaldiya, Dekadong, Bordikrai ,Pahumara, Maloibari LIS and Dhansiri I/P are running as ongoing schemes under CADWM programme with a target to create a potential of 63514 hectares at a cost of Rs. 7709.41 lakh.

(d) CHIEF MINISTER'S SPECIAL PACKAGE FOR DHEMAJI AND BARAK VALLEY:

Two new schemes under Chief Minister's special package have been taken up for Dhemaji district and Barak valley. Construction of Menjek Nalla FIS and Borbila FIS at Bordoloni Dev. Block at a cost of Rs. 234.14 lakh to create a potential of 400 hectares were taken up for Dhemaji district. Under Barak valley, construction of Matijur Ph-I LIS, Gobil FIS at Sudarshanpur-III and construction of Sluice gate in Kakmara Beel Dhal at Ratanpur at a cost of Rs. 150 lakh to create a potential of 132 hectares.

(e) IRRIGATION SCHEMES POWERED BY SOLAR ENERGY:

To combat the erratic power supply situation a pilot Deep Tube Well scheme powered by Solar Energy at Borlah near Hajo has been taken up with a target of 30 Ha. of Irrigation potential. Proposal has been formulated to take up some irrigation schemes powered by solar energy for hassle free operation.

(f) PARTICIPATORY IRRIGATION MANAGEMENT (PIM):

Emphasis has been laid on Participatory Irrigation Management and as many as 1433 Water Users' Associations have been formed within the command areas of Irrigation Schemes. It is pertinent to mention that under the Scheme - Pradhan Mantri Krishi Sinchai Yojana (PMKSY) the District Irrigation Plans (DIP) for all the 27 districts of Assam have already been approved and the State Irrigation Plan (SIP) Assam, has also been finalized. It is expected that during the five years from 2016-17 to 2020-21 agriculture in the State will march forward and the irrigation in Assam will gain a new era if the required fund is made available by Govt. of India under PMKSY. A statement showing the district wise activities proposed by Irrigation Department under PMKSY for the five years as per approved District Irrigation Plans is given below in Table 6.3.

TABLE-6.3

**District wise Activities proposed by Irrigation Department for the five years (from 2016 -17 to 2020-21)
under PMKSY (As per approved District Irrigation Plan)**

Sl. No.	Name of District	Nos. of Irrigation schemes proposed							Area proposed in Hectare	Proposed cost Rupees in Crores
		FIS	DTW	LIS	STW	RRR	LLP	TOTAL		
1	Chirang	237	40		55			332	21540	2283.5000
2	Dima Hasao	38				57		95	9672	194.6500
3	Bongaigaon	18	230					248	7525	161.3600
4	Dhubri	37	1031	277		15		1360	57662	1386.6350
5	Karbi Anglong	304	42	99	304	4		753	30442	4606.7000
6	Goalpara	69	273	32				374	19029	316.5100
7	Cachar	61		43				104	30448	300.2743
8	Barpeta	13	143	50				206	45346	437.4300
9	Golaghat	16	1884	68	1164			3132	30452	2990.7700
10	Kokrajhar	679	32	72				783	37425	1225.0200
11	Darrang	95	1195	42				1332	37594	184.4286
12	Dhemaji	15	3694	725				4434	27759	2015.2900
13	Lakhimpur	27	2625	1920				4572	45260	2065.7300
14	Udalguri	245	509			146		900	24920	2876.9300
15	Dibrugarh	1	193	75	7 (260 pts)			276	31364	583.4900
16	Nagaon	202	1644	976				2822	53807	19.5200
17	Sonitpur (Biswanath Block)	88	804	126		85		1103	34590	1668.7800
18	Tinsukia	72	1143	243		27		1485	32658	231.0200
19	Baksa	1250	63	11				1324	52104	2566.9100
20	Kamrup (R)	205	653			102	1524	2484	48249	799.6000
21	Morigaon	77	2504	58				2639	31250	550.0550
22	Hailakandi	35	277	257		25		594	23250	179.9800
23	Kamrup (M)	177	15	253				445	9978	254.7800
24	Nalbari	124	497	253				874	27069	643.2437
25	Karimganj	65	98	39		13		215	25403	579.6680
26	Sivsagar	9	1229	749		27		2014	39409	683.4300
27	Jorhat	42	2483	342	872 (3752 pts)			3739	54250	1329.2017
	Total	4201	23301	6710	2402	501	1524	38639	888455	31134.9063

TABLE- 6.4
FINANCIAL ACHIEVEMENTS OF SOME OF THE CENTRAL SECTOR
AND CENTRALLY SPONSORED SCHEME

(Rs. In lakh)

Year	Schemes											
	AIBP		AIBP		CADWM		NLCPR		NEC		RMIS	
	Major/Medium		Minor		Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
	Target	Achievement	Target	Achievement								
2011-12	19503	4950	36046	34379.94	1736	292	625	156.63	610	135.66	-	
2012-13	21313	648.65	36676.10	14575.19	2933	80	800	22.04	500	351.28	-	
2013-14	13353	1140.80	43230	29614.17	2743	722.34	1200	31.79	543.68	140.00	167.90	0.00
2014-15	10452.50	4043.76	47949.00	18901.45	3960.00	179.23	1345.47		1037.77	263.11	176.30	15.40
2015-16	9513.40	5485	64578.54	5211.15	8150.00		1175.00		831.52		315.00	12.79
2016-17	10478.80	420.3817	78216.53	11861.71	7709.41	626.7227	1287.32	897.4403	529.47	257.475	314.50	41.92

Source: Chief Engineer, Irrigation Department, Assam

TABLE- 6.5
PHYSICAL ACHIEVEMENTS OF SOME OF THE CENTRAL SECTOR
AND CENTRALLY SPONSORED SCHEME

(Area in Hect.)

Year	Schemes									
	AIBP		AIBP		CADWM		NLCPR		NEC	
	Major/Medium		Minor		Target	Achievement	Target	Achievement	Target	Achievement
	Target	Achievement	Target	Achievement						
2011-12	19244	4000	28580	36321	5430	1350	3010	2010	500	
2012-13	53973	270	58334	35868	2100	360	2500		500	
2013-14	48625	8000	33800	13543	7400	1508	2000		635	
2014-15	32915	15220	44084	11266	8500	405	250		635	333
2015-16	30911		91204	11521	23010	0	250		635	635
2016-17	30108		57772	6910	63514	750	6775			

Source: Chief Engineer, Irrigation Department, Assam

TABLE- 6.6
FINANCIAL ACHIEVEMENTS OF THE SCHEMES
FUNDED UNDER DIFFERENT SOURCES

(Rs. In lakh)

Year	Scheme													
	NABARD		NABARD		Assam Vikash Yojana		TSP		SCSP		State Plan (ACA)		CM's special package	
	Major/ Medium Irrigation		Minor Irrigation		Minor Irrigation		Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
	Target	Achievement	Target	Achievement	Target	Achievement								
2011-12	50.00	50.00	500	65.64	0.00	0.00	450	440.89	1450	1381.23	1667	325.80		
2012-13			415	274.26	100.00	59.90	735	680.04	2328	1475.73				
2013-14			415	209.84	122.60	120.48	800	799.15	2628	2627.15	1356	718.18	550	
2014-15	600.00	42.55	4500.00	4222.21			925.00	907.23	3105.00	3096.25			147.00	147.00
2015-16			9918.00	3528.38			950.00	239.15	1000.00	630.61			300	168.87
2016-17			12240	5357.268	76.73	37.63053	503.64	493.524	1400	1277.881			409.12	382.373

Source: Chief Engineer, Irrigation Department, Assam

TABLE- 6.7
PHYSICAL ACHIEVEMENTS OF THE SCHEMES
FUNDED UNDER DIFFERENT SOURCES

(Area in Hect.)

Year	Scheme													
	NABARD		NABARD		Assam Vikash Yojana		TSP		SCSP		State Plan (ACA)		CM's special package	
	Major/ Medium Irrigation		Minor Irrigation		Minor Irrigation		Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
	Target	Achievement	Target	Achievement	Target	Achievement								
2011-12	1300	700			497		3130	1040	8112	1156	5455	3100		
2012-13	570				627	110	2100	574	11239	1670	3700			
2013-14	570				497	35	1518	1220	3577	2292	3700	3650	400	
2014-15					780	670	1779	1760	4028	3903			400	
2015-16							680	1104	844	2928	1050		400	
2016-17			7336	5139			2097	660	3433	1451			532	400

Source: Chief Engineer, Irrigation Department, Assam

UTILISATION OF IRRIGATION POTENTIAL:

Out of the cumulative Irrigation Potential Created / made available through Government Irrigation Schemes under Irrigation Department the position of utilization of the same during the last few years are as follows-

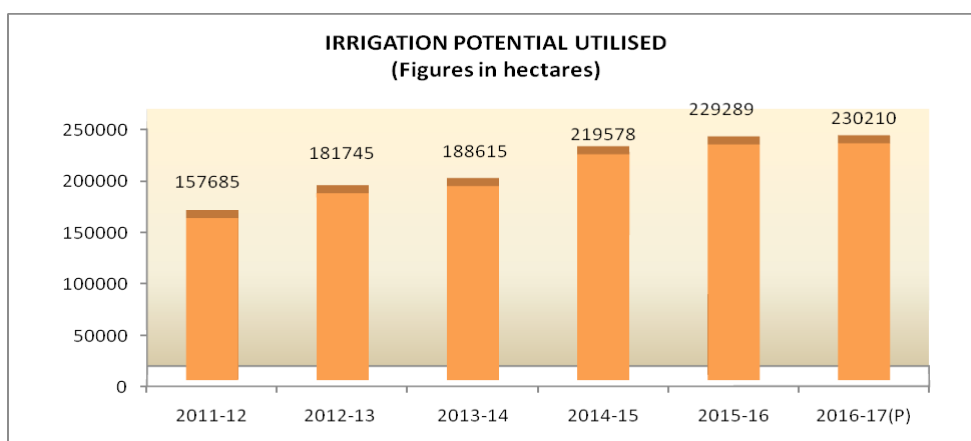
TABLE- 6.8
CROP SEASON WISE IRRIGATION POTENTIAL UTILISED
(FIGURES IN HECTARES)

Year	Crop Season								
	Kharif crops season			Rabi & Pre-Kharif crops season			Total		
	Minor	Major/ Medium	Total	Minor	Major/ Medium	Total	Minor	Major/ Medium	Total
2011-12	71650	61028	132678	18360	6647	25007	90010	67675	157685
2012-13	92677	60700	153377	23546	4822	28368	116223	65522	181745
2013-14	99199	60058	159257	25301	4057	29358	124500	64115	188615
2014-15	129734	48142	177876	37549	4153	41702	167283	52295	219578
2015-16	119147	68772	187919	32447	8923	41370	151594	77695	229289
2016-17(P)	60509	116912	177421	17781	35008	52789	78290	151920	230210

Source: Chief Engineer, Irrigation Department, Assam

It is clear from the above that the utilisation of Irrigation Potential is not up to the expectation and there is a vast gap between Irrigation Potential Created and Irrigation Potential Utilised. There are many reasons for less utilisation and the identified causes are-

- i) General wear and tear of the Irrigation Schemes and on the other hand non-availability of fund in proper head of account in the State Budget for their repair in due time leading the created potential to remain unutilised.
- ii) Natural calamities like flood, storm etc. damaging the created potential as well as the Irrigation Schemes.
- iii) Erratic power supply in respect of the electrically operated Irrigation Schemes (Surface Lift and Ground Water Lift).
- iv) Damage of transformer, H T line and mechanical components at peak hours of requirement of water.
- v) Change of river course in respect of Surface Flow and Surface Lift Irrigation Schemes.
- vi) Damage of canal system.
- vii) Lack of demand from the cultivators for irrigation water.
- viii) Dependence of the cultivators on rain water as they adopt the traditional system of single cropping.
- ix) Stealing of motors/ pumps and other accessories in some areas leading to non-functioning of the Irrigation Schemes.
- x) Imposition of Irrigation Service Charges by Government for realization from the beneficiary cultivators. As the cultivators are economically poor, they are reluctant to pay Irrigation Service Charges and want to get water from Govt. Irrigation Schemes free of cost.



AREA IRRIGATED:

The table below shows the crop season-wise area irrigated during the year 2015-16 and 2016-17 in different districts of Assam from Government source of irrigation:

TABLE- 6.11

Name of District	Kharif		Rabi & Pre-kharif		Total	
	2015-16	2016-17(P)	2015-16	2016-17(P)	2015-16	2016-17(P)
Kokrajhar	13317	13069	98	98	13425	13167
Dhubri	38	45	229	197	267	242
Goalpara	1930	1142	344	460	2274	1602
Barpeta	9387	4957	-	428	9387	5385
Morigaon	27	185	709	620	979	805
Nagaon	24725	22689	3660	1457	28385	24146
Sonitpur	19322	13444	84	116	19406	13560
Lakhimpur	329	375	61	244	390	619
Dhemaji	602	10	-	97	602	107
Tinsukia	396	308	-	51	396	359
Dibrugarh	986	265	-	10	986	275
Sivasagar	398	1289	89	16	487	1305
Jorhat	1100	139	68	227	1168	366
Golaghat	1242	499	484	481	1726	980
KarbiAnglong	18857	15181	21197	22140	40054	37321
DimaHasao	3826	4115	-	-	3826	4115
Cachar	3656	367	193	391	3849	758
Karimganj	3844	22	132	113	3976	135
Hailakandi	152	172	145	145	297	317
Bongaigaon	727	727	921	731	1648	1458
Chirang	15199	12054	2834	2821	18033	14875
Kamrup	2356	2664	396	641	2752	3305
Kamrup (M)	1225	913	2360	2473	3585	3386
Nalbari	253	168	75	80	328	248
Baksa	15631	9871	2013	1229	17644	11100
Darrang	4684	5382	682	682	5366	6064
Udalguri	43467	61903	4596	16874	48063	78777
Assam	187919	171955	41370	52822	229289	224777

P= P-P-Provisional Source: Chief Engineer, Irrigation Department, Assam

IMPOSITION OF IRRIGATION SERVICE CHARGES:

Sufficient fund is required for operation and maintenance of Irrigation Schemes and on the other hand adequate fund is not available for the said work. Viewing that the whole operation and maintenance cost of the Irrigation Schemes and at least one percent of the capital cost may be accrued from the beneficiaries the "Irrigation Service Charges" was introduced on adhoc basis in 1993 under the premises of the Assam Irrigation Act, 1983. The rates were subsequently revised in 2000. The current rates of Irrigation Service Charges are shown below.

Crops	Rate per bigha (Rs)	Rate per hect. (Rs)
1. Kharif	37.50	281.24
2. Wheat and other Rabi crop	75.00	562.50
3. Early Ahu	100.00	751.00
4. Ahu	100.00	751.00
5. Jute	20.00	150.00
6. Sugarcane	29.60	222.00

The charges collected from the beneficiaries are deposited fully to the public exchequer. But the position of realization of Irrigation Service Charges is not at all satisfactory as the beneficiaries want to get water from government Irrigation Schemes free of cost. The position of realization of the charges for the last three years is as follows. The position of realization of Irrigation Service Charges during the last three years are as follows:-

Year	Irrigation Service Charges realised (in Rupees)
2014-2015	7,21,493
2015-2016	7,67,388
2016-2017	10,93,967

The position of realization of Irrigation Service Charges is not at all satisfactory in spite of endeavour of the field officers/ staff of Irrigation Department. In order to improve the scenario the following steps have been taken.

- ❖ The Assam Irrigation Act, 1983 and the Assam Irrigation Rules, 1997 were enacted making provision for imposition/ collection of the water tax.
- ❖ The Assam Irrigation Water Users' Act, 2004 has been enacted.
- ❖ District-wise Farmers' Motivation Trainings are conducted from time to time to encourage them to go for more multiple cropping with the help of irrigation water so that they become more sound economically and do not feel the pinch to pay the Irrigation Service Charges.
- ❖ A total of 1407 Water Users' Associations (WUAs) have been formed up to 2015-16 out of which 794 WUAs have already been registered with the Director of Registration of Firms & Societies, Assam, under the Society Registration Act, 1860.
- ❖ District-wise farmers' trainings were conducted to adopt scientific agriculture in the Irrigation Command.
- ❖ Out of State exposure visit to Tamilnadu, Andhra Pradesh and Jharkhand have been organized for officers of Irrigation Department, NGOs and WUA farmers.

It is worth mentioning that there is a huge gap between Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU). The Department has been endeavouring to reduce the gap so that the very purpose of creation of irrigation potential is fulfilled.

In order to minimize the gap between irrigation potential created and irrigation potential utilised in the State as well as to encourage utilisation of irrigation facilities created by the state government departments, the following steps have been initiated:

- 1) Emphasis has been given on Participatory Irrigation Management (PIM) where the farmers can take part in the system and process of irrigation as well as its maintenance. Keeping this in view, the Department encouraged the farmers to form Water Users' Associations within the Command Areas of Irrigation schemes. A total of 1375 Water Users' Associations (WUA) have been formed up to 2014-15 out of which 769 WUAs have already been registered under the Society Registration Act, 1860.
- 2) State Level Co-ordination Committee as well as District Level Co-ordination Committees have been formed with the officials of Irrigation Department, Agriculture Department and other concerned Departments/ organizations to motivate farmers for optimum use of water.
- 3) Out of State exposure visit in Tamil Nadu, Andhra Pradesh and Jharkhand have been organized for some Irrigation officials, NGOs and WUA farmers.
- 4) Farmers' Motivation Trainings are conducted in every district to encourage them to go for more and more multiple cropping using assured irrigation provided by Govt. Irrigation Schemes.
- 5) The Assam Irrigation Act, 1983 and The Assam Irrigation Rules, 1997 have been enacted providing safeguard to the Irrigation Schemes and the cultivators as well.
- 6) The Assam Irrigation Water Users' Act, 2012 has been enacted with a view to safeguarding the right of the beneficiary cultivators of the Govt. Irrigation Schemes wherein provision for active participation of the cultivators has been made. Preparation of necessary Rules under the Act are under process.

The physical and financial targets and estimates of the schemes proposed to be undertaken by the Irrigation Department during the financial year 2017-18 is given in Annexure -I

PLAN BUDGET, ALLOCATION AND TARGET, FOR 2017-18

Name of programme / Scheme	Budget Allocation 2017-18			Physical target during the year	Remarks
	SP/S	Centra I Share	Total		
4701 C. O. Major and Medium					
Normal Works					
Jamuna/ I/ P Modernisation	1.00	0.00	1.00	170	Renovation work
Integrated Irrigation Project on Kolong Basin	500.00	0.00	500.00	150	Renovation work
Rupahi Irrigation Project	0.10	0.00	0.10	5668	Revival work
New Scheme					
Puthimari Irrigation Project	94.00	0.00	94.00	Survey and investigation work completed	DPR preparation
Burusuti Irrigation Project	64.20	0.00	64.20		
Dikhow Irrigation Project	0.00	0.00	0.00		
Buroi Irrigation Project	64.20	0.00	64.20		
ERM to Kaldia IP	10.00	0.00	10.00		
ERM to Sukla IP	10.00	0.00	10.00		
AIBP					

Dhansiri I/P	0.00	89.00	89.00	30108	Work of Dhansiri I/P is proposed to be completed with Loan Assistance from NABARD as Long Term Irrigation Fund Revival of lost potential Revalidation required
Borolia I/P	0.00	0.00	3592.00		
Burhidihing I/P	0.10	0.00	0.10	0	
Long term Irrigation Fund (LTIF) under NABARD- Dhansiri I/P	0.00	3000.00	3000.00	1050	
One Time ACA (Recn. Of Bordikorai)	0.00	0.10	0.10		
	743.60	3089.10	3832.70	40738	
4702 C. O. Minor Irrigation					
State Plan					
Implementation of Pavoi FIS	300.00	0.00	300.00	60	
Implementation of Behali FIS	350.00	0.00	350.00	60	
DTW scheme with Solar System at Behali area (5 nos.), Grant No.49	1375.00	0.00	1375.00	150	
Irrigation Scheme in Abhayapuri South LAC	350.00	0.00	350.00	1260	to complete 420 nos. STW
Assam Vikas Yojana (DTW-5, FIS-1)	0.00	0.00	0.00		
TSP(T=105, Compl=79 Nos.)	430.20	0.00	430.20	1524	To complete 13 nos.
SCSP (T-255, Comp-171, OG-84)	1000.00	0.00	1000.00	1977	To complete 22 nos.
NABARD (125 Nos.) Loan	450.00	5550.00	6000.00	6452	To complete 34 nos.
AIBP (267 nos.)	1828.64	16457.75	8286.39	153325	To complete 264 schemes & clear liability
Shortfall of AIBP fund of 2007-08 & 2008-09	4023.30	0.00	4023.30		
CM's special package for Dhemaji Dist.					
i) Construction of Menjec Nalla FIS	0.10	0.00	0.10	150	
ii) Construction of Borbila FIS at Bordoloni Dev. Block	7.00	0.00	7.00	250	
CM's Special Package for Barak Valley (4 Schemes)					
i) Construction of Matijuri Ph-I LIS main Channel from control room to point I at Bor Hailakandi	25.00	0.00	25.00	80	To be completed
ii) Construction of sluice Gate in Kakmara Beel Dhal at Ratanpur GP	25.00	0.00	25.00	52	To be completed

CSS: RMIS & CENSUS					
Census of Minor Irrigation	0.00	200.00	200.00		
Retionalisation of Minor Irrigation Statistics Pay	0.00	60.00	60.00		
Travel Expenses	0.00	0.40	0.40		
Office Expenses	0.00	2.00	2.00		
Sub-Total of 4702	10164.24	22270.15	32434.39	165340	
4705 C. O. CADWM					
Normal Works	1.00	0.00	1.00		
CAD for Bordikrai I/S	335.00	519.88	854.88	6390	Pahumara, Bordikrai (ongoing), Dhansiri & Maloibari to be completed during 17-18
CAD for Pahumara I/S	310.36	437.87	748.23	7734	
CAD for Maloibari LIS Project	396.00	396.00	792.00	500	
CAD for Dhansiri I/P	630.00	973.00	1603.00	16500	
Sub-Total of 4705:	1672.36	2326.75	3999.11	31124	
Total of Grant No.49	12580.20	27686.00	40266.20		
4552 CO					
NLCPR (9Nos.)					
1) Burhinagar LIS (Nalbari Divn.)		100.00	100.00	250	2 nos. schemes to be completed creating 570 H
2) Construction of Dakhindol Lift I/S		1.00	1.00	500	
3) Belsiri Lift Irrigation Scheme		1.00	1.00	500	
4) Thengkhali Borhola Pathar I/S		295.02	295.02	320	
5) DTW I/S at 30 pts. Under Borsola Dev. Bl. Grant no.44		651.04	651.04	1700	
6) Other New Scheme		100.00	100.00		
NEC (7 Nos.)					
1) Longparpam MIS	51.02	51.02	220.00		
2) Dhankhunda FIS	43.65	43.65	350.00		
3) Ram Enghee Flow I/S	178.00	178.00	333.00		
4) Gilabwr Flow I/S	50.72	50.72	285.00		
5) Khaurang Bund Flow I/S	50.00	50.00	335.00		
6) Mahajanpara- Borigaon Flow I/S	50.00	50.00	500.00		
7) Khairabari Flow I/S	50.00	50.00	134.00		
Sub-Total of 4552	0.00	1621.45	1621.45	5427	

CHAPTER-VII

FLOOD AND FLOOD CONTROL MEASURES

The State of Assam comprises of two valleys namely the Brahmaputra and Barak Valley and it is situated in between 90° to 96° North Latitude and 24° to 28° East Longitude. The geographical area of Assam is 78,438.00 Sq. Km out of which 56,194.00 Sq. Km and 22,244.00 Sq. Km fall under the Brahmaputra and Barak Valley including 3 (Three) hill districts respectively. The Brahmaputra Valley has an average width of about 80 Km. The main river of the valley, Brahmaputra is one of the largest rivers in the world and rank fifth with respect to its average discharge. The river originates from the Kailash ranges of Himalayas at an elevation of 5300 M. After flowing through Tibet it enters India through Arunachal Pradesh and flows through Assam and Bangladesh before it joins Bay of Bengal. The catchments area of Brahmaputra in Tibet is 2,93,000 Sq. Km; in India and Bhutan is 2,40,000 Sq. Km and in Bangladesh is 47,000 Sq. Km. The Brahmaputra basin extends over an area of 5,80,000 Sq. Km up to its confluence within Bangladesh.

The average width of Brahmaputra is 5.46 Km. The maximum discharge of Brahmaputra at Pandu near Guwahati was recorded as 72,779 cumec on 23.08.62 and minimum discharge was recorded as 1757 cumec on 22.02.63. The average annual discharge is about 20,000 cumec and average dry season discharge is 4,420 cumec. The Barak Valley has a geographical area of 6922.00 Sq. Km. excluding 3 (three) hill districts. The local rainfall run off of the valley along with that of adjacent hilly areas flows through river Barak and its various tributaries and is drained out to Bangladesh. The Katakhal, Jiri, Chiri, Modhura, Longai, Sonai, Ruksni and Singla are the main tributaries of the valley. The tributaries are mainly rain fed and cause flood problems when precipitation occurs.

Flood and Erosion are two main natural disasters being faced by the state. The flood prone area of the state is 31,500.00 Sq Km as assessed by the Rastriya Barh Ayog which is about 39.58 % of the total land area of Assam. This is about 9.40% of total flood prone area of the whole country. The flood prone area of the country as a whole stands at about 10.2 % of the total area of the country, but flood prone area of Assam is 39.58 % of the area of the state. It signifies that the flood prone area of Assam is four times the national mark of the flood prone area of the country. Records show that average annual area affected by flood is 9.31 Lakh Hectares. The flood protected area of the state is 16500.00 Sq. Km till date. The severity of flood problem of the state has been further aggravated by the acuteness of erosion on both banks of river Brahmaputra and its tributaries. Study reveals that an area of 4.27 Lakh Hectare of the state has been eroded by the rivers since 1950, which is 7.40 % of area of the state. The average annual rate of erosion is 8000.00 Ha.

FLOOD AND EROSION PROBLEM OF THE STATE:

The Brahmaputra and Barak Rivers with their 48 nos. of major tributaries and innumerable sub-tributaries have crises-crossed the plains of both valleys. Floods, bank erosion and drainage congestion are major problems faced by the state during the monsoon season. The flood of this region is a recurring phenomenon, every year several waves of flood cause damage to huge areas in the state. The loss to people in terms of houses, crops and cattle is immense. The figures of loss run into hundreds of crores every year apart from

huge damages to roads, bridges, schools, communication systems and other such facilities. This diminishes the wealth of the nation and has adverse effects on the development of the state.

During post independence period, Assam faced major floods in 1954, 1962, 1972, 1977, 1984, 1988, 1998, 2002 and 2004. Almost every year three to four waves of flood ravage the flood prone areas of Assam. Average annual loss due to flood in Assam is to the tune of Rs. 200.00 Crores and particularly in 1998, the loss suffered was about Rs. 500.00 Crores and during the year 2004 it was about Rs. 771.00 Crores.

After the unprecedented floods in the country in 1954, the Govt. of India announced a National Policy on Floods comprising three phases viz.-

- The immediate,
- The short term and
- The long term measures.

The flood control activities in Assam started mainly after the announcement of National Water Policy. Subsequently, "Outlined plan for flood control in Assam" along with various comprehensive plans were prepared and the priority areas, which need immediate and urgent attention were identified.

Till date, the Water Resources Department has taken up works primarily for the general development of the rural sector and for the protection of major townships in both the Brahmaputra and Barak Valley. Schemes have also been taken up to relieve the drainage congestion in the cities and other important areas.

- Construction of Embankments and Flood walls
- River training and bank protection works
- Anti erosion and town protection works
- River channelization with pro siltation device
- Drainage improvement/ Sluices
- Raised Platform
- Flood forecasting and warning
- Flood zoning

The Water Resources Department, Assam has been implementing various flood management schemes from the beginning of 2nd Five Year Plan and is continuing till now.

TABLE; PHYSICAL ACHIEVEMENT OF THE WATER RESOURCES DEPARTMENT upto 12th Plan (upto March'16) since 10th Plan

Nature of Work	10 th Plan (2002-2007)		11 th Plan (2007-2012)		12 th Plan (2012-2017)	
	Achievement during the plan	Total	Achievement during the plan	Total	Achievement upto 30.11.16	Total
Construction of Embankments (Km)	6.929	4465.85	7.97	4473.82	0.6	4474.42
Town Protection & Anti Erosion Works	23	746	138	884	55	939

(Nos.)						
Construction of Major Sluice (Nos.)	2	86	8	94	3	97
Construction of Minor Sluice (Nos.)	-	539	6	545	-	545
Drainage Channel (Km)	6.00	854.19	20.776	874.966	-	874.966
Raising & Strengthening of Embankment (Km)			527.758	527.758	244.114	771.872

FLOOD MANAGEMENT SCHEMES TAKEN UP BY W. R. DEPARTMENT DURING XII PLAN:

The Water Resources Department had taken up the following flood management schemes during XII Plan –

- 41 Nos of Schemes under Flood Management Programme (FMP) costing Rs. 1387.00 Cr.
- 7 Nos of Schemes under NABARD (XVII) costing Rs. 37.55 Cr.
- 17 Nos of Schemes under NABARD (XVIII) costing Rs. 78.53 Cr.
- 24 Nos of Schemes under NABARD (XIX) costing Rs. 107.64 Cr.
- 44 Nos of Schemes under NABARD (XX) costing Rs. 282.50 Cr.
- 2 Nos of Schemes under ACA costing Rs. 12.84 Cr.
- 3 Nos of Schemes under SPA costing Rs. 22.33 Cr.
- 2 Nos of Schemes under NLCPR costing Rs. 12.71 Cr.
- 3 Nos of Schemes under State Plan costing Rs. 16.74 Cr.
- 3 No of Scheme under NEC costing Rs. 9.45 Cr.
- 14 Nos of Schemes under State Specific Schemes costing Rs. 74.56 Cr.
- 18 No of Scheme under CM Package in Barak Valley costing Rs. 65.78 Cr.
- 4 No of Scheme under CM Package in Lakhimpur district costing Rs. 15.59 Cr.

ONGOING PROJECTS:

Various ongoing projects of the Water Resources Department are – 34 schemes under FMP, 4 schemes under CM Special Package and 22 schemes under State Plan and 27 schemes under NABARD.

COMPREHENSIVE PLAN FOR RAISING & STRENGTHENING OF BRAHMAPUTRA RIVER EMBANKMENT:

Considering the vulnerability and the present status, the embankment system of Assam is required to be raised and strengthened in phased manner so that the same can provide flood protection to the state for sustainable socio-economic development. Accordingly, steps in this regard have been taken for fortification of embankments of Brahmaputra River at a probable cost of Rs.4454.09 Cr to be executed during 12th plan period the Detail Project Report (DPR) of which has been placed in Central Water Commission (CWC) for techno-economic appraisal.

SCHEMES PROPOSED UNDER THE AEGIS OF ASIAN DEVELOPMENT BANK (ADB):

The Govt. of Assam has taken up projects to be funded by the Asian Development Bank. Two sub-projects at Dibrugarh and Palasbari area at a cost of Rs. 172.36 Cr and Rs. 80.235 Cr respectively have been implemented. Works for both the schemes are going on.

Another sub-project at Kaziranga National Park costing Rs.141.50 Cr is under the scrutiny at Central Water Commission, New Delhi.

SCHEMES PROPOSED UNDER THE AEGIS OF WORLD BANK (WB):

The Water Resources Department has embarked upon a project under the nomenclature "Assam: Flood, Erosion and River Management Modernization Project" at a tentative cost of Rs. 1500.00 Cr. The objectives of the program would be (i) to fill in the gaps in existing knowledge base of the Brahmaputra-Barak Basin, showcase the global best practices by the Water Resources Department in planning, design and implementation of projects; and (ii) to implement selected priority physical infrastructure investments within the framework of an integrated flood, erosion and sediment management system for the Brahmaputra-Barak Basin in the State of Assam.

National Hydrology Project (NHP):

The Union Cabinet chaired by the Prime Minister Shri Narendra Modi has given its approval to Implementation of the National Hydrology Project. The NHP will help in gathering Hydro-meteorological data which will be stored and analysed on a real time basis and can be seamlessly accessed by any user at the State/District/village level. It will be a central sector scheme with a total outlay of Rs. 3679.77 crore. This includes Rs.3640.00 crore for National Hydrology Project (NHP) and Rs. 39.77 crore for National Water Informatics Centre. National hydrology project for the state of Assam will be implemented by the Water Resources Department, Assam. The total outlay for the State for the entire project period of eight years is Rs. 47.00 crore. In this regard the Project Implementation Programme (PIP) has already been submitted to the Ministry of Water Resource and River Development (MOWR&RD), Government of India.

BRAHMAPUTRA EXPRESS HIGHWAY INCLUDING DREDGING OF RIVER BRAHMAPUTRA

The Hon'ble Chief Minister stressed for an ambitious project of construction of two nos. of express Highway along both banks of River Brahmaputra from Sadia to Dhubri. The proposed all weather Express highways will completely change the Economic Scenario of Assam. Further, the proposed Express Highways on both the banks of River Brahmaputra shall protect valley from recurring flood events of every year. The hon'ble Unions Minister assured full co-operation from Govt. of India for this ambitious project of the region. Accordingly, the water resources department has taken up a preliminary survey for the proposed Express highways in 2 (two) parts i. e. land survey and morphological survey of the river. The land survey will be carried out to determine the alignment of the proposed Express highways. The morphological survey of the river shall consist of taking of 120 nos. of river cross-sections along the entire state from Sadia to Dhubri. After completion of the

preliminary surveys, it will be possible to formulate detailed modalities for the ambitious projects in Digging the Brahmaputra and construction of the Express highways along the both banks of the river.

Rejuvenation of Kollong River:

The Kollong an off shoot channel of the Brahmaputra was a life line of middle Assam for ages contributing to the economic, social and cultural prosperity of the region. The Government is making sincere efforts to rejuvenate the now defunct and dead Kollong for which a signature project is proposed and a provision of Rs.10.00 crores is made in this budget for survey and investigation. Further Government have constituted an expert committee for rejuvenation of Kollong River and the committee has already submitted their report.

DETAIL STATUS OF VARIOUS SCHEMES TAKEN UP BY THE WATER RESOURCE DEPARTMENT:

Scheme under State Plan:

During the year 2014-15 fifteen numbers of schemes were taken up under State Plan with an estimated amount of Rs.82.56 crore. Out of these schemes twelve schemes achieved 100% fulfillment. Works of the remaining schemes were in progress. Remaining three schemes achieved more than 60 % physical achievement.

Additional Central Assistance (ACA) Schemes:

During 2013-14 Govt of India approved two schemes to take anti-erosion measure to protect Dikhow bund and Disang bund at Sivasagar District with an estimated amount of Rs.14.93 crore. Both of these schemes were completed within September 2016. Benefited area from these schemes is 8750 hectare.

Flood Management Programme (FMP):

Since Flood is a major annual problem of Assam like previous years, in the year 2014-15 also different flood management schemes were recommended under XII Plan. Altogether 41 schemes were undertaken covering an area of 307231 hectare. of land of the State. The estimated cost of the projects were Rs.1386.96 crore. Out of these schemes seven schemes were completed and others are in progress.

Schemes under North East Council (NEC):

In order to protect Raimona Village and its adjoining area from river Janali and to protect Ranipur and its adjoining areas from the erosion by River Pekua two anti erosion schemes were taken up in Kokrajhar District with estimated expenditure of Rs.717.39 lakh. Both of the schemes were completed with benefited area of 1500 hectare. Another scheme of anti erosion measures at different reaches on both bank of river Pomra in Baksa District was taken up with estimated cost of 227.94 lakh. All of the three schemes were completed within Sept'16 with benefited area of 2500 hectre.

Scheme under CM's Special package: (For Barak Valley for 2013-14):

As part of CM's special packages, a special package for Barak Valley for 2013-14 was recommended by the Government comprising eight schemes covering an area of 7990

hectare of land in the three Districts of Barak Valley. The estimated costs of these Projects were Rs.4199.96 lakhs. As per the report, six schemes were completed with financial achievement of Rs.2712.65 lakh and the others are in progress.

Additional Work in Barak Valley for the year 2014-15:

Another ten schemes of anti erosion of rivers, restoration of breach of river bank, widening and strengthening of dykes in the District of Barak Valley were taken up with an estimated cost of Rs.2379 lakhs covering the benefited area of 1720 hectare.As per Report all the ten schemes were completed.

Scheme for Lakhimpur District for the year 2014-15:

Three schemes for protection of RCC porcupine at different banks of river Subansiri and one scheme for erosion protection at Charikoria River in Lakhimpur District were implemented during the year 2014-15. The estimated cost of these schemes was Rs.2296.07 lakhs. Out of these schemes one scheme was completed with benefitted area of 2000 hectre. Rest of the schemes are in progress.

NABARD (RIDF-XVIII), 2013-14:

Under RIDF-XVIII, 17 numbers of schemes were proposed with an estimated amount of Rs.78.53 crore during the year 2013-14. Out of these 17 schemes, 16 schemes were completed upto September 2016 with benefited area of 84,765 hectare. Only one scheme left with 95% physical progress.

NABARD (RIDF-XIX), 2014-15:

To take various flood control measures 24 nos. of schemes were taken up under RIDF-XIX during 2014-15 with an estimated amount of Rs.107.64 crore. Out of these schemes 23 schemes were completed upto September 2016. Only one scheme left with 20 % works to be completed as per report.

NABARD (RIDF-XX), 2015-16:

Under RIDF-XX forty four new schemes were proposed with an estimated amount of Rs.282.50 crore. Upto September 2016 nineteen schemes were completed and works on other schemes are in progress.

CHAPTER – VIII

LIVESTOCK, ANIMAL HUSBANDRY AND DAIRY DEVELOPMENT

Animal Husbandry plays an important role in the rapid socio-economic development of the State. Livestock is basically a component of production system and contributes positively to sustainable agricultural development system. Animal Husbandry sector has significant impact on employment generation in the State and plays a vital role in income generation of both the rural and semi-urban economy. The Animal Husbandry and Veterinary Department of the State has been implementing various developmental programmes to create gainful employment/income opportunities in the rural areas with the objectives to boost up the socio-economic condition of the rural economy and act to enhance the volume of livestock and poultry products in the State so as to reduce the gap between demand and supply of these products.

LIVESTOCK POPULATION AS PER 19TH LIVESTOCK CENSUS:

According to the 19th Livestock Census 2012, the cattle population constitutes the largest group with more than one crore but the cattle population is (-) 0.56 percent less compared to 2007 Livestock Census. In respect of Cross breed cattle this decrease is about 43.0 percent. Buffalo, Pig and Elephant also counted 17.22 percent, 23.31 percent and 57.0 percent decrease during the 19th Livestock census, 2012 as against the previous Livestock Census. On the other hand, the population of Horse & Ponies, Sheep and Goat population counted increase during the Livestock Census, 2012 compared to the previous Livestock Census. The total goat population is counted at 61.69 lakh and Sheep 5.18 lakh during the Livestock Census, 2012.

The poultry population in the State, as revealed from the Livestock Census 2012, has registered decrease of 33.5 percent over the previous census 2007. The category-wise decrease of population of these species during Livestock Census, 2012 was fowls 28.0 percent and duck 45.0 percent. Table- 8.1 provides the species-wise livestock population of Assam as per Livestock Censuses 2012. The Livestock products which are also known as availability of livestock items are presented for some years as follows-

TABLE-8.1		
SI No.	Livestock species	2012
1	Total cat	10307604
	Crossbreed cattle	395902
	Indigenous Cattle	9911702
2	Buffaloes	435265
3	Sheep	518067
4	Goat	6169193
5	Horses & Ponies	14153
6	Pigs	1636022
7	Dogs	527521
8	Elephant	445
9	Rabbit	6170
10	Fowls	18718209
11	Ducks	7300402

*Source: Directorate of Animal Husbandry & Veterinary,
Assam*

Table- Trend of live stock products in assam

Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Milk (million litres)	838	845	857	873	888	904
Egg (million nos)	471	471	472	473	474	477
Meat ('000 tonnes)	34.19	36.63	38.34	42.0	45	47

Source: Directorate of Animal Husbandry & Veterinary Department, Assam

SOME IMPORTANT SCHEMS AND ACTIVITIES UNDER VETERINARY DEPARTMENT:

1. BREED UP-GRADATION THROUGH ARTIFICIAL INSEMINATION PROGRAMME:

Despite having sizeable number of cattle, milk production in the State is not upto the satisfactory level as the major percentage of the cattle population in the State are of none-descript type. Implementation of World Bank funded scheme as well as the Scheme under National Project on Cattle-Buffalo Breeding [NPCBB] although assisted increase of milk production to a considerable extent in the State, achievements in case of production of cross breed animal was not very satisfactory. At present, breed up-gradation programme is carried out under AACP, RKVY and NPCBB Schemes.

The State Animal Husbandry & Veterinary Department has proposed to incorporate the following activities to enhance milk production:

- The State of the ART Frozen Semen production centre which is already set up in Barpeta will be strengthened to enhance semen production;
- Out sourcing of A.I. Services to boost artificial insemination activities;
- Improvement of Animal Health Services through holding of training and awareness campaign, organizing Health Camps;
- Induction of High Yielding indigenous breed of cattle like Sahiwal, Red Sindhi, etc in addition to routine A.I. activities;
- The number of frozen semen banks would be increased to improve the network of A.I. activities;
- Stall feeding practices and quality animal rearing would be promoted on cluster basis for better milk production.

2. ASSAM LIVESTOCK DEVELOPMENT AGENCY (ALDA):

ALDA is a "State Implementing Agency" (SIA) formed in 2004-05 sponsored by Govt of India & Govt of Assam to implement National Project on Cattle & Buffalo Breeding (NPCBB) with the following objectives -

- Production of clean & quality Frozen semen
- Expansion of the state cattle breeding network
- Strengthening of the supply chain network of Semen.
- Capacity building of field AI workers.

- Creation of awareness
- Self employment generation.

A.I. Expansion - As per the mandate of National Programme for Cattle & Buffalo Breeding(NPCBB) to maximize the coverage of breedable cattle population of the state, in the **NPCBB Phase – I**, AI facilities were introduced in **300** departmental institutions.

Generation of self employment –(GOPAL MITRA):The A.H. & Veterinary department is striving very hard to maximize the breedable cattle population under organized breeding programme for the economic benefit of the farmers. Introduction of AI facility to all 1275 existing stationery government institutes were provided in phase manner as part of the strategy for achievement of the above mentioned objectives. Presently more than 800 centres are functioning out of the total 1275.

3. COORDINATED CATTLE BREEDING PROJECT (S.E):

The cattle population of Assam are mainly Indigenous and Cross Bred, of which Indigenous cattle are Non-Descriptive and very poor milk yielder. So to increase the milk production, C.C.B.P (S.E) Phase-I was launched under NPCBB with the objective to isolate the superior bulls based on the performance of their young ones and to utilize them to produce the next generation bulls which are phenotypically sound.

4. FODDER DEVELOPMENT:

The Department has planned to popularize fodder cultivation at institutional waste land, strengthen and revamp the Regional Feed Testing Laboratory, located at Khanapara and establish Silage making unit in each Government Livestock Farm for demonstration purpose.

The Animal Husbandry and Veterinary department, Assam has also proposed establishment of 6(six) numbers of feed mill and fodder block making units in PPP mode to provide available source of fodder for cattle to enhance milk production

5. PIGGERY DEVELOPMENT: In common with other livestock species, piggery serves as a way of bringing additional income to rural families (principally the tribal communities) and requires little capital. The Animal Husbandry and Veterinary Department, Assam has been emphasizing scientific pig rearing among the traditional rearers through introduction of exotic Boar, improved housing and management and health care which will require transfer of farmer-centric technologies and anthropo-centric approach to the farmers.

The schemes in operation under pig development are as follows:

- National Livestock Mission (NLM)
- Rashtriya Krishi Vikash Yojana (RKVY)
- National Mission for Protein Supplements (NMPS) under RKVY
- Assam Agricultural Competitiveness Project (AACP)
- Different pig development schemes under state plan allocation etc.

At present, the A. H. & Veterinary Department, Assam has the following 18 numbers of Govt. Pig Farms:

- Base Pig Breeding Farm, Khanapara, Guwahati-22, Kamrup (Nucleus Pig Breeding Centre) (Rani Wing)
- Pig Breeding Farm cum Demonstration Farm, Sonapur, Kamrup
- Nucleus Pig Breeding Centre, Morigaon
- Base Pig Breeding Farm, Bajalbari, Titabor, Jorhat
- Pig Breeding Farm, Khanikar, Dibrugarh
- Pig Breeding Farm, Kokrajhar
- Pig Breeding Farm, Diphu, Karbi Anglong
- Pig Breeding Farm, Dongkamokam, Karbi Anglong
- Pig Breeding Farm, Sontila, Dima Hasao
- Pig Breeding Farm, Umrangsu, Dima Hasao
- Pig Breeding Farm, Sonaigaon, Udalguri
- Base Pig Breeding Farm, Khanapara, Guwahati-22, Kamrup (Khanapara Wing)
- Nucleus Pig Breeding Centre, Kathiatoli, Nagaon
- Pig Breeding Farm, Kopahtoli, Halowating, Sivasagar
- Pig Breeding Farm, Gargaon, Sivasagar
- Pig farm, Khelowa, Sivasagar
- Pig Breeding Farm, Dirpai, Gogamukh, Dhemaji
- Pig Breeding Farm, Kuchdhowa, Goalpara

Among these farms, 11 numbers of Govt. Pig Farms are functioning. The department is taking every possible step to make all the farms functional to its full strength with funds from different schemes like NLM, RKVY, AACP, State Plan etc.

6. POULTRY DEVELOPMENT: The Animal Husbandry & Veterinary Department, Assam is encouraging backyard poultry rearing in the State for enhancing meat and egg production. The Department proposed to implement several schemes under the Assam Livestock & Poultry Development Corporation(ALPCO), strengthen the existing feed mill at Sonapur, rejuvenate the existing Poultry farm at Golaghat and Pork Processing Plant at Nazira, broiler raising programme through entrepreneurship development and distribution of poultry units to beneficiaries.

7. NERDDL & ANIMAL HEALTH CENTRE :

The Department of Animal Husbandry, Dairying and Fisheries, Govt. of India under the scheme "*Animal Disease Management & Regulatory Medicine*" has established North Eastern Regional Disease Diagnostic Laboratory (NERDDL) for the North Eastern Region. NERDDL is one of the five laboratories established in India to serve in regional context.

The NERDDL had provided referral and consultancy services to the state diagnostic laboratories of the region for economically important livestock and poultry diseases, as and when needed.

Preparedness for control and containment of Avian Influenza:

- The BSL –III mobile laboratory in NERDDL is presently used for testing of bird flu samples by RTPCR technology.
- Training of veterinary workforce for handling outbreaks, including control and containment operations for HPAI is continuing.

- Constant and continued surveillance of bird flu is going on with active collection of representative samples. During the year 2016-17 a total of 2389 samples are processed.
- High surveillance priority is given to the villages neighbouring the water bodies where migratory bird are known to frequent and also in the 5 km zone from international borders.
- Awareness programme are also continued with the Forest personnel to report any unusual death of wild migratory birds.

8. INSTITUTE OF VETERINARY BIOLOGICALS (IVB):

Institute of veterinary biologicals (ivb) is a vaccine production centre of Animal Husbandry and Vety. depts. Govt. of Assam. IVB Plays major role in Livestock Health coverage for growth and development of A.H & Veterinary sector. The institution associates with mainly medicinal preparation made from living organisms and their products widely used in the field of immunization and disease diagnosis of animals and birds. These immunizing agents may be classified as vaccine, immunoglobulin, antiserum, antitoxin or antigen, which play a vital role in immune-prophylaxis and diagnosis of diseases.

Aim and Objective:

- To produce quality vaccines against the livestock and poultry diseases commonly prevalent in the North Eastern Region.
- To ensure maximum possible protection to the livestock and birds having crossbred exotic germ plasm.
- To provide sufficient confidence to the breeder of the region to adapt Animal husbandry as an industry for their economic upliftment with appropriate health coverage.
- To provide necessary protection of health of the livestock and birds during natural calamities.
- To provide necessary health coverage to the human population against zoonotic diseases by vaccinating the livestock and birds.
- To keep co-ordination with various research laboratories and organization for recent development in vaccine production technology.
- To introduce new vaccines in the Veterinary field from laboratory.

LIVESTOCK PRODUCTS: REQUIREMENT AND AVAILABILITY OF MILK, EGG AND MEAT

According to the Sample survey results for the year 2014-15 published by the Directorate of Animal Husbandry & Veterinary, Assam reveal that there exists large gap between the requirement and availability of livestock products in the State. It is seen that quantity of milk, egg and meat is available in the State is 36 percent, 8 percent and 13 percent to total requirement of milk, egg and meat respectively during the year 2015-16. Although the Department does not carry survey about requirement of livestock products but prepares a departmental estimate of it on the basis of requirement norms of milk, egg and meat fixed by the ICMR.

INTEGRATED SAMPLE SURVEY:

The *Integrated Sample Survey* has been an essential survey to estimate the quantum of livestock products produced by the state annually and most importantly the extent of contribution being made by the livestock sector to the state domestic products and for the preparation of future plans of the department.

MILK PRODUCTION:

The total milk production of the state for the year 2016-17 was estimated at **904** million liters as against **888.14** million liters of the previous year. It reveals that the growth of milk production has increased marginally by 2% over the previous year. Further during the year Indigenous/ Non descript cattle milk is observed to have constituted 54% of the total milk production of the State while the contribution of Crossbred cattle milk is around 31% and thus the cattle milk together contributes 85% to the total milk. Buffalo and Goat milk contributes 13% and 2% respectively to the total milk production. It means that about 15% of the total milk production is shared by buffalo and goat milk.

The per capita availability of milk for the year 2016-17 is estimated on the basis of total milk production and total population of the state for the period. As such the per capita availability is estimated to have become 74 ml per day. Thus the per capita availability of milk is observed to have remained almost same in comparison to the previous year, which might be due to rise in population (projected) by 1.2% even with the increase in milk production. But the fact is that per capita availability of milk of the State is much lower than the norms determined by the ICMR.

ESTIMATED MILK PRODUCTION IN ASSAM DURING 2016-17

(In million ltrs)

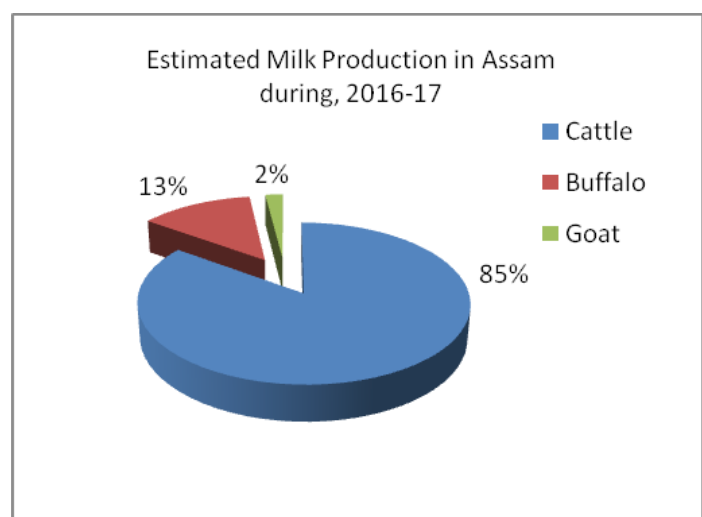
Season	Cattle		Overall	Buffalo	Goat	Grand Total
	Crossbred Cattle	Indigenous Cattle				
Annual 2016-17	276.83	488.03	764.86	120.55	18.80	904
Annual 2015-16	270.11	470.03	740.14	123.05	24.96	
% Change over 2015-16	2.48%	3.83%	3.36%	(-)2.03%	(-) 24.67%	

UTILIZATION PATTERN OF MILK IN THE STATE SINCE 2011-12

(in %)

Year	Consumed as fluid milk by household	Sold as fluid milk	Converted into milk products	Total
2011-12	36.0	42.0	22.0	100.00

2012-13	36.0	42.0	22.0	100.00
2013-14	35.0	43.0	22.0	100.00
2014-15	32.0	46.0	22.0	100.00
2015-16	32.0	46.0	22.0	100.00
2016-17	31.0	47.0	22.0	100.00



EGG PRODUCTION :

The total number of egg production in the state for the year 2016-17 is estimated at 4770.73 lakh numbers in comparison to 4740.48 lakh nos. of egg estimated in the previous year, showing a marginal increase of 0.64 % over the year 2015-16. It is observed that out of the total egg production, desi fowl egg constituted 71% while the contribution of improved fowl is only 4%, thus the fowl eggs together constitute 76% to the total egg production. Desi duck and improved duck contribute 22% and 3% respectively to the total egg production in Assam.

ESTIMATED EGG PRODUCTION IN THE STATE DURING THE YEAR 2016-17

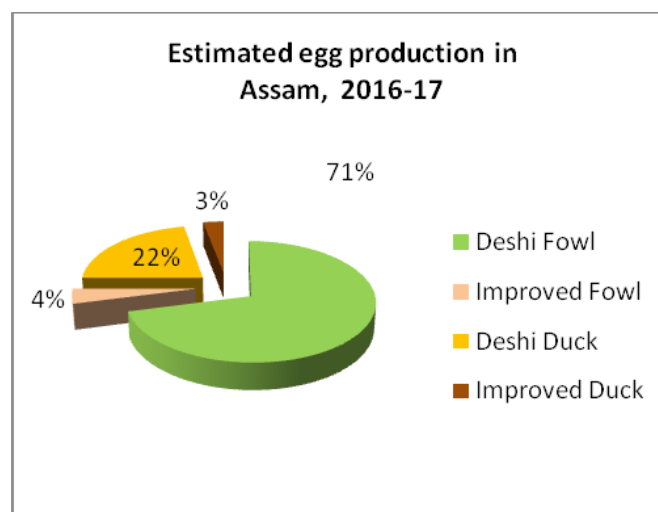
(in lakh nos.)

Season	Fowl		Duck		Total
	Desi	Improved	Desi	Improved	
<i>Annual 2016-17</i>	3411.90	176.77	1035.46	146.60	4770.73
<i>Annual 2011-12</i>					
<i>% Change over 2011-12</i>					
<i>Annual 15-16</i>	3278.88	136.35	1204.36	120.88	4740.48
<i>% Change over 2015-16</i>	4.06%	29.64%	-14.02%	21.28%	0.64%

UTILIZATION PATTERN OF EGG FOR THE YEAR 2016-17

(in %)

Season	For domestic consumption	Kept for hatching	Sold	Damaged	Total
Annual 16-17	17	6.5	76	0.5	100
Annual 15-16	17	6	76	1	100

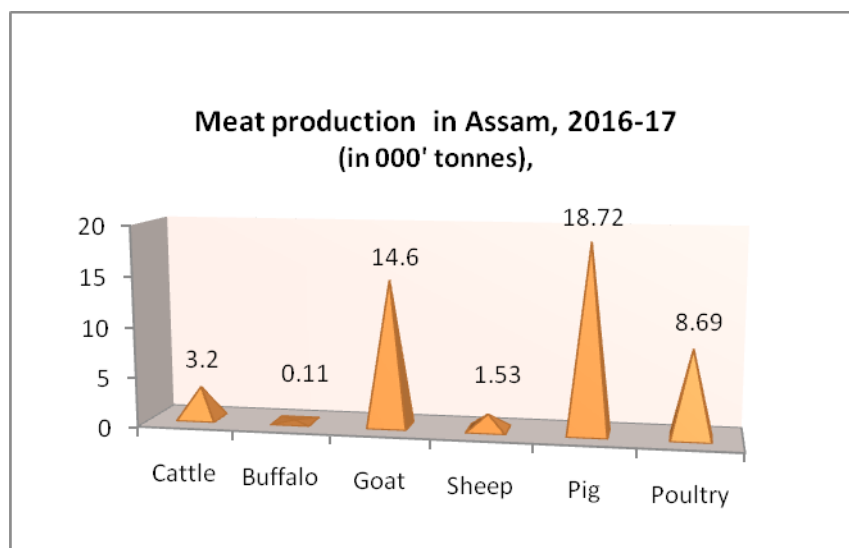
**MEAT:**

The meat production in the state is estimated subject to the no. of animals /birds of different types Rural and Urban, slaughtered per season and per year and average meat yield. The necessary data are collected from registered/ unregistered slaughter houses or butcher houses from the rural and urban areas as well as from village markets. The total meat production during 2016-17 was estimated to be 46.86 thousand tons against 44.81 thousand tons of the previous year of 2015-16 showing about 4.5 percent increase in meat production over the previous year. The number of animals/birds slaughtered, average meat yield and total meat production during the year 2016-17 is shown in the following table:

No of animals / birds slaughtered, Average yield and Meat production during the year 2016-17

Sl. No.	Item	No. of animals Slaughtered during the year 2016-17 (000' no)	Average meat yield per animal / bird (in kg)	Meat production (in 000'tonnes)
1	Cattle	52.22	61	3.20
2	Buffalo	1.58	70	0.11
3	Goat	2061.23	7	14.60

4	Sheep	236.10	6	1.53
5	Pig	571.24	33	18.72
6	Poultry	7221.51	1	8.69
Total Meat				46.86



DAIRY DEVELOPMENT:

The Government of Assam created a separate Directorate of Dairy Development bifurcating it from the Animal Husbandry and Veterinary Department with the basic objective to develop dairy industry in Assam.

The primary focus areas of Dairy Development, Assam are:

- Procurement, processing and distribution of milk aiming at economic upliftment of rural milk producers and help urban consumers to get quality milk at a reasonable price.
- Developing adequate infrastructure to ensure procurement and processing of milk produced in the State.
- Organizing milk producers for efficient procurement, processing and marketing
- Awareness among milk producers, traders and consumers regarding clean milk production and consumption.
- To modernize the supply of inputs like A.I., Feed, Fodder, Animal Health coverage and Training etc. to the Dairy farmers in the milk shed areas linked with Milk Supply Schemes and Milk Plants.
- To help the villagers in marketing their produce by setting up of suitable transport and marketing organization.

PRESENT STATUS:

1. The milk production in Assam has been increased from 838 million litres in 2011-12 to 904 million litres in the year 2016-17.
2. Organised 312 Dairy Cooperative Societies.

3. Organised 300 Milk Producer Institutions.
4. Automatic Milk Collection units in 65 locations in the state are being setup since 2008-09.
5. Comprehensive network of Bulk Milk Coolers has been initiated in the state to facilitate processing of milk from the year 2009-10.
6. Delivery of clean milk to the consumers, concept of Any Time Milk through Milk Vending machine has been started from 2008-09.
7. For efficient maintenance of cold chain from producer level to consumers level following steps have been taken:
 - a) Upgraded 2 numbers of Milk Processing Plants i.e. Nagaon and Bokakhat Milk Processing Plants from 2000 ltrs to 5000 ltrs.
 - b) Revived 10 defunct Chilling Plants.
 - c) Established 59 numbers of bulk coolers in the State.
 - d) Established 53 Milk Collection Centre with Automatic Milk Collection Units.
 - e) Procured 17 numbers of Road Milk Tanker.
 - f) Established a Central Milk Testing Laboratory at Khanapara for checking quality of milk for the consumers.

TABLE – 8.10: TRENDS OF MILK PRODUCTION IN ASSAM AND INDIA

(In'000 Tonne)

Year	2011-12	2012-13	2013-14	2014-15	2015-16
Assam	796 (0.62)	800 (0.60)	815 (0.59)	829 (0.57)	843 (0.54)
All India	127904	132431	13766	146314	155500

***Figure in bracket shows the percentage share of Milk production in Assam to All India.Sources:** Directorate of Animal Husbandry and Veterinary, Assam and Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture, GOI

RASHTRIYA KRISHI VIKASH YOJANA (RKVY) PROGRAMMES TO DAIRY SECTOR IN ASSAM:

A number of new programmes were taken up by RKVY in order to achieve the basic objective of enhancement of milk production in the state.

1. Induction of Milch Cattle to the selected beneficiaries: Inducting 1000 nos. of milch cattle in the first phase producing 7000 litres of milk by the farmers generating an income of Rs. 1,75000 per day and another 1800 nos. Of milch cattle in the second phase producing almost 15000 litres of milk per day thereby generating an income of Rs. 3,45000 per day by the dairy farmers.
2. Construction of Milk Collection Centre (MCC): Additional facility of storage and handling of 17500 litres of milk per day were provided to the dairy farmers by constructing a total of 56 nos. of MCCs amongst the dairy Cooperative Societies.
3. Installation of Automatic Milk Collection Unit (AMCU): Dairy Cooperative Societies were provided Automatic milk testing and recording units to manage accounts of milk supplied by the members of the Societies and with this facility, the Dairy farmers get attracted to pour milk in the dairy Cooperative Society's Milk Collection Centres. 65 such AMCUs were provided to 65 DCS.
4. Distribution of Cream Separator: DCS members in the remote areas could make more attractive milk by-product as well as lowering loss by converting unsold , sour & evening

milk to by-product with availability of 105 nos. of hand cream separator under this project. The big societies handling more than 800 litres of milk per day were provided electric cream separator.

5. Setting up of Bulk Milk Coolers: Shelf life of milk could be increased by providing 15 nos. of Bulk Milk cooler for chilling of milk and specially the evening milk could effectively be utilised for which enhancement in milk procurement is noticed and losses of milk producers are minimised.
6. Milk Van for procurement: 5 nos. of milk procurement and marketing Van were utilised for milk procurement and distribution of milk and can cover long distances for milk procurement from the dairy farmers.
7. Milk Sale Booth: With increase in procurement and processing of milk in the existing milk processing plant, milk marketing has to be given adequate importance. In order to channelize the process, 60 nos. of sale booths were set up in selected locations to sale milk and milk products. Moreover, construction of 3 nos. of Milk Parlours at Nagaon, Tezpur and Jorhat are in the process to create a platform for marketing of milk and milk products in one roof.
8. Training for Cattle management and fodder Development: Exposure and training are required for the farmers to get knowledge in scientific management of their cattle and more than 3000 dairy farmers were trained on Cross breed cattle rearing and management to make dairy farming as livelihood by generating more income.

STRATEGIES DURING TWELFTH FIVE YEAR PLAN:

- ❖ To give thrust on the programmes to enhance the milk production of the state and programme benefitting the rural dairy farmers for economic upliftment through self employment scope.
- ❖ To continue all projects/schemes existing at the end of the eleventh five year plan with rational proposition for further strengthening wherever it feels to be necessary.
- ❖ To create one milk surplus district per year in convergence with Veterinary department.
- ❖ To avail more benefit out of centrally sponsored schemes under NEC, schemes under World Bank and schemes funded by other related agencies.

To achieve the objectives following ongoing schemes/projects under State Plan, Centrally Sponsored Scheme, World Bank Aided Projects and other schemes are proposed to be taken up during the twelfth Five Year Plan:

ENHANCEMENT OF MILK PRODUCTION:

Thrust has been given upon the projects to enhance milk production of the State through integrated dairy activities. The Dairy Development Department proposed to create opportunities for self employment for economic up-liftment of both the rural as well as urban/peri-urban dairy farmers during the twelfth Five Year Plan period. Accordingly the following steps have been taken:

- Integrated Support Services Scheme for creation of milk surplus district.

- Establishment of Commercial Dairy Unit.
- Milk Marketing.
- Support inputs to dairy farmers.

MILK PROCESSING FACILITY:

To achieve the minimum per capita availability of 208 ml per day as recommended by ICMR, the Dairy Development Department has given thrust in increasing milk production as well as to increase milk processing facility to maintain cold chain covering the entire State for economic upliftment of rural dairy farmers. To achieve the goal following steps have been proposed to be taken:

- To re-establish and develop processing infrastructures of Dairy Development to assist milk producers in enhancing milk production and to establish market linkages.
- Renovation/upgradation of existing milk processing plants and setting up of new Central Dairy/Milk processing plants in potential milk shed areas.
- Establishment of Bulk Milk Coolers in milk potential areas.
- Incorporation of INSULTED Milk Tankers for maintaining cold chain with Bulk Milk Coolers, Milk Processing Plants and Central Dairy.
- Establishment of Milk Vending machines in strategic locations ensuring Any Time Milk to the consumers.
- Establishment of milk booths in major milk consuming areas.
- Establishment of Milk Parlor in each district to ensure availability of quality of quality milk and milk product for the urban consumers.

The Dairy Development Department also planned to organize 20000 rural farmers into Dairy Cooperative Societies (DCSs), SHGs and Milk Producer Institutions (MPIs) so that opportunities can be availed by the groups including training on clean milk production and management practices.

EMPLOYMENT GENERATION:

- All the existing or new Schemes/projects under the Dairy Development, Assam will be carried out in synchronization with each other irrespective of source of fund to achieve the common objective— to increase overall milk production in the state, thereby giving livelihood avenues to the poor dairy farmers.
- The proposed acquisition of Bulk Milk Cooler which will be installed under different Dairy Cooperatives to create employment avenues in the State.
- The Department proposed to provide financial assistance to prospective dairy entrepreneurs to establish Commercial Dairy Farm in semi urban/rural areas for which 66.66 percent of the total unit costs will be provided through bank finance and remaining 33.33 percent will be as Government as subsidy. The department proposed to implement the scheme by setting up 5 numbers of such units to generate employment.

SCHEMES FOR WOMEN:

Though women play an important role in livestock management, their control over income from livestock products and its product is negligible. To empower and economic upliftment of the womenfolk involved in dairy farming, the Dairy Development department has taken special initiative since 2013-14 by forming women groups like Dairy Cooperative Societies, Self Help Groups so that they can avail easy credit, inputs and marketing facilities under the Milk Village scheme. The department also initiated training to give updated exposure and skill development on the animal rearing front and other management activities including marketing of their produce. Number of Dairy Cooperative Societies in Assam has increased from 294 in 2014-15 to 332 in 2015-16.

CHAPTER –IX FISHERIES

Fishery sector occupies a very important place in the socio-economic development of Assam. It has been recognised as a powerful sector for its role in economic development, income generation and scope for generation of employment opportunities throughout the State, specially for rural youths through fish production and its related activities, besides providing food and nutritional security to the people of the State. Assam is endowed with vast water resources suitable for pisciculture, and having great potential and prospects for the development of the fishery sector. The State's vast water resources, includes its two major river systems – the mighty Brahmaputra and the Barak with its 53 tributaries, covering a water spread area of 4820 sq.kms. Besides, there is the presence of wetlands, low-lying areas, derelict water bodies, beels, tanks, ponds etc, which all add up, to its vast potential for fish production covering an area of 2.86 lakh hectares of water resources. Assam, is replete with water bodies and is an abode of fish. The state is considered a bio-diversified hotspot, for its diversified aquatic flora and fauna. The state has, so far a record of a total of 217 fish species, out of which 160 fish species i.e. more than 30 percent of the total freshwater fish varieties are found in our region. Fish production in the State has reached a level of 3.07 lakh metric tonnes during 2016-17 against the estimated nutritional demand of 3.42 lakh metric tonnes.

The main fish production strategy, horizontal expansion is being accomplished through creation of new ponds, reclamation and renovation of existing areas followed by fish culture. Thrust is also given on vertical expansion through productivity enhancement with adoption of improved and advanced culture practices and better sustainable management practices.

RELEVANCE OF THE SECTOR IN THE STATE ECONOMY:

Fishery sector is one of the most important sector in the State with a lot of potentiality for further development. The department has been emphasizing for overall growth of the Sector with focus on achieving self sufficiency in fish production as well as creation of rural employment avenues. The sector can largely contribute towards uplift of rural livelihood, nutritional security and economic prosperity. The contribution of the Fishery sector to the State Domestic Product (at constant 2011-12 prices) was Rs.475816 lakhs as per provisional estimates 2015-16(P), Rs.498850 lakhs as per quick estimates 2016-17(Q) and Rs.522478 lakhs as per advanced estimates 2017-18(Adv) with a growth rate of 4.7 percent per annum, during the period.

PRESENT STATUS OF DEVELOPMENT AND MANAGEMENT OF RESOURCES:

Although the State has abundance of water resources and high potential for fish production, it has yet to tap the potential area for inland fish production, scientific fish farming and management is being practised considerably in a small portion. Culture based capture fisheries enhancement programme have been undertaken in some of the beels and low-lying areas which has resulted in increasing the productivity to a considerable extent.

Due to various reasons, there has been a drastic reduction in the indigenous fish population in Assam, and 82 species have already become endangered and might become extinct in the near future. It is high time that we intervene in the conservation

of the germplasm, propagation and restoration of these endangered fish species which will benefit our future generations.

Riverine fisheries are being exploited with little conservation effort and no specific intervention. The revenue fisheries i.e rivers and beels are at present under Assam Fisheries Development Corporation Limited, Fisheries Administrative Departments, Govt. of Assam, Deputy Commissioners and Sub- Divisional Officers(Civil) and Panchayats through leasing out to individual Co-operative Societies. Fish forms an integral part of the cuisine and culture of the people of Assam. It is highly preferred and largely consumed, as fresh fish is an important part of the daily meal. Fisheries sector development is also very important for the state's economic development, as a livelihood issue, for the provision of the required nutrition, the people of the state employment and income to the people of the state and being traditionally interwoven in their everyday life. Since the last two decades, fisheries sector has been able to achieve remarkable growth. It has also been taken up as a commercial activity and has ushered in a silent revolution of progress and prosperity throughout the length and breadth of the state.

The Fisheries department has put in various efforts to enhance and further develop this sector by its interventions, encouragement of taking up scientific fish farming methods and adoption of related technologies, quality fish seed production and establishment of various infrastructure along with marketing facilities.

Major Infrastructure, as available in the Fishery Sector are as follows:

1. Eco Hatcheries & other Infrastructure:

- Departmental : 19 Nos.
- Private : 483 Nos.
- Mini Bandh : 9 Nos. (Departmental)

2. Departmental Farms

- Handed over to FFDA : 68 Nos.
- Retained with the Department : 33 Nos.
- Total farm : 101 Nos.
- Fish Feed Mill (Private) : 8 Nos.
- Fisheries Training Centre : 9 Nos.
- Hygienic Fish Market : 8 Nos.

MANDATE OF THE DEPARTMENT :

The functions of the Department are mainly:

- To increase fish and quality fish seed production in the State with optimum utilization of resources,
- Implementation of fishery related schemes of the Government of Assam and Government of India,
- To identify and promote research and studies on fisheries and fishery related areas so that benefit can be disseminated to the grassroot level users,
- To collect, compile, analyse and make available adequate, relevant statistical and other information for proper planning to promote fish farming and related industries, and activities,
- To prepare, support in preparation, vet project reports and proposals related to Fisheries and fishery related industries, and lastly

- To provide extension services to fish farmers, fisherman and fishery entrepreneurs.

TABLE – 9.1: Fishery Water Resources as per Water Spread Area Available for Fishery in Assam 2016-17

Sl. No.	Resources	Number	Water Spread Area
1	River Fisheries	Main River 2, Tributaries-53	4820 Km.
2.	Beels/Ox-bow lakes	Registered -430 Unregistered -767	60215 Ha 40600 Ha
3.	Forest Fisheries	71	5017 Ha
4.	Derelict water bodies/swamps/low-lying areas	3882	116444 Ha
5.	Reservoir fisheries	2	2553 Ha
6.	Individual Ponds	369304	56566 Ha
7.	Community Tanks	6328	5152 Ha

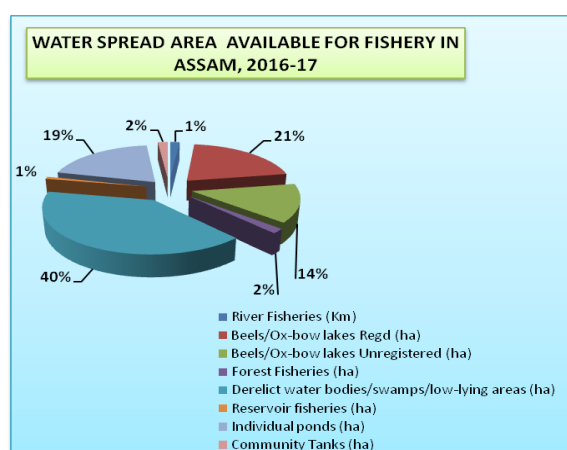
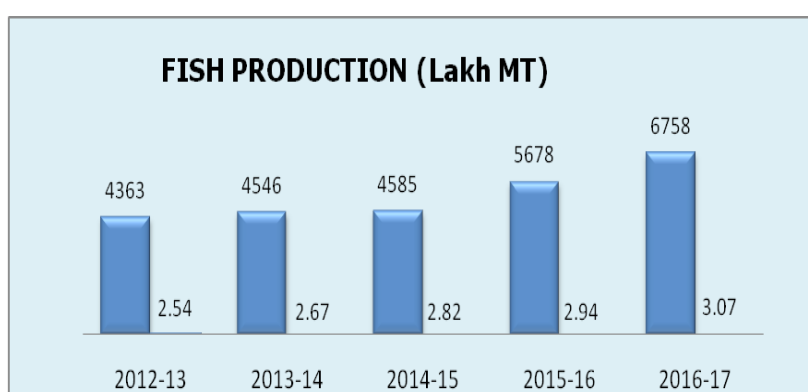


TABLE-9.2

Fish and Fish Seed Production IN ASSAM

Years	Fish Production (Lakh MT)	Fish Seed Production (Million nos.)
2012-13	2.54	4364
2013-14	2.67	4546
2014-15	2.82	4585
2015-16	2.94	5678
2016-17	3.07	6758

Taking into consideration the vast potential and development prospects of the fisheries sector, the Central and State Government have come up with various schemes. It is hoped that these schemes will go a long way to help the cause of the fish farmers and see to their well-being, development and prosperity. A system of horizontal expansion has been adopted, followed and accomplished through creation of new ponds, reclamation and renovation of existing areas followed by fish culture through Community and Self Help Groups (S.H.Gs.). Thrust has also been given on vertical expansion through adoption of methods like productivity enhancement, use of improved and advanced culture techniques and better sustainable management practices. Emphasis is also been given and laid on making fishery available to all and also for the benefit of the people.



FINANCIAL ALLOCATION AND EXPENDITURE DURING THE LAST FIVE YEARS OF 12TH FIVE YEAR PLAN (2013-14 TO 2016-17):

During the last five years of 12th Five year plan period, a total allocation of Rs. 28111.05 lakhs has been made out of which Rs. 17403.176 lakhs have been received and utilised. The brief of the yearwise, component-wise allocation and expenditure statement is shown below in Table 9.3.

Table 903- yearwise, component-wise allocation and expenditure

(Rs. In lakhs)

Sl. No.	Category	Allocation				Expenditure			
		2013-14	2014-15	2015-16	2016-17	2013-14	2014-15	2015-16	2016-17
1.	General Areas (Including State Share of CSS & RIDF)	4740.85	4395.00	4921.39	1860.44	2590.91	3114.22	880.47	741.606
2.	SCSP	580.00	500.00	583.00	200.00	576.00	500.0	-	146.40
3.	TSP	100.00	100.00	110.00	0.00	88.00	100.0	-	0.00
4.	Central Share for CS & CSS	214.00	8.46	77.16	1702.61	47.46	8.46	-	1702.61
5.	EAP (AACP)	1081.11	822.03	-	0.00	1081.11	529.82	-	0.00
Total		6715.96	5825.49	5691.55	3763.05	4383.57	4252.50	880.47	2590.616

BRIEF DESCRIPTION OF THE MAJOR DEVELOPMENT SCHEMES/PROGRAMMES IMPLEMENTED DURING THE LAST FIVE YEARS OF 12TH FIVE YEAR PLAN

A. STATE PLAN SCHEMES:

1. Fish and Fish Seed Farming:

This is one of the major schemes implemented by the Department of Fisheries for enhancing fish and fish seed production along with other related activities and

infrastructure development. Under this scheme, various programmes has been taken up for fish seed production, namely construction of hatcheries, production and raising of seed in departmental as well as in private farms, assistance given to progressive farmers for production of fingerlings etc. Strategies have also been adopted to narrow down the gap between demand and supply of fish by vertical expansion through productivity enhancement from the existing culture areas and horizontal expansion through creation of new areas for fish culture. Programme that has been implemented with this strategy for the last few years are construction of new ponds through groups, SHGs, Community, individuals, scientific fish culture, air-breathing fish culture like magur and kuchia etc. During the 12th five year plan period the following beneficiary oriented programmes has been implemented under the scheme 'Fish and Fish Seed Farming'.

2. Construction of New Ponds - General and SCSP:

Under this Programme selected beneficiaries are assisted for construction of new ponds for undertaking scientific fish culture where management is vested with concerned Community/SHG/Groups.

B. CONSTRUCTION OF NEW PONDS THROUGH WOMEN SHGS-GENERAL:

1. Empowerment of women, being a very important aspect in the present world scenario, specially for the society as they form the supporting pillars of the society. In the last few years, women in the form of Self Help Groups (SHGs), has been reported to play a very important role in agriculture and allied sectors, their ability to contribute significantly in the upliftment of the rural economy. There is also the presence of vast scope for women in the development of the fisheries sector, as well as strengthen themselves, both socially and economically, besides being self-employed. With this, present scenario, Fisheries department, has taken up programmes for provision of support not only to increase fish production, but also to empower women, specially in the rural areas.

2. Reclamation/Development of Derelict Water Bodies:

Assam is gifted with about 1,16, 444 hectares of derelict water bodies, which are either lying in a unutilized or under-utilized state. These areas are very potential for fish production and can be reclaimed with comparatively less capital expenditure. After development these areas can yield over 3 MT hectares/yearly through practise of scientific pisciculture besides providing employment opportunity to the local unemployed youths. With such a strategy, the scheme has being implemented through involvement of concerned communities forming SHGs.

3. Development of Institutional Ponds for Fish Harvest During Lean Period under Tank Reservoir Fisheries:

Various institutions and organisations in the State like mandirs, mazjids, schools, colleges, satras, clubs etc. have ponds and water bodies potential for fish production. With the help of an initial assistance, along with a capacity building programme, a significant quantity of fish can be produced from these ponds. Moreover, during the fishing restriction period from April to July, availability of local fish in the market, comes down considerably and is also at its minimum. This leads to the existence of a large gap in the demand and supply situation of fish, thereby increasing its prices considerably.

Thus, to deal with the issue of temporary scarcity of fishes, during the fishing lean period, it is proposed to adopt the culture programme under this scheme in such a way that harvesting is done during the lean period also.

4. DISTRICT ADMINISTRATION :

Under this scheme, construction of departmental infrastructure like the offices of the District and Sub-Divisional Fishery Development offices, along with provision of training halls are taken up. Already 80 Districts Meen Bhawans including Sub-Divisional Meen Bhawans have been constructed at various districts and sub-divisions.

5. FISHERY EXTENSION SERVICE:

One time assistance to fisherman during fishing lean period.

Due to weather and climatic conditions during the monsoon months makes it difficult for the fisherman to go for fishing. Additionally, for conservation of indigenous fishes in the natural water bodies in Assam, a fishing ban period has been imposed from 1st April to 15th July, as per Assam Fishery Rules 1953 and Assam Fishery Rules (Amendment 2005). Thus the poor fisherman has to pass through a distress situation during the lean season and practically is left with no income or means of livelihood during this period. With a view to partially relieve them from this situation and for sustenance, during the lean period, the Department has implemented the programme to provide one time financial assistance @ Rs. 10,000/- to each fisherman family.

6. CONSTRUCTION OF HYGIENIC FISH MARKETS:

Proper marketing of fish is not only an important aspect for a consumer's safety but as well as to encourage more and more people to take up fisheries as a source of livelihood. Although Assamese people prefer fresh fish, for transportation and marketing shelf life of fish has to be increased by different methods out of which use of ice is the most prevailing one. Whether fish is marketed fresh or iced, hygienic handling and care, clean market environment is very essential, to maintain a healthy standards for the consumers, as fish is perishable by nature. In Assam, fish trade is mainly organized by the private sector with the involvement of importers, whole sellers, retailers, vendors etc. at different levels. Existing wholesale, as well as retail fish markets, both in urban and rural areas, is very poor in infrastructure status and sanitary, hygienic conditions are lacking, which is posing a threat to human health. In the rural areas, fish is sold in rural huts, without shed facilities, along with marketing of other commodities like vegetables. Majority of fish markets also face the problem of very congested areas. The state requires and is in dire need of new hygienic fish markets. Hence, it is proposed to construct, as well as remodel existing fish markets with modern amenities for maintaining the minimum of hygienic conditions possible. Construction of 8 nos. of Hygienic Fish Markets has been completed within the 12th five year plan period at Sulung (Nagaon), Cachar (Silchar), Adabari (Nalbari), Nalbari (Municipal area), Jorhat, Lakhimpur, Karimganj and Darrang (Mangaldoi).

7. CENTRAL SECTOR SCHEME:

STRENGTHENING OF DATABASE AND INFORMATION NETWORKING:

The objective of this Central Sector Scheme is to improve the database of the inland fisheries resources and catch of fish by adoption of standardized methodology of data collection through sample survey; to improve Information technology system so that data collection and their analysis can be done efficiently and effectively and to conduct census of Inland Fisheries.

This scheme has been introduced in the state during 6th Five year plan to cater to the need of regular collection and compilation of statistics on fisheries activities for taking up planning and project preparation subsequently. It has been widely recognised that policy framework and programme for development depend on basic information of the resource. The department is carrying out the work of Fish Catch Estimation as per CIFRI's (Central Inland Fisheries Research Institute, ICAR, Barrackpore, West Bengal) methodology for creation of Fishery database of water spread area, fish production etc.

8. CENTRALLY SPONSORED SCHEMES:

A. FRESH WATER AQUACULTURE UNDER FISH FARMERS' DEVELOPMENT AGENCIES:

It is a Centrally sponsored subsidy oriented schemes, under which there is provision of new pond construction and development of existing ponds for fish culture activities. The scheme aims at development of individual ponds through involvement of fish farmers by providing them with financial assistance in the form of subsidies and bank loans. The funding pattern of the scheme is 75:25 as Central and State share respectively.

B. NATIONAL WELFARE FUND FOR FISHERMAN:

The main objective of the scheme are to provide of basis amenities like housing, drinking water, community halls etc. for fishers, to facilitate better living standards for fishers and their families, for upliftment, social and economic securities for active fishers and their dependents and to update knowledge. The following components are being implemented in the State, with fund sharing pattern of 75:25, between the Government of India and the State Government.

I. HOUSING:

Under this scheme, low cost house with plinth area of 35 sq. m. are provided to poor traditional Scheduled Caste fishermen in selected villages, along with construction of community halls and tube wells.

II. FISHERMAN INSURANCE:

Under this component, fisher folk licensed, identified or registered with the State Government could be insured up to Rs. 2.00 lakhs against death or permanent disability, Rs. 1.00 lakh for partial disability. The insurance cover will be for a period of 12 months, and the policy would be taken up by FISHCOPFED, in respect of all States. Recently during 2016-17, the pattern of funding of the Scheme between the Centre and State has been changed to 80:20.

9. RURAL INFRASTRUCTURE DEVELOPMENT FUND (RIDF) :

Department of Fisheries, Assam has been implementing different fishery related infrastructure development programmes under NABARD instituted Rural Infrastructure Development Fund (RIDF), contributing towards agriculture growth, rural connectivity and other social sector development. Under this programme, 17 beel fisheries has already been developed till date through Assam Fisheries Development Corporation Ltd. Further,

upgradation of J. B. Garh Departmental Fish Farm at Raha and development of low-lying area of Chilabandha beel and Joysagar doloni in Nagaon district were completed during 2015-16.

BRIEF DESCRIPTION OF THE SCHEMES/PROGRAMMES IMPLEMENTED DURING LAST FIVE YEARS OF THE 12TH FIVE YEAR PLAN UNDER EAP, RKVY AND NFDB (UPTO 2015-16):

A. EXTERNALLY AIDED PROJECT (EAP) ASSAM AGRICULTURAL COMPETITIVENESS PROJECT (AACP) AND AACP- ADDITIONAL FINANCING):

With an objective to improve Assam's fish industry in an integrated and systematic manner to increase competitiveness among poor and marginal communities , farmers dependent on fish for primary or secondary income and as an effort to alleviate poverty with thrust on production, various development components under AACP has been implemented in the State since 2004-05. From 2012 AACF-AF is being implemented with activities aimed at expanding the area coverage through taking up the programmes in those areas which was not covered under the ongoing project to make impact on sustainable livelihood.

In order to ensure inclusive development, the following beneficiary oriented major components, were targetted and implemented, under this project:

1. Development of Farmer's Ponds
2. Development of Community Tanks
3. Integrated Fish Farming
 - a. Pig cum Fish culture
 - b. Paddy cum Fish culture
4. Development of Beel Fisheries

B. RASTRIYA KRISHI VIKASH YOJANA (RKVY):

A flagship programme of Government of India, introduced in the State by the Fishery Department during the year 2008-09, was also implemented during the last three years of the 12th five year plan period. It is supported by 50% subsidy to the fish farmers against the schematic cost. The list of beneficiaries under RKVY is recommended by Zila Parishads. The major schemes implemented under RKVY are development of existing ponds, low-lying areas converted to community tanks, construction of new ponds, creation of nursery and rearing tanks. One of the remarkable programmes with considerable success under RKVY, is Fresh Water Prawn seed production in artificial sea water in the Freshwater Prawn Hatchery established at Meen Bhawan Complex, Guwahati.

C. AQUACULTURE DEVELOPMENT UNDER NATIONAL FISHERIES DEVELOPMENT BOARD (NFDB):

Schemes are implemented in the State with financial support from National Fisheries Development Board (NFDB) namely construction of new ponds, Eco-hatcheries, Fish feed mills, renovation of existing ponds, development of departmental fish farms, Training & Demonstration and Awareness Programmes. Significant infrastructure established with NFDB's support are three nos. of Hygienic Wholesale Fish Markets at Nagaon, Cachar and Nalbari. More such markets are in the pipeline for construction in the near future.

SCHEMES/PROGRAMMES PROPOSED FOR THE YEAR 2017-18:

Besides continuing with the schemes of earlier years of the 12th five year plan, namely Aquaculture Development, FFDA, Fishery Extension Service, Schemes under RIDF etc. under State plan, National Welfare Fund for Fisherman, Strengthening Database and GIS under Centrally Sponsored Scheme and Central Sector Schemes respectively, a new respective, a scheme in the name of "Matsya Jagaran" under "Fish and Fish seed farming" – (General area) and "Blue Revolution"- "Integrated Development and Management of Fishes" under centrally sponsored scheme have been introduced in the last year of the 12th Five Year plan period. Under "Matsya Jagaran" there is provision of engagement of fishery extension worker as "Matsya Mitra" in the Village level. Overall more than 228 ha of new ponds have been created in this "Matsya Jagaran" for General area and Blue Revolution.

During the year 2017-18, major schemes/programmes proposed under State Own Priority Development (SOPD) are:

1. Proposal for construction of 63 ha of new Individual Ponds covering 453 nos. of ponds under the scheme "Fish and Fish Seed Farming" in the name of "Matsya Jagaran"
2. Honorarium to 75 nos. of Matsya Mitras as support extension worker and Capacity Building of Women Entrepreneurs for production of Value Added Fish Products under the scheme "Fishery Extension Service".
3. Under RIDF, Fishery projects for construction of New Individual Ponds of 0.14 ha covering 10,000 nos. of ponds.

Under Centrally Sponsored Scheme-Blue Revolution and Integrated Development and Management of Fishes , component like construction of 15 nos. of hatcheries, Fish Feed Mills(1No.), Wetland Development for infrastructure of fingerling production of 40 ha etc., are covered.

COMPARATIVE ANALYSIS ON TARGET AND ACHIEVEMENTS (BOTH FINANCIAL AND PHYSICAL) ON DEVELOPMENTAL ACTIVITIES UNDERTAKEN BY THE FISHERY DEPARTMENT DURING 11TH FIVE YEAR PLAN AND ANNUAL PLANS OF THE 12TH FIVE YEAR PLAN:

During the 11th Five Year Plan period an amount of Rs. 19431.50 lakhs was allocated against which an amount of Rs. 12342.67 lakhs was received and utilized for adoption of resource based technology to produce fish to the extent possible to meet the

existing demand and to create employment. Utilization of fund against the allocation of eleventh five year plan is 63.52%. However the utilization is 100% against release of fund during the period. Due to plan intervention, major achievements during the eleventh plan period are as follows:

- Development of 4800 ha of water area for scientific fish farming.
- Productivity level of Ponds and Tank has increased from 1000 kgs to 3000 kgs per ha.
- Productivity has increased from 150 kgs to 2500 kgs per ha in derelict water bodies after reclamation.
- Under women specific schemes 6530 women have received training for rearing of quality fish seed and have thus been immensely benefitted.
- Generation of employment through Self Help Groups (SHGs). Already 701 nos. of SHGs has got the benefits through reclamation of derelict water bodies.

Moreover, a long felt need has been fulfilled during the 11th plan period by the construction of District Meen Bhawans, along with farmers training centres and Sub-Divisional Meen Bhawans at various Districts and Sub-Divisional Headquarters. These buildings are the permanent assets for the Department as a whole.

The Department has also implemented a number of schemes under Rastriya Krishi Vikash Yojana (RKVY) during the years 2008-09, 2009-10 & 2010-11. An amount of Rs. 44.00 crores was received for development of existing ponds, low-lying areas and creation of nursery and rearing ponds.

In the 12th year plan period, during 2012-13 to 2016-17, overall 5858.19 ha of water area have been developed under State Plan and AACP which cover new Pond Construction, Reclamation of Derelict Water Bodies and Renovation of Existing Ponds. During the period, 750 SHGs including 129 nos. of women SHGs have been supported from the Department, 79 Co-operative Societies have been provided financial assistance, 377 nos. of Institutional Ponds have been developed and 820 Awareness Camps organised all over the state for creating awareness regarding implementation of fish seed act and fish seed rule.

Besides, 19357 nos. of individual beneficiaries have been covered during the five years period from 2012-13 to 2016-17. Under Rastriya Krishi Vikas Yojana (RKVY) during the period 2012-13 to 2016-17, overall 1559.20 ha of water area have been developed involving construction of new ponds, fresh water prawn farming, creation of rearing tanks, low-lying areas converted to community tanks etc, including development of 160 ha of Beel fisheries. For capacity building purpose 5,800 nos. of Fish Farmers were imparted training on Scientific Fish Farming practices. Moreover, 350 nos. of awareness camps were organised for making awareness about different aspects of piscicultural practices and 398 nos. of Community/SHGs have been supported financially.

Under National Fisheries Development Board (NFDB) 2644.10 Ha of water area have been developed including creation of 530.40 ha of new ponds and development of 613.70 ha of existing tanks with the purpose to enhance fish production in the State.

Over the period from 11th five year plan to the last year of 12th five year plan, significant changes has been brought about in the fisheries sector in terms of growth and production. During this period, the sector has been growing at an average annual growth rate of 6% in terms of fish production (1.90 lakhs ton during 2007-08 and 3.07 lakh

during 2016-17). Besides, fish production, major achievements of the department, especially during the last part of the 11th plan period till the current year are development of related infrastructure such as Development of beel fisheries, Hygienic fish markets, Fish seed hatcheries and Fish feed mills. Capacity building programme was also conducted for fish farmers through training, exposure visits and mass awareness camps on implementation of the provisions of the fish seed act and fish seed rules.

GENE BANK FOR INDIGENOUS FISH (GBIF):

For the conservation and protection of indigenous fish and with the objective of fulfilment of the same a scientifically developing a directory of indigenous fish species along with a data base of gene-bank of entire Assam has to be prepared. With the aim of conserving the Fish Biodiversity of the State, a propagation technology will be developed and standardised for certain fish species to suit the local environment. This will be beneficial for the local fisherfolk also. Accordingly, in the greater interest of the State, it is proposed to initiate a Scientific Conservation Programme for Indigenous Fish (SCoPIF) by involving the Fishery College of Assam and the Fisheries Department, covering both experimental and natural habitat at an estimated cost of 9.36 crores. Accordingly, an allocation of Rs.2.00 crores will be made in the current budget to kick start the project.

In order to facilitate easy access to quality fish seed for fish farmers, the Fishery Department will implement a "Fish Seed Bank" Project. For this purpose, new ponds of 22 hectares in size will be created. A model farm of integrated pig-fish farming will be taken up in Majuli on 10 hectare area.

Under Rural Infrastructure Development Fund (RIDF), it is proposed to construct 1000 hectares of new Fish Ponds, 430 hectares of Village Community tanks and four fish markets.

It is understood that sustained extension service is critical for promoting fish production and as such a mass campaign is required to increase the fishery production. The Government proposes to launch a special programme called "Matsya Jagaran- Ghore Ghore Pukhuri, Ghore Ghore Maach" in a campaign mode.

A total of Rs. 155.58 crores to fishery department has been allotted in the present budget for 2017-18, for taking up various development programmes.

APENDIX-9.1

DISTRICTWISE NUMBER AND AREA UNDER FISHERIES IN ASSAM, 2016-17

(Area in hect.)

Sl.No.	Districts	Reservoir Fisheries		Forest Fisheries		Beel Fisheries		Ponds and Tanks		Derelict Water Bodies Swamps	
		Nos.	Area	Nos.	Area	Nos.	Area	Nos.	Area	Nos.	Area
1	2	3	4	5	6	7	8	9		11	12
1.	Kokrajhar	-	-	2	35	14	955	7786	1073	163	1029
2.	Dhubri	-	-	-	-	156	7000	21983	2883	283	8280
3.	Goalpara	-	-	-	-	57	6820	9154	1635	70	677
4.	Barpeta	-	-	11	131	23	6298	24452	3928	160	6119
5.	Morigaon	-	-	9	955	84	8300	11054	1739	163	1583
6.	Nagaon	-	-	8	410	134	9919	41390	6369	143	23578
7.	Sonitpur	-	-	6	270	60	7032	14850	1780	132	461
8.	Lakhimpur	1	840	-	-	20	6499	10861	1799	68	4273
9.	Dhemaji	-	-	8	900	16	4575	4127	476	160	731
10.	Tinsukia	-	-	5	240	36	2957	8224	1569	126	394
11.	Dibrugarh	-	-	3	46	38	5289	6731	828	115	310
12.	Sivasagar	-	-	3	92	66	3878	9396	1223	216	7129
13.	Jorhat	-	-	-	-	124	6298	6693	1067	245	7592
14.	Golaghat	-	-	12	1720	15	2600	7588	1019	102	557
15.	Karbi-Anglong	-	-	-	-	19	60	8178	1464	106	332
16.	Dima-Hasao	1	1713	-	-	1	3	813	148	13	5
17.	Cachar	-	-	-	-	75	3359	37076	6460	437	10049
18.	Karimganj	-	-	-	-	37	3459	21920	3905	52	31240
19.	Hailakandi	-	-	-	-	35	1241	34714	6695	225	2343
20.	Bongaigaon	-	-	2	51	47	4347	7053	1037	70	1606
21.	Chirang	-	-	-	-	16	145	3201	388	16	60
22.	Kamrup	-	-	2	167	59	1418	22102	3104	116	322
23.	Kamrup (M)										
24.	Nalbari	-	-	-	-	19	2248	22824	2734	515	3645
25.	Baksa	-	-	-	-	18	151	9129	1835	93	326
26.	Darrang	-	-	-	-	27	5959	23827	6370	78	3713
27.	Udalguri	-	-	-	-	1	5	506	189	20	90
	ASSAM	2	2553	71	5017	1197	100815	375632	61717	3887	116444

Source: Directorate of Fisheries

Appendix-9.2

DISTRICT-WISE NUMBER OF HATCHERIES, FISH SEED AND PRODUCTION IN ASSAM, 2016-17

Sl. No.	District	No. of Hatcheries		Production of Fish Seed (in Million Nos.)		Production of Fish (in tonne)
		Govt.	Pvt.	Govt.	Pvt.	
	1	2	3	4	5	6
1.	Kokrajhar	1	6	0.00	60.88	
2.	Dhubri	1	12	0.00	6.50	
3.	Goalpara	0	10	0.00	115.14	
4.	Barpeta	0	79	0.00	2012.00	
5.	Morigaon	1	41	0.00	303.00	
6.	Nagaon	0	177	0.00	1575.56	
7.	Sonitpur	1	15	1.04	50.54	
8.	Lakhimpur	2	11	8.70	81.14	
9.	Dhemaji	0	0	0.00	16.56	
10.	Tinsukia	0	0	0.00	50.00	
11.	Dibrugarh	1	4	0.01	25.00	
12.	Sivasagar	2	5	0.65	6.06	
13.	Jorhat	1	9	0.30	1.95	
14.	Golaghat	0	14	0.00	32.00	
15.	Karbi-Anglong	0	0	0.00	0.00	
16.	Dima-Hasao	0	0	0.80	0.85	
17.	Cachar	1	5	0.00	120.00	
18.	Karimganj	0	31	0.00	1681.89	
19.	Hailakandi	0	4	0.00	203.00	
20.	Bongaigaon	1	3	0.00	18.26	
21.	Chirang	0	0	0.00	105.00	
22.	Kamrup	3	23	0.45	115.00	
23.	Kamrup (M)	0	0	0	0	
24.	Nalbari	0	6	0.00	17.39	
25.	Baksa	1	13	0.00	64.50	
26.	Darrang	2	13	0.40	77.80	
27.	Udalguri	1	2	0.00	5.50	
	ASSAM	19	483	12.35	6745.52	

Source: Directorate of Fisheries

APPENDIX- 9.3

DISTRICT-WISE FISH PRODUCTION, FISH IMPORTED AND REGISTERED FISH MARKET IN ASSAM 2016-

17

Sl. No.	District	Production of Fish	Fish imported from other State	Nos. Of Registered Fish Market	
		(in tonne)	(in tonne)	Raw Fish	Dry Fish
1	2	3	4	5	6
1.	Kokrajhar	5138	162	7	-
2.	Dhubri	18596	136	8	-
3.	Goalpara	8303	226	4	-
4.	Barpeta	20938	66	8	-
5.	Morigaon	18834	2418	2	1
6.	Nagaon	33510	2010	11	-
7.	Sonitpur	10661	1416	5	-
8.	Lakhimpur	12747	1792	3	-
9.	Dhemaji	3961	38	3	-
10.	Tinsukia	9032	783	4	-
11.	Dibrugarh	11030	55	3	-
12.	Sivasagar	16426	782	3	-
13.	Jorhat	12858	1872	2	-
14.	Golaghat	8096	675	4	-
15.	Karbi-Anglong	670	4	3	-
16.	Dima-Hasao	245	70	2	-
17.	Cachar	30460	1280	2	-
18.	Karimganj	14040	244	4	-
19.	Hailakandi	10963	224	2	-
20.	Bongaigaon	7656	138	4	-
21.	Chirang	1442	702	1	-
22.	Kamrup	19346	6880	16	1
23.	Kamrup (M)				
24.	Nalbari	12908	38	5	-
25.	Baksa	6438	145	6	-
26.	Darrang	10549	203	7	-
27.	Udalguri	1756	259	2	-
	ASSAM	306603	22618	121	2

Source: Directorate of Fisheries

CHAPTER –X FORESTRY

Forestry is a very vital sector of the state. The State Forest Department has been entrusted with the task of maintenance of Forest, its produce and the Wild Life, in the State. In the recent past, the issue of environment protection, conservation of natural resources has not only been given wide attention but has also gained importance, both in the State and National levels. As a result, of the same, various N.G.Os, along with the Forest Department has come forward to see to the protection and maintenance of the Forestry Sector of the State, with greater vigour along with added responsibilities thereby, to do full justice to this very vital sector of the State.

In the past, Assam was symbolised as a home of environment and forests. This epithet may not be true today, as our forests need protection. We also need to work on our environment. To regain our past lost glory on this count, our government has today an important agenda, on the same. The State of Assam is enriched with an intensive forest area and huge wealth of valuable forest products, enriched with different species, with the presence of a wide variety of flora and fauna. Since times immemorial, people of Assam have also been dependent upon its forest, to meet to their daily needs and requirements. As per the National Forest Policy, the minimum desired area considered safe for a tropical country like India is about 33 percent. As per broad policy recommendations, forest area in the Himalayas & the Peninsula hills should be about 60 percent, and about 20 percent in the Great Plains.

RECORDED FOREST AREA:

Assam, has a recorded forest area of about 26,832 sq kms, accounting for 34.21 percent of the total geographical area of the State, with a share of 3.51 percent of the total forest area of the country, as a whole, as per India State Forest Report 2015. Out of the total recorded forest area, reserved forest area constitutes 17,864 sq kms. i.e., 66.58 percent of the total area, and un-classed forest constitutes 8,968 sq kms i. e, 33.42 percent of the total area.

FOREST COVER:

There is an increase of 3,775 sq kms in India's forest cover, as per India State of Forest Report, 2015. As per the report, the total forest cover in the country as per assessment in 2015 is 7,01,673 sq kms as against 6,97,898 sq kms as per assessment made in the year 2013. In India, there an increase of 2,402 sq kms of Very Dense Forest (VDF), 4,744 sq kms of Open Forest (OF) and a decrease of 3,371 sq kms of Moderately Dense Forest (MDF). The forest cover in the state of Assam was 27,671 sq kms as per assessment made in the year 2013. There is a decrease of 48 sq kms, in the total forest cover in the state, as per India State Forest Report 2015 to 27,623 sq kms, which is 35.22 percent of the total

geographical area of the State. There is a decrease of 3 sq kms of Very Dense Forest (VDF), 77 sq kms of Moderately Dense Forest (MDF) and an increase of just 32 sq kms of Open Forest (OF) areas. This decrease in forest cover in Assam, is mainly due to encroachment in forest land, biotic pressure, rotational felling in tea gardens and shifting cultivation. Positive changes in a few districts are mainly due to plantations within and outside forests areas.

FOREST CANOPY:

In terms of forest canopy density classes as per India State Of Forest Report 2015, Assam has 1,441 sq kms of Very Dense Forest (VDF), 11,268 sq kms of Moderately dense forest (MDF) and 14,914 sq kms of Open Forest(OF) areas. Table 10.1 below shows the trends of Forest Cover and its details, as per assessments made in the years 2011, 2013 and 2015.

TABLE -10.1: TRENDS IN THE FOREST COVER IN ASSAM

(Area in sq.kms)

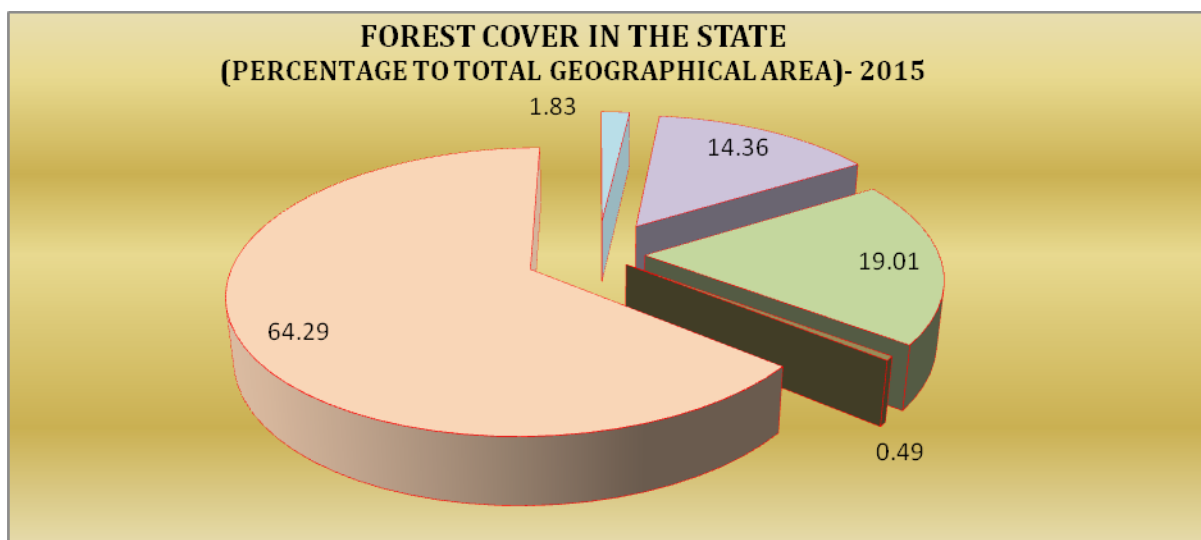
Item	Very Dense Forest	Moderately Dense Forest	Open Forest	Shrub	Non Forest	Geographical Area
As per Assessment in 2011	1,444 (1.84)	11,404 (14.54)	14825 (18.90)	182 (0.23)	50583 (64.49)	78,438 (100.00)
As per Assessment in 2013	1,444 (1.84)	11,345 (14.46)	14,882 (18.97)	182 (0.23)	50585 (64.50)	78,438 (100.00)
As per Assessment in 2015	1,441 (1.84)	11,268 (14.37)	14,914 (19.01)	384 (0.49)	50,431 (64.29)	78,438 (100.00)
Net Change in 2015 over 2013 (-)/(+)	(-)3	(-)77	(+)32	(+)202	(-)154	

Note: Figures in brackets indicate percentages to the total geographical area.

Source : India State of Forest Reports, 2011, 2013 and 2015

The Table-10.1 reveals that there is a depletion of 3 sq. kms of Very Dense Forest and 77 sq. Kms of Moderately Dense forest and an addition of 32 sq. kms of Open Forest areas in Assam, as per assessment made in the years 2013 and 2015. Besides, forest cover of a total of 27,623 sq. kms, there is a Tree Cover of 1,613 sq kms in the State, as per report 2015. Thus, the total of forest cover and tree cover in the State is 29,236 sq km and is calculated as 37.27 percent of the State's geographical area and 3.68 percent of forest and tree cover of the country, as a whole. The per- capita forest cover and tree cover in the state is calculated as 0.094 hectares.

Table-10.1 also reveals, that there is a decrease of 3 sq kms of very dense forest and 77 sq km of Moderately dense forest and an increase of 32 sq kms of open forest areas in the state. The National Forest Policies 1952 and 1988 aims at having one third of the country's land area under Forest and Tree cover.



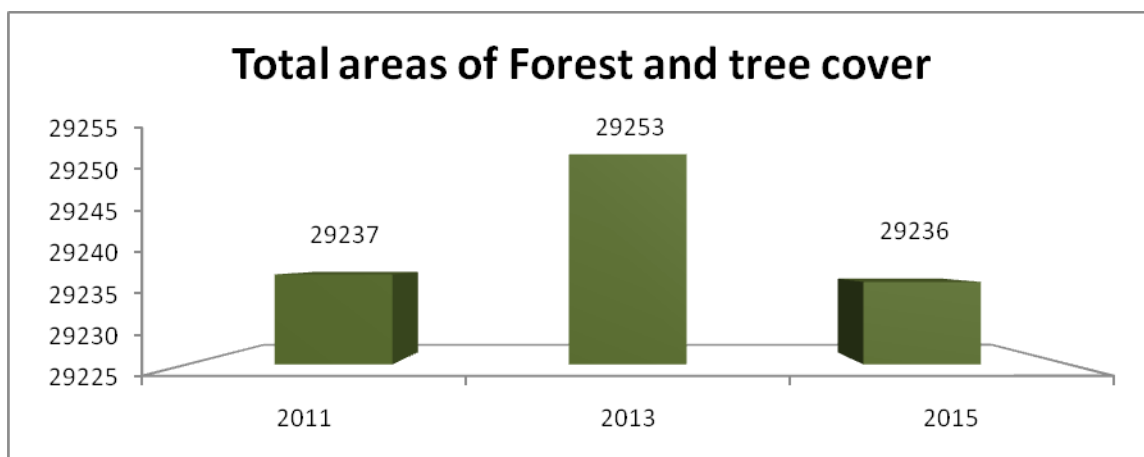
TREE COVER:

The Forest Survey Assessment Report, published by the Ministry of Forest and Environment, Govt. of India, estimates, the tree cover in Assam as 1,613 sq kms as per assessment 2015, which is 2.06 percent of the total geographical area of the state. In the assessment made in 2013, the estimated tree cover in Assam was 1,582 sq kms i.e., 2.0 percent of the total geographical area of the state. In the assessment made in 2011, the estimated tree cover in Assam was 1,564 sq. kms or 1.99 percent of the total geographical area of the State.

TABLE-10.2: Forest and Tree Cover in the State

Forest and Tree cover	Units	2011	2013	2015
Area of Forest Cover	Sq. kms	27,673	27,671	27,623
Area of Tree cover	Sq. kms	1,564	1,582	1,613
Total areas of Forest and Tree cover	Sq. kms	29,237	29,253	29,236
Forest and Tree cover to the Total Geographical area of the state	Percentages	37.27	37.29	37.27

Source: India State of Forest Reports, 2011, 2013 and 2015



URBAN TREE COVER:

Trees grown outside the forest area, in Urban areas significantly also contributes in clearing the Urban environment, supplying and meeting the timber and fuel wood needs and requirements of poor people, living in urban areas of the Country. According to the State Forest Report 2015, in the recorded forest area in Assam of 26,832 sq. kms the volume of growing stock (in million cubic meters). In forest is 143.672. In Trees Outside Forests is 33.018 with a total of 176.690 million cubic meters, in the State.

BAMBOO RESOURCES IN THE FOREST:

The North East Region, of India has the highest concentration of bamboo, accounting for 60 percent of the total Bamboo resources, of the country, as a whole. Assam, as a State, has an extensive growth of bamboo, providing ample scope for the provision of raw materials, it supports the flourishing and growth of bamboo based industries in the State. In 2016-17, the out turn, average price and value of bamboo as a forest product is 230557 nos., Rs.4.22 and Rs.971476 respectively.

STATE FOREST PROFILE:

As per, Forest profile of the State, the Reserved Forest area and proposed Reserve Forest area is 13,973 sq kms and 1,757 sq kms respectively in 2016-17, as reported by the State Forest Department. The total Forest area excluding unclassified State Forest is 19,352 sq kms and the area under Protected Area Network is 3,621 sq kms in 2016-17, as reported. The reserved forest area constitutes around 18 percent and the total forest area excluding unclassified forest constitutes around 25 percent of the total geographical area of the state. However, the scenario within the notified area in the state, depicts a gloomy picture in terms of degradation as noticed during the last 20 years, due to presence of various biotic factors, encroachment of forest lands and shifting cultivation practices. As a result, considerable rich bio-diversity has been lost, and this condition needs to be dealt with, stopped and re-build once again, to arrest further degradation to the environment.

The State Forest Department has identified the thrust areas for action taking and they are as follows:

- (1) Preservation of the existing biodiversities
- (2) Arresting the trend of existing degradation, reverting the process of re-afforestation, and extension of forestry with multiple stake holders.
- (3) Preservation and development of the existing Protected Area Network (PAN) and their expansion in suitable areas.
- (4) Improvement of development activities and research in Forestry and Wildlife
- (5) Bridging the gaps in infrastructural and Logistical fronts.

FOREST ROADS:

For the purpose of patrolling inside the Forest Areas, to harvest the forest produces, for both improvement, development and creation of infrastructure the existence of proper roads are very essential from the point of view of Forest Management context. Accordingly, the State Forest Department has given special emphasis on this matter and proposed to improve 150 kms of Forest Roads with 50 nos of culverts during the 12th Five Year Plan period. Statistics of forest roads in Assam can be known from the table 10.4 below:

TABLE: 10.3

FOREST ROADS IN ASSAM(CUMULATIVE):

Category of Roads	Surfaced	Unfaced	Motorable	Non- Motorable
2012	635.84	8631.03	5060.26	3570.77
2013	640.635	10672.647	6235.357	4437.29
2014	723.435	12729.627	7628.177	5101.45
2015	-	-	-	-
2016	1077.953	16229.357	7972.050	6938.570
2017	1122.403	18187.632	9310.375	7558.52

Source: Office of the Principal Chief Conservator of Forest Force, Assam.

OUT TURN OF FOREST PRODUCE AND REVENUE:

The various forest products of the State, mainly comprises of Major Forest produce includes Industrial wood or Timber namely Teak, Shisan, Sal, Deodar, Chir, Kait and in other products, Pulp, Match Wood, Round Wood and Fuel Wood. Minor Forest products include Bamboo, Sand, Gravel, Stone, Silt, Clay, Thatch, Others etc. The production of various forest produce and out-turn in the State is shown in Table 10.5.

TABLE: 10.4: PRODUCTION AND OUT-TURN OF FOREST PRODUCTS IN ASSAM DURING 2016-17

Forest Produces	Units	2010	2014-15	2015-16	2016-17
Industrial Wood/Timber	Cubic metres	34142	78629	14074.53	24546.48
Fuel Wood	Stack Cubic metre	1289	3469	15151.47	10410.41
Sand	Cubic metre	2470587	4775406	338604.69	527010.69
Gravel/Stone	Cubic metre	1979815	8587090	806423.47	1542003.04
Silt/Clay	Cubic metre	1730252	1186372	1986018.72	3734861.05
Others	Cubic metre		128988	22604.30	201120.86
TOTAL		6579400	2651610	3182877.18	6039952.53

Source: Office of the Principal Chief Conservator of Forest, Assam

The State Govt. earns a good amount of revenue from its various forest produces. The revenue earned from various forest products during the last few years are shown in the Table 10.6.

TABLE: 10.5: REVENUE EARNED FROM VARIOUS FOREST PRODUCTS IN THE STATE

Rs. In Lakh

Items	2014-15	2015-16	2016-17
Timber	170.53	164.99	385.07
Fuel Wood	9.51	6.90	-
Sands and Gravel/Stone	3671.73	4601.60	9728.77
Silt/Clay	363.40	19.86	-
Others	-	704.00	2736.92
Total	4215.17	5497.35	12850.76

Source: Office of the Principal Conservator of Forest & Head of the Forest Force, Assam.

PROTECTED AREA-WILDLIFE, NATIONAL PARKS & SANCTUARIES:

Wild and Magnificent, describes the state of Assam, in true sense, a place of enviable natural beauty not only in terms of her mystic charm but also in the qualities of its wildlife. The mystic nature and the precious natural wealth have combined together to make this land as one of the most cherished tourist destination in the country. This goes for its wild habitats, warm hospitable people, who all make the discerning travellers spellbound. Assam, has as many as five national parks, two of which are designated as World Heritage Sites by UNESCO in 1985. There are also twenty wildlife sanctuaries, numerous reserved forests and many perennial water bodies. These national parks and wildlife reserves are the safe haven for a wide range of rare and endangered animals, birds, and rich floral diversity. Here the wild side of Assam is as mysterious and magnificent as the natural beauty of the state.

The wildlife Act, provided for setting up national parks and sanctuaries for wildlife. In the State of Assam, the total wildlife Protected Areas at present is 3817.92 km². This protected area network in Assam includes five (5 nos.) of National Parks, and eighteen (18 nos) of wildlife Sanctuaries constituting 4.87 percent of the geographical area of the State. The Category wise wildlife Protected areas is shown in Table 10.7:

TABLE: 10.6: AREA OF THE NATIONAL PARKS AND WILDLIFE SANCTUARIES
in Assam, 2016-17

Name of the National Park	Location (District)	Area in km ² .
Kaziranga National Park	Golaghat, Nagaon & Sonitpur	858.98
Manas National Park	Chirang and Baksa	500.00
Orang National Park	Udalguri and Sonitpur	78.81
Nameri National Park	Sonitpur	200.00
Dibru-Saikhowa National Park	Dibrugarh and Tinsukia	340.00

WILDLIFE SANCTUARIES (WLS)

Name of the Wildlife Sanctuaries	Location (District)	Area in km ² .
Bhejan-Borajan-Padumoni WLS	Tinsukia	7.22
Panidehing WLS	Sivasagar	33.93
Gibbon WLS	Jorhat	20.98
Nambor-Doigurung WLS	Golaghat	97.15
Garampani WLS	Karbi Anglong	6.05
Nambor WLS	Karbi Anglong	37.00
East Karbi Anlong WLS	Karbi Anglong	221.81
Marat Longri WLS	Karbi Anglong	451.00
Burhachapori WLS	Sonitpur	44.06
Laokhowa WLS	Nagaon	70.13
Pabitora WLS	Morigaon	38.80
Sonai-Rupai WLS	Sonitpur	220.00
Barnadi WLS	Udalguri	26.22
Chakrasila WLS	Kokrajhar	45.56
Dihing-Patkai WLS	Dibrugarh and Tinsukia	111.19
Barail WLS	Cachar, Karimganj	326.25
Amchang WLS	Kamrup (Metro)	78.64
Deepor Beel Wildlife Sanctuary	Kamrup (Metro)	4.14

PROPOSED WILDLIFE SANCTUARIES

Name of the Proposed Wildlife Sanctuaries	Location (District)	Area in km ² .
North Karbi Anglong WLS	Karbi Anglong	96.00
Bardoibam Beelmukh WLS	Lakhimpur	11.25

Source: Chief Conservator of Forest (WL), Assam

WILDLIFE PRESERVES:

Assam, has more than 70 percent of the world's population of one-horned rhinos, is the herbivore's ultimate abode. The bulk of these rhinos-2,329 as per 2013 Census are

in Kaziranga National Park, the epicenter of two biodiversity hotspots straddling Northeast India.

The other wildlife preserves in the Northeast cater to a set of rare animals, birds, reptiles and amphibians, besides harboring 50% of India's butterfly species. Together, they occupy 36.67 percent of Assam's landmass.

KAZIRANGA NATIONAL PARK:

Established in 1905, Kaziranga, is a remarkable biodiversity hotspot, unlike any other in the world. It is also a home to rare and endangered mammals, birds, aquatic fauna and a considerable amount of flora. It is the most popular abode of the one horned rhinoceros, has the highest concentration of the world's Royal Bengal tigers. It is also home to nine of 14 primate species found across South Asia, the purest breed of Asiatic water buffalo and one of the largest herds of Asian elephants. Kaziranga National Park has the following.

- 80% of the world's population of one horned rhinoceroses
- Highest ecological density of Royal Bengal Tiger
- World's largest population of Asiatic wild Buffalo
- Nearly 500 species of birds
- Significant population of Asiatic elephant
- Last surviving population of Eastern Swamp Deer

The other wildlife found here are Leopards, fishing cat, other known cats, large Indian civet, sambar, barking deer, hog deer, gaur, hog badger, hoolock, gibbon, caped langur, pangolin, Assamese macaque, rhesus macaque, sloth bear, other Gangetic dolphin and birds like Greater Adjutant stork, lesser Adjutant stork, hornbill, fishing eagle, king fisher, green pigeon, myna, Bengal florican, osprey etc. Kaziranga is a unique mix of grasslands, wetlands, forestlands, and sandwiched between Brahmaputra in the north and National Highway 37 to the south. It is a UNESCO World Heritage Site, a bird watcher's paradise, offering a range of quality accommodation and other activities like elephant ride, jeep safaris, Tea Garden visit, hill trekking and visit to a nearly Archaeological site at Numaligarh, 35 kms away from the National Park.

2. MANAS NATIONAL PARK:

Pristine in its beauty, and forming one of the most stunning geographical locations in the world. The 500 km² Manas wears many hats, Declared World Heritage Site by UNESCO in 1985. Tiger Reserve, Elephant Reserve and Biosphere Reserve- it extends miles into adjoining Bhutan. Sited 176 kms. Northwest of Guwahati, it derives its name from river Manas flowing through it. Vegetation varying from river-nurture grasslands, swamps, sub- Himalayan mountain forests, makes it home to a large number of wild animals and more than 20 endangered species. It is also famous, as an important Bird area.

OTHER WILDLIFE PRESENT ARE:

Royal Bengal Tiger, Leopard, clouded leopard, wild water buffalo, Asiatic elephant, Asiatic Water buffalo, Rhinos, red panda, Golden langur, Swamp deer,

Barking deer, Hog Deer, Gaur, Sambar, Sloth bear, Himalayan Black bear, Golden cat, Fishing cat, Toddy cat, Binturong, large Indian Civet, highly endangered roofed turtle, hispid hare, Pygmy hog and a wide variety of birds reptiles, especially the Burmese Rock Python etc.

(3) ORANG RAJIV GANDHI NATIONAL PARK:

The smallest of Assam's five national parks, 78.8 km², but is no less significant from the ecological points of view. Its landscape, flora and fauna are similar to Kaziranga national Park. It is a microcosm of Kaziranga across river Brahmaputra, and is often called Miniature Kaziranga. Orang is rich in vegetation is also a birdwatcher's paradise with a variety of resident and migratory birds such as green pigeon, Bengal florican, spot-billed pelican, black necked stork, Greater Adjutant stork, etc. Orang Rajiv Gandhi National Park, can be best enjoyed an elephant back ride, an exploration of its local villages and tea estates for an ethnic flavour.

(4) NAMERI NATIONAL PARK:

A sub-Himalayan expanse of semi-evergreen and moist deciduous forests, Nameri is home to one of the largest and endangered groups of Asian elephants and Royal Bengal Tigers. The 200 sq. kms park adjoins the 800 sq km Pakhui Tiger Reserve in Arunachal Pradesh, making it an important elephant corridor. Nameri is also known for more than 600 varieties of trees and plants many with medicinal properties. It was declared a Tiger Reserve for being the striped cat's favourite haunt in the Himalayan foothills. Under the elephant and tiger's shadow are leopards, Gaur (Indian Bison), Dhole (Asiatic Wild dog), Himalayan Black Bear, Capped Langur, Wild Bear, Giant Indian Squirrel, Asiatic Giant Moth, Clouded Leopard, Hornbill and other animals.

Nameri and adjoining protected areas such as Sonai-Rupai Wildlife Sanctuary are crucial for the reintroduction of the highly endangered pygmy hog in the wild and its survival. The park is also a birdwatcher's paradise with more than 300 avian species such as white-winged wood duck, great pied hornbill, wreathed hornbill, rufous-necked hornbill, black stork, black bearded bee-eater and plover.

(5) DIBRU-SAIKHOWA NATIONAL PARK:

Assam's easternmost National park, the 340 km² Dibru-Saikhowa, is essentially an island formed by rivers Brahmaputra and Diboru. Located 40 kms from eastern Assam's Dibrugarh town, it boasts of a sizable number of tigers, leopards, elephants, Asiatic water buffaloes, but feral horses are its prime attraction. These horses with a World War -II connection, number more than 80. Among the most vibrant of India's wildlife preserves with serenely scenic beauty. It has the bio-geographical properties of both Indian and Malyan sub-regions. Its topography ensures a safe haven for extremely rare species of wildlife, herbivores and carnivores, besides Gangetic river dolphins, eight species of turtles and 382 species of birds.

The park comprises of semi-evergreen, deciduous, littoral, swamps and patches of wet evergreen forests. It facilitate a wide varieties of trees, plants, massive grasses,

providing refuge to mammals like clouded leopards, Jungle Cat, Sloth bear, Dhole, Small Indian Civet, Malayan giant Squirrel, Chinese pangolin Pig-tailed macaque, Assamese macaque, Capped langur besides Swamp, Barking and Hog deer.

PROJECT TIGER:

Assam has three Tiger Reserves, namely Kaziranga, Manas and Nameri. To ensure the conservation of Tiger, the State Government has further notified the Tiger Conservation Rules, 2010. Government of India, has also been requested to directly fund these Tiger Conservation Foundations. Kaziranga and Manas National parks, are been declared as World Heritage Sites by UNESCO. Emphasis has also been given for the conservation of the one-horned Rhinos, which is the pride of the state. The elephant, rhino, Tiger and Swamp Deer population is increasing, as per Census reports. The National Parks & Wildlife Sanctuaries of the State, a total of 25 in numbers, are managed with the assistance under Development of National Parks & Sanctuaries.

TABLE-10.7: Population of Rhinos, Elephants, Tigers and Swamp Deer & others in the State.

Year of Census	Rhino Population	Area
2006	2006	In all National Park (Kaziranga NP, Manas NP, Nameri Orang NP), Wild Life Sanctuary (Pobitora WLS) and all Protected Areas.
2009	2201	
2012	2505	
2013	2329 (only in KNP)	
2015	2431*	*Only for Kaziranga and Manas national Park
	Elephant Population	
2002	5246	All the Protected Areas, Elephant Reserves, Reserved Forests and Unclassified State Forests in Assam.
2007	5281	
2009	5620	
2011	5620	
	Tiger Population	
2006	70	All Protected Areas, Reserved Forests and Unclassified State Forests in Assam.
2009	143	
2014	167	
2000	248	Leopard
	Swamp Deer Population	
1998	526	All Protected Areas, Reserved Forests, Unclassified State Forests in Assam
2007	681	
2011	1169	

Others Primate Census During 2009	
Rhesus Macaque	72674
Assamese Macaque	30866
Slow Loris	431
Pig tailed macaque	649

Capped Langur	17813
Golden Langur	2772
Hoolock Gibbon	1517
Stump tailed macaque	648
Phayres leaf Monkey/Spectacled langur	132

Source : Department of Forest & Environment, Assam.

ASSAM PROJECT ON FOREST AND BIODIVERSITY CONSERVATION:

This is a Externally Aided Project (EAP), funded by the French Development Agency under Indo-French Development Co-operation. The State of Assam being a part of eastern Himalayan region, a Bio-diversity hot spot, so the issues of Conservation of Forests and Biodiversity in the state assumes significant importance in the face of mounting anthropogenic pressure and anticipated impacts of climate change on forest ecosystems. Moreover, forest in Assam provide important source of livelihood to a marginal sections of tribal people, as well as ecological services in terms of soil and water conservation issues which are of great importance. Since more than 50 percent of notified forest area in the state falls under the category "Open Forests", restoration of such forest areas, enhancing of human and infrastructural capacity of the State Forest Department, along with the need to provide livelihood opportunities and alternatives to forest dependent communities, requires infusion of various funds, at a very large scale and enhanced forms:

The project has four technical components. They are :

- (1) Institutional Strengthening of the Forest Department
- (2) Multi-level Strategic Planning
- (3) Sustainable Forest management
- (4) Addition of value and the opening of market opportunities for forest and bio-diversity goods and services and Project management of non technical components.

WILDLIFE MANAGEMENT:

Project Elephant : This scheme is meant for payment of ex-gratia for loss of life and property due to man-elephant conflict, procurement of Arms & Ammunition, Setting up of anti depredation squads of villagers to scare away wild elephants, establishment of squads with temporary camps, mobile power fencing for the protection of villagers under logistic circumstance etc.

Integrated Development of Wildlife Habitat Area:

The scheme includes preparation of management plans, Surveys, Demarcation of boundaries for protection of wildlife habitat areas, prevent anti poaching activities etc. Besides these, some community development activities are also taken up, like the supply of furniture and education implements to schools under eco-development activities are also covered under this scheme.

TOURISTS ARRIVALS IN NATIONAL PARKS:

For its rich biodiversity, presence of a unique and wide variety of Flora and fauna, and specially for the presence of the famous one horn Rhino, a large number of tourists, both Indian and Foreign visit the State every year. However, except in Dibru-Saikhowa National Park, visit of numbers of Indian tourists in other National parks of Assam has increased during the period 2015-16 in comparison to the period 2014-15. The numbers of foreign tourists has increased in Kaziranga and Manas during 2015-16, in comparison to 2014-15, remained the same in Dibru-Saikhowa National Park and decreased in Orang and Nameri National Parks. During the period 2016-17, there was an increase in both Indian and Foreign tourists in Dibru-Saikhowa and Nameri National Parks with an increase of only foreign tourists in Orang National Parks. However, there was a decline both in Indian and foreign tourists in Kaziranga and Manas National Parks along with a decline of only, Indian tourist in Orang National Park.

The numbers of tourists Arrivals in national parks along with Revenue Collection. Out of the Tourists visits during the last few years in presented below in table 10.9.

TABLE – 10.8: REVENUE COLLECTION ON ARRIVAL OF TOURISTS IN NATIONAL PARKS IN ASSAM:

Names of National Parks	Years	No. of visitors		Revenue Collected (Rs. in lakh)
		Indian	Foreign	
1.Kaziranga National Park	2012-13	93,747	7,418	205.76
	2013-14	1,19,289	6,922	268.66
	2014-15	1,23,360	7,994	294.59
	2015-16	1,62,799	11417	419.77
	2016-17	1,59,669	7,383	493.15
2.Manas National Park	2012-13	15,890	218	25.48
	2013-14	20,527	211	30.93
	2014-15	9,786	475	33.48
	2015-16	40,559	614	73.69
	2016-17	36,201	351	76.24
3.Orang National Park	2012-13	1,847	70	2.76
	2013-14	2,329	16	2.43
	2014-15	1,946	45	2.31
	2015-16	3,502	20	4.04
	2016-17	3,354	62	4.02
4.Dibru-Soikhowa National Park	2012-13	2,656	19	1.08
	2013-14	4,230	54	2.09
	2014-15	4,249	27	2.10
	2015-16	2,695	27	0.16
	2016-17	2,968	58	0.26

5.Nameri National Park	2012-13	4,370	528	4.54
	2013-14	5,866	806	11.26
	2014-15	8,448	1,035	14.13
	2015-16	10,384	702	9.25
	2016-17	11,539	874	18.58

PARTICIPATION OF NGOS AND PEOPLES WITH THE SCHEMES/PROJECT ETC:

The involvement of NGOs and civil players is integrated in project implementation and monitoring. There are quite a few NGOs who is playing very proactive role in the forestry sector, along with academicians, prominent citizens are taken on board in these matters. "NGOs" running environmental awareness generation Programmes in different Villages of the district is keen to implementing the project in support of NAEB. The National Afforestation & Eco-Development Board (NAEB) is implementing the National Afforestation Programmes (NAP) through Forest Development Agency (FDA) and Joint Forest Management Committee (JFMC) etc. In the field of Wildlife, the role of NGOs in the State is quite appreciable. They are playing an active part in awareness programmes amongst people and Eco-Development Committees are formed in fringe villages of NAP.

Table- : Forest cover in North Eastern States at a Glance

(in Km²)

States	Geographical Area(GA)	2015 Assessment				% of GA	Change w.r.t. 2013	Scrub
		VDF	MDF	OF	Total			
Arunachal Pradesh	83,743	20,804	31,301	15,143	67,248	80.30	-73	264
Assam	78,438	1,441	11,268	14,914	27,623	35.22	-48	384
Manipur	22,327	727	5,925	10,342	16,994	76.11	4	1182
Meghalaya	22,429	449	9,584	7,184	17,217	76.76	-71	348
Mizoram	21,081	138	5,858	12,752	18,748	88.93	-306	0
Nagaland	16,579	1,296	4,695	6,975	12,966	78.21	-78	622
Sikkim	7,096	500	2,160	697	3,357	47.31	-1	311
Tripura	10,486	113	4,609	3,089	7,811	74.49	-55	55
G. Total	266,179	25,468	75,400	71,096	171,964	65.59	-628	3166

Source: India State of Forest Report, 2015

APPENDIX-10.1

Forestry Division wise area Under Forest in Assam (AS on 30-10-2016)

Sl. No.	Forest Division	Reserved Forest	Proposed Reserved Forest	Protected area Network	Total Forest (Excluding unclassified State Forest)
1	2	3	4	5	6
1	Goalpara	22946.563	11387.510	-	34334.073
2	Kamrup East	37052.356	11596.460	-	48648.816
3	Kamrup West	75549.276	568.850	-	76118.126
4	North Kamrup	4412.197	1141.400	-	5553.597
5	Dibrugarh	20728.678	-	11119.420	31848.098

6	Digboi	49598.074	5479.150	8712.000	63789.224
7	Doom Dooma	29404.176	4252.750	-	33656.926
8	Golaghat	80154.089	133.450	9715.000	90002.539
9	Jorhat	26096.841	-	2098.621	28195.462
10	Sivasagar	24092.903	-	3393.000	27485.903
11	Hamren	27454.539	-	-	27454.539
12	Karbi-Anglong East	61995.937	84089.600	34042.000	180127.537
13	Karbi-Anglong West	109282.007	3525.000	451.000	113258.007
14	Dima Hasao	63776.154	--	-	63776.154
15	Baksa	13542.551	-	-	13542.551
16	Lakhimpur	31097.441	-	-	31097.441
17	Dhemaji	42468.430	9400.000	1121.800	52990.230
18	Nagaon	35310.086	3573.000	-	38883.086
19	Nagaon South	64873.521	-	-	64873.521
20	Sonitpur East	73927.302	-	-	73927.302
21	Sonitpur West	44129.201	910.000	-	45039.201
22	Silchar (Cachar)	34199.791	-	7386.900	41586.691
23	Hailakandi	78145.833	170.000	-	78315.833
24	Karimganj	48057.303	6489.090	32625.000	87171.393
25	Aie-Valley	6144.969	5901.730	-	12046.699
26	Dhubri	6082.060	865.770	-	6947.830
27	Hatigaon	63806.919	2949.000	-	66755.919
28	Kachugaon	82199.117	213.000	-	82412.117
29	Dhansiri	17812.765	3963.000	2822.000	24597.765
30	Parbtjhora	28041.484	17732.910	-	45774.394
31	Chirang	55957.550	1400.000	-	57357.550
32	Western Assam WL	-	-	42000.000	42000.000
33	Tinsukia WL	32677.785	-	34722.000	67399.785
34	Nagaon WL	2155.000	-	11417.040	13572.040
35	Mangaldoi WL	-	-	7881.000	7881.000
36	Assam State Zoo	175.000	-	-	175.000
37	Kokrajhar WL	-	-	4556.000	4556.000
38	Manas Tiger Project	2837.120	-	50000.000	52837.120
39	Eastern Assam WL,	1130.855	-	85898.000	87028.855
40	Guwahati WL	-	-	12155.000	12155.000
Total		1397315.872	175740.67	362115.781	1935173.32

APPENDIX - 10.2

Sl No.	R. F./ M. P./ WLS	Total Forests Area (In Ha.)	Encroach Area (In Ha.)
1	Total reserved Forest Area	1351669.00	372992.15
2	Total National Park Area	197826.00	3971.00
3	Total Wildlife Sanctuary Area	184008.10	10188.50
Total		1733503.10	387151.65

CHAPTER – XI

INDUSTRY, TRADE AND MINING

Assam is a house of natural and precious mineral resources. Assam though finds its place in the industrially developed map of the world during the pre-independence period but at present Assam is amongst the industrially under-developed States in the Country. The industrial scenario of the State is confined within the growth of employment oriented SSI Sector. Assam is still making efforts desperately for gearing up industrial activities by harnessing the un-tapped resources available in the State through various growth-inducing factors as well as by removing the infrastructure inadequacies primarily in the power sector. Despite existence of constraints, a favourable industrial climate is gradually being created in the State as discernible from the increasing interest shown by investors both from within the State as well as from outside the State. The communication and transport sector, on the other hand, has shown some improvement during the recent past. The declaration of the North East Industrial Investment Promotion Policy-2007, removal of notified area concept and introduction of neutrality of location clubbed with Excise duty exemption, Income Tax exemption, Capital Investment Subsidy, Interest Subsidy, Comprehensive Insurance Subsidy, Incentive to Bio-Technology Industry, Incentive on Power Generation Industry, Transport Subsidy etc., are the major steps towards industrialization of the state. The thrust has been given both by the State and Central Government to enhance benefits to those entrepreneurs' desirous to set up their units. The State Government in turn has to provide supplement effort by development of infrastructure and offers its participation in the form of Government share or partner in the PPP models of projects which are of prime importance considering the location of the State.

The Department of Industries & Commerce, Assam has established one Export Processing Industrial Park (EPIP) at Amingaon in Kamrup district, 3 Industrial Growth Centre, 11 nos. of Industrial Infrastructure Development centers (IIDCs), one food park at Chaygaon & one North East Mega Food Park at Nalbari District. Besides, there are 21 Industrial Estate, 8 Mini Industrial Estate, 17 Industrial area, 18 Growth Centers in Assam. At present a total of 800 nos. of industrial units are functioning in these Industrial infrastructures.

GROWTH OF INDUSTRIAL SECTOR IN ASSAM:

The Industry sector which comprises Mining & Quarrying, Manufacturing, Electricity, Gas, Water Supply & other Utility Services and Construction sectors is estimated to attain at 5.11% growth at current prices during 2016-17 (Q) over previous year. At current prices, the share of growth of the sub sectors to the Industry sector is estimated in Mining and Quarrying (1.90%), Manufacturing (9.32%), Electricity, Gas, Water supply & other utility Services (6.50%) and Construction (3.50%) respectively. At constant prices, the contribution of the sub sectors to the Industry sector during the same year is estimated at 1.80% in Mining

and Quarrying, 7.90% in Manufacturing, 7.20% in Electricity, Gas, Water Supply & Other Utility Services and 1.70% in Construction respectively.

Table- Annual Growth Rate of GSDP in Industry Sector during 2016-17 (Q)

Industry	Current Price	Constant Prices
Mining & Quarrying	1.90%	1.80%
Manufacturing	9.32%	7.90%
Electricity, Gas, Water Supply & Other Utility Services	6.50%	7.20%
Construction	3.50%	1.70%
Industry Sector	5.11%	4.32%

During 2015-16, the Index of Industrial Production (Base: 2004-05=100) in respect of manufacturing sector was 174.27 showing a negative growth of 2.30 percent over the previous year. IIP of Assam during 2015-16 was 134.09 and decreased by 0.89 percent over 135.30 in 2014-15. Production of some selected industries may be evident from the Table-11.1

TABLE – 11.1: PRODUCTION OF SOME SELECTED INDUSTRIES IN ASSAM

Year	Tea (000 tonnes)	Wheat Flour (000 tonnes)	Coal (000 tonnes)	Jute Textiles (Tonnes)	Crude Oil (000 tonnes)	Cement (000 tonnes)	Fertilizer (000 MT)
2007-08	486	837	1101	9494	4361	213	346
2008-09	484	848	1147	11249	4673	446	313
2009-10	498	1044	1203	12511	4738	644	338
2010-11	525	1198	1110	12904	4714	736	325
2011-12	501	866	590	19956	5023	984	394
2012-13	588	898	605	22717	4861	1181	514
2013-14	629	1003	665	25625	4718	1107	515
2014-15	607	951	797	24275	4447	1277	488
2015-16	653	1041	397	27237	4513	1169	506
2016-17	657	915	600	27677	4202	1162	498

Source: Tea: Tea Board of India; Minerals: Indian Bureau of Mines, Nagpur; Others: Individual Industrial Units.

MINING SECTOR:

The State is richly endowed with mineral resources and is a major contributing factor for industrial performance. During the year 2016-17, mineral production in the State increased against a lower production of minerals during 2015-16 except Petroleum crude oil. The Table-11.2 shows the trend of some major minerals exploited in the State during the last ten years.

TABLE – 11.2: MINERAL PRODUCTION IN ASSAM

Year	Coal ('000MT)	Crude Oil ('000MT)	Natural Gas Utilised (MCM)	Limestone ('000MT)	Sulphur ('000 MT)
2007-08	1151	4308	2417	367	224
2008-09	1147	4673	2603	363	566
2009-10	1203	4738	2476	402	665
2010-11	1110	4714	2500	334	2991
2011-12	590	5023	2726	245	5457
2012-13	605	4861	2681	292	3706
2013-14	665	4718	2655	208	5334
2014-15	797	4447	2726	681	5794
2015-16	397	4513	2903	442	4322
2016-17	600	4202	2907	1597	6571

Source: Indian Bureau of Mines.

During the year 2016-17, production of Coal, Limestone and Sulphur increased substantially by 51.13 percent, 261.31 percent and 52.04 percent respectively over the previous year. However, during the year 2016-17 production of Crude Oil has decreased over the previous year by 6.89 percent.

INDUSTRIAL INFRASTRUCTURE FACILITIES IN ASSAM:

Industrial Estate and Industrial Growth Centre:

Creation of environment for industrialization by setting up Industrial infrastructure in the perspective of industrial development and attract investment through proper planning is the prime objective of the State Government. To achieve the goal the department is creating a good numbers of infrastructural facilities as well as upgrading the existing ones located in different districts of the state. Infrastructural facilities in the form of Export Processing Industrial Park (EPIP), Industrial Infrastructure Development Centre (IIDC), Growth Centers, Food Processing Industrial Park, Industrial Estates, Industrial Areas, and Commercial Estates etc are spreading throughout the State.

At present, there are 20 Industrial Estates, 8 Mini Industrial Estates, 20 Industrial Areas and 18 Growth Centers in the State where 800 numbers of Industrial units are functioning. One Export Promotion Industrial Park (EPIP) has also been established with world class infrastructure at Amingaon in Kamrup district where 44 numbers of industrial units are producing some export quality product of various kinds. In addition, 11 nos. of Industrial Infrastructure Development (IID) Centre in 11 different districts and 3 numbers of Industrial Growth Centre, one Food Park at Chaygaon in Kamrup District and one North East Mega Food Park at Nalbari District have been established. The

Department has established 3 (three) Industrial Growth centre, a centrally sponsored project at Balipara (Chariduar), Matia and Chaygaon.

INDUSTRIAL GROWTH CENTRE, CHARIDUAR:

The Centre is being set up with a total project cost of Rs.2543.40 lakh of which Central share is Rs.1500.00 lakh and State share is Rs.1043.40 lakh. Up to 2016-17, Govt. of India has released Rs.1216.00 lakh while the State Govt. has released Rs.22.20 lakh. The first phase work of the project has been completed and an area of 20 bigha of land has been allotted for setting up a pharmaceutical unit. The Assam Industrial Development Corporation (AIDC) is the implementing agency of the project. Industries those are located in the Growth Centre are Patanjali Ayurved Ltd., Dabur India Ltd. Surya Taap Dachsan Biotech Pvt Ltd., Innovative Tech pack Ltd. etc.

INDUSTRIAL GROWTH CENTRE, MATIA :

The Centre in Goalpara District is being implemented by AIDC with a total project cost of Rs,2200.00 lakh of which Central share is Rs.1500.00 lakh and State share is Rs.700.00 lakh. Till the end of 2016-17, the Government of India has released Rs.1500.00 lakh while State Govt. has released Rs.217.14 lakh. The first phase work has been completed and plots to various industrial units have been allotted. Financial achievement up to 2016-17 is Rs.1717.14 lakh. At present Everyday India(P) Ltd., Cavin Kare Pvt. Ltd., VLCC Industries Ltd. are located in the Industrial Growth Centre Matia.

INDUSTRIAL GROWTH CENTRE, CHAYGAON-PATGAON-JAMبارI :

The centre is located at split locations at Chaygaon-Patgaon-Jambari in Kamrup District and is being implemented by Assam Industrial Infrastructure Development Corporation (AIIDC) with a total project cost of Rs.1615.24 lakh of which the Central share of Rs.1500.00 lakh and the State share of Rs.115.24 lakh has been released by the Central and State Government respectively. The project at all the three locations have been completed and altogether 30 number of units at Chatabari, 25 number of units at Jambari and 6 units at Patgaon location have been allotted land for their proposed ventures. Out of these, 27 units at Chaygaon Chatabari location, 25 units at Jambari location and 6 units at Patgaon have already started their commercial production. The other 30 units are under various stages of implementation at Chatabari and Jambari Location. The Bamboo Technology Park is also located in the IGC, Chaygaon project.

EXPORT PROMOTION INDUSTRIAL PARK (EPIP):

The Department of Industries and Commerce, Assam has established an Export Promotion Industrial Park at Amingaon in Kamrup (Rural) District at a total

project cost of Rs.1462.00 lakh. A total of 44 numbers of industrial units are functioning in the park as on 31.12. 2017.

BORDER TRADE CENTRES:

Assam is sharing international border with Bangladesh, Bhutan and Myanmar and thus has ample scope to enhance trade with these countries. To facilitate foreign trade with various neighbouring Countries bordering North-East India, Government of India has taken a new initiative to create all infrastructure facilities for the exporter of the region for development of Trade & Commerce. The State Government has approved for setting up of five numbers of Border Trade Centres- one at Sutarkandi in Karimganj district, at Mankachar and Golokganj in Dhuburi District, Darranga in Baksa District and Jagun in Tinsukia District to facilitate border trade with neighbouring countries like Bangladesh, Bhutan etc.

A) BORDER TRADE CENTRE, SUTARKANDI:

The Border Trade Centre, Sutarkandi project in Karimganj district was approved by Government of India in the year 2000 under Critical Infrastructure Balance (CIB) and ASIDE scheme. The total project cost (both 1st and 2nd phase) was Rs.2563.00 lakh, sharing between Central and State Govt.s as Rs.2400.00 lakh and Rs.163.00 lakh respectively. Till 2016-17 Government of India has released Rs.2400.00 lakh and the State Government has released Rs.163.00 lakh respectively against their share. Both the phase of the project has been completed. The project has been implemented through AIIDC and managed by ATPO. It is proposed to upgrade to an Integrated Check Post (ICP) by the Land Post Authority of India (LPAI) under Ministry of Home, Govt. India.

B) BORDER TRADE CENTRE, MANKACHAR:

The Government of India has approved for setting up of a border trade centre at Mankachar town in South Salmara Mankachar District under ASIDE scheme. The centre also has a linkage with Tura of Maghalaya. The approved project cost of this project is Rs.466.00 lakh. The Central share is Rs.380.83 lakh and the State government share is Rs.85.17 lakh. Up to the year 2016-17 Government of India has released its full share of Rs.380.83 lakh and state government has released Rs.85.17 lakh for the project. The project has already been completed and trade is going on. The Project was implemented by AIDC.

C) TRADE FACILITATION CENTRE, JAGUN, TINSUKIA:

A Trade Facilitation Centre (TFC) has been created at Jagun in Tinsukia district which is about 3 Km away from Jairampur (Assam-Arunachal Pradesh border point) and 20 Km from Panchu Pass (Indo-Myanmar Border on Stilwell Road). The Trade Centre has been constructed with a project cost of Rs.5.98 crore and completed. Facilities like warehouse, Parking Yard, loading & unloading platform etc., are created in this centre. The Govt of India has released Rs.530.98 lakh for the project up to 31/03/2017.

d) Border Trade Centre, Darranga, Baksa (Indo-Bhutan Border)

In view of growing Indo-Bhutan trade and to encourage formal trade, a Border Trade Centre is proposed to set up at Darranga, Baksa district of Assam. The estimated cost of the project is Rs.14.33 crore and construction is in progress. The infrastructure facilities will be available in the centre are: Cold storage, Parking yards, warehouse, weighbridge, loading & unloading platform etc. The project is the final stage of completion. The Central Govt. has released Rs.1402.71 lakh up to 31st March 2016.

e) Border Trade Centre, Golokganj, Dhubri

This Border Trade Centre is under construction near the Gate no.24 of Sonahat in Dhubri district and the project is implemented by AIDC Ltd with a project cost of Rs.1938.00 lakh. This centre has a competitive advantage and may become a Hub of trade in the coming years. On 28th April, 2014, the first consignment of coal crossed this border point to Bangladesh and was inaugurated on 12th December, 2015. Govt. of India has released whole share i.e. Rs.1938.00 lakh for the project.

FOOD PROCESSING INDUSTRIAL PARK:

The Ministry of Food Processing Industries, Government of India has approved for setting up of a Food processing Industrial Park at Chaygaon in Kamrup District with a project cost (revised) of Rs.496.00 lakh. The Central Govt. share is Rs.350.00 lakh and the State share is Rs.146.0 lakh. The Government of India has released Rs.262.50 lakh while the Government of Assam has released its full share of Rs.146.00 lakh against their respective share up to the year 2016-17. The Project is completed by ASIDC and plots to 14 units have been allotted, out of which 10 nos. of units are under various stages of construction and 4 nos. are newly allotted industries. The major units in the park are Asian Thai Food Ltd., Uma Polymar Ltd.

INTEGRATED INFRASTRUCTURE DEVELOPMENT CENTRES (IIDC):

The Ministry of MSME, Government of India has approved for setting up of 11 (eleven) numbers of Integrated Infrastructure Development Centre (IIDC) at different locations in 11 (eleven) Districts of Assam. Government of India has released Rs.2411.66 lakh and the Government of Assam has released Rs.665.88 for the project. All the projects have been completed and at present 62 units are functioning in different IID centres.

NORTH EAST MEGA FOOD PARK, TIHU:

With the objective of providing adequate infrastructure for the food processing industries of the region along with the value chain from farm to market, a Mega Food Park is under construction at Nathkuchi (Tihu) in Nalbari District. The park is being developed in PPP model with assistance from the Ministry of Food Processing Industries, GOI in an area of 50 acres. The total project cost is Rs.8085.37 lakh where central share is Rs. 5000.00 lakh and State share is Rs.1698.00 lakh and term loan is Rs.1387.37 lakh. The Central Govt. has released its full share of Rs.5000.00 lakh and the State Govt. has released Rs.63.59 lakh up to 31st March, 2016. The park is located on NH-31 at a

distance of 90 km from Guwahati and will accommodate 27 numbers of food processing units. The Mega Park was inaugurated on 28th May, 2015 and one unit is presently functioning. Major units located in the food park are Duke Industries, Ravi Food, Assam Agro Tech Industries etc.

PLASTIC PARK:

To facilitate the growth of downstream industries based on the Assam Gas Cracker Project (Brahmaputra Cracker and Polymer Ltd.), Government of Assam has proposed to set up a Plastic Park at Gelapukhuri in Tinsukia District to facilitate polymer based downstream industries. The project site is located 3-4 kms from the Tinsukia town and about 60 kms from the Assam Gas Cracker Project site. It is proposed to provide the following facilities:

- Developed plots
- Internal roads
- Water supply system
- Captive power plant
- Internal drainage system
- Boundary wall
- Street lighting
- Medical/ recreation/ canteen
- Tool room
- Recycling plant, etc.

The approved project cost of the Plastic Park covering an area of 500 acres is Rs. 9365.00 lakh, out of which Central share is Rs.4000.00 lakh & State share is Rs.5365.00 lakh. AIDC Ltd has been designated as the nodal agency for implementation of the Plastic Park project and 25% work of the project has so far been completed. Till date the Govt. of India has released Rs. 2200.00 lakh and the Govt. of Assam has released Rs.3262.00 lakh.

BAMBOO PARK:

A bamboo park at Chaygaon in Kamrup (Rural) is under construction. The proposed park is being developed in PPP model with the assistance from Ministry of Commerce & Industry, GOI; State Govt. and private promoters. The cost of the Project is Rs.62.28 crore out of which the Central Govt. contribution is Rs.52.63 crore and the State Govt. share is 3.90 crore and term loan is 5.75 crore. The objective of park is to create integrated infrastructure for promotion of bamboo based industries in the State. The project is under implementation and in the final stage of completion.

MAJOR SCHEMES IMPLEMENTED BY THE DEPARTMENT OF INDUSTRIES AND COMMERCE, ASSAM:

PRIME MINISTER ROJGAR YOJANA (PMRY) /

PRIME MINISTER EMPLOYMENT GENERATION PROGRAMME (PMEGP):

Prime Minister Employment Generation Program (PMEGP) has been introduced by merging the PMRY and REGP with the same aims and objectives of Prime Minister Rojgar Yojana (PMRY). The KVIC is implementing the PMEGP scheme as the nodal agency at the national level and at the State level KVIC Directorate, State KVIB and the District Industries and Commerce Centers and Banks implement the scheme in Assam. The Government subsidy under the scheme is being routed by the KVIC through the identified Banks. Table 11.3 shows achievements of implementation of PMEGP in Assam during the year 2008-09 to 2016-17.

TABLE – 11.3: TARGET AND ACHIEVEMENTS OF PMEGP IN ASSAM

Year	Physical target (in nos.)	Financial Target (margin money) (Rs. In Lakh)	Total Cases sanctioned (Rs. In Lakh)	Physical achievement (in no.)	Financial achievement (Rs. In lakh)	Remarks
2008-09	685	820.22	861	617	676.95	Information represents DICC part only
2009-10	1292	1550.00	2440	2440	1899.71	For the State
2010-11	3193	4469.66	4756	4756	4801.10	For the State
2011-12	5047	7065.80	5280	5280	5544.99	For the State
2012-13	4644	6500.20	7336	7336	5801.15	For the State
2013-14	4588	6210.97	8049	8049	7219.90	For the State
2014-15	5101	7238.82	5584	5584	5042.41	For the State
2015-16	1913	-	3382	3382	2793.39	For the State
2016-17	3776	7552.08	3773	3773	3499.4	For the State

Note: Physical and financial targets are subject to revision from time to time.

Source: Office of the Commissioner of Industries & Commerce, Assam.

SMALL SCALE INDUSTRIAL UNITS (SSI)/

MICRO, SMALL & MEDIUM ENTERPRISES AND HANDICRAFTS UNITS:

The strategy for industrial growth in Assam must focus on generating jobs for unemployed youth to ensure regionally balanced, socially equitable and economically inclusive growth. The Small Scale Industries have played vital role in fulfilment of socio-economic development perspectives in Assam. Presently the small-scale industries have been sub- divided into Micro, Small and Medium Enterprise (MSME) under the Micro, Small and Medium Enterprises Development Act 2006. The categorization of enterprises is made based on their investment in plant and machineries in case of manufacturing sector or in equipments in case of service sector. In this context, special focus has been given by the State Government on development of the MSME sector for generation of economic activities and skill development in employable trades with a view to generate rural income and employment. For speedy growth of this sector, the Government of Assam has already brought some simplification in its procedures in respect of registration as well as declared incentives in its Industrial Policy – 2008.

There are 45509 SSI/MSME units in Assam and provided employment to 2.69 lakh persons till the end of 2016-17. The Table-11.4 shows some annual statistics in

respect of setting up of SSI/MSME units up to 31-03-2017. It is evident from the table that average employment per unit of manufacturing enterprises in Assam is around 7(Seven) person during the period 2005-06 to 2016-17 and average investment per unit is Rs.15.61 lakh. The table also depicts that the average investment per unit is increased 107% in 2016-17 over 2015-16.

TABLE – 11.4: GROWTH OF SSI/MSME UNITS, EMPLOYMENT, INVESTMENT AND PRODUCTION IN ASSAM (as on March)

Year	No. of SSI /MSME units	No. of Employment	Average no of Employment per unit	Investment on Plants & Machinery (Rs. in lakh)	Average investment per Unit (Rs in lakh)
2005-06	2082	10780	5.2	23776.88	11.42
2006-07	2172	11852	5.5	9282.72	4.27
2007-08	1692	10471	6.2	26637.42	15.74
2008-09	1711	12914	7.5	26348.26	15.40
2009-10	1678	12787	7.6	29901.68	17.82
2010-11	1214	9002	7.4	25557.59	21.05
2011-12	1287	13886	10.8	27776.15	21.58
2012-13	1451	11671	8.0	27397.47	18.88
2013-14	1860	12971	7.0	31099.08	16.72
2014-15	2629	20496	7.8	26923.29	10.24
2015-16	1898	13848	7.3	25597.96	13.49
2016-17	2177	19355	8.89	60687.43	27.88

Source: Office of the Commissioner of Industries & Commerce, Assam.

BIPONI:

This is an innovative marketing scheme for Micro and small entrepreneurs of Assam. The basic objective is to give support to the entrepreneurs to participate in trade fairs or events organised within the State, Country or abroad. Under the scheme, for the events organised within the State, the participants coming from other districts are given Rs.5000.00 towards stall rent and Rs.500.00 per day to meet the expenditure on travelling, food and lodging. For participating outside the State, the selected participants will be given 50 percent of the stall rent (maximum ceiling being Rs.10.00 thousand), sleeper class to and fro railway fare for two person and each member will get Rs.300.00 per day towards food and lodging for the fair period. The scheme also includes free stall space for the selected participants for events outside the Country. The participant will also be provided with Economy Class Air fare and Rs.1000.00 per person per day for lodging and expenditure on food.

BONEEJ:

This special scheme was announced by the Hon'ble Finance Minister on 26th July 2016 on his Budget Speech to provide special grant to the rural industries of the State dealing with traditional and micro sector. The scheme will cover all the districts except Karbi Anglong, Dima Hasao and Bodoland Territorial Autonomous District. Under the

scheme, it is proposed to provide Rs.25.00 thousand as grant to the industries located in rural areas and whose annual turnover is less than Rs.5.00 lakh.

SAROTHI:

This scheme is a Chief Minister's Start Up Fund launched to encourage the young talented entrepreneurs facing resource crunch to start new ventures in the State by giving financial assistance. Under the scheme, budgetary provision for an amount of Rs.10.00 crore has been made in the State Budget, 2016-17. The fund will be managed by the Industries and Commerce Department as per its operational guidelines.

The basic objective of the scheme is to provide financial assistance in the form of loan with interest subvention through a designated Bank covering whole Assam. The loan so availed by the beneficiaries will be supported by the State Govt. through interest subvention at the rate 5 percent per annum. The physical target for the year 2016-17 is 1325 and total sponsored is 1149.

TEA INDUSTRY:

The Tea industry occupies an important place in Assam and plays a very special role in the State economy. The first Indian tea produced in Assam was sent to United Kingdom for public sale in the year 1838. Although the tea cultivation was extended to other parts of the country between 50's and 60's of the last century, as of today, Assam Tea has maintained its international reputation and commands significant share in the World Tea Market. The total area under tea cultivation in Assam is accounting for more than half of the country's total area under tea. In addition to existing big & large tea gardens owned by reputed both Indian and multinational Companies, the profession of tea plantation in the State has been taken up by common people as business venture at present, especially by unemployed youths. The tea industry in Assam also provides average daily employment to more than 6.86 lakh persons in the State, which is more than 50 percent of the total average daily number of labour employed (on an average 11.1 lakh labour employed per day) in the country as a whole under tea industry.

Assam has witnessed a spurt in the growth of small holdings during the last three decades and there is more than 1.0 lakh small holdings accounting for 200 hundred million kgs of made tea. Most of the Small Tea Growers (STGs) are first generation young and educated entrepreneurs who have started contributing immensely towards transformation of socio-economic life of rural Assam. According to the Tea Board of India, there are about 68.5 thousand registered small tea growers [STG] in Assam producing about 106881 thousand KG in 88674 hectares of land in Assam. Assam alone produces more than half of India's tea production. The estimated production of tea in Assam was 642.0 thousand tone in 2016 which is being produced in a 304 thousand hectare of land. Statistics of area and production of Tea in Assam are shown in the Table - 11.5.

TABLE – 11.5: TEA STATISTICS OF ASSAM AND INDIA

Year	No. of Tea Gardens		Area under Tea (in '000 hectare)		Total Tea Production (in 000 kg.)		Average yield (kg/ hectare)	
	Assam	India	Assam	India	Assam	India	Assam	India
2007	825	NA	321.3	578	511885	986427	1593	1705
2008	760	1385	321.4	560	487497	980818	1517	1750
2009	760	1385	321.7	561	499997	978999	1554	1746
2010	760	1385	322	561	480286	966403	1492	1724
2011	765	NA	322	560	589110	988323	1830	1764
2012	78856	NA	322	579	590120	1111760	1833	1919
2013	69220	NA	322	564	629050	1208780	1953	2143
2014	77710	NA	304	564	610970	1208780	2010	2143
2015	83566	NA	316	564	526185	-	1665	-
2016	85344	NA	304	-	642180	-	2112	-
2017	-	-	-	-	-	-	-	-

Note : 1. No. of Tea Gardens shown from 2007 to 2011 refers to only Tea Gardens having area above 10.12 Hectare and excluding Small Growers.

2. Area, Production and Average yield estimated and subject to revision.

Source: Tea Board of India.

The Guwahati Tea Auction Centre is actively taking part in trading of the Tea produced mainly in the North-eastern States since its establishment. Statistics of quantity and average price of tea sold in the Guwahati Tea Auction Centre is shown in the Table-11.6.

TABLE – 11.6: QUANTITY AND AVERAGE PRICE OF TEA SOLD IN GUWAHATI TEA AUCTION CENTRE

Year	Leaf				Dust			
	CTC		Orthodox		CTC		Orthodox	
	Quantity (million Kg.)	Average Price (Rs. per Kg)	Quantity (million Kg.)	Average Price (Rs. per Kg)	Quantity (million Kg.)	Average Price (Rs. per Kg)	Quantity (million Kg.)	Average Price (Rs. per Kg)
2005	101.94	61.11	0.61	61.62	40.30	59.19	-	-
2006	100.75	67.96	0.72	78.18	40.90	68.27	-	-
2007	106.88	70.09	4.16	73.93	41.51	73.02	0.001	50.00
2008	110.14	90.20	0.56	92.39	41.99	95.73	-	-
2009	98.33	108.52	0.44	111.21	39.74	115.10	-	-
2010	87.33	113.06	0.36	122.09	38.94	116.26	-	-
2011	86.2	108.74	0.254	109.28	36.23	107.93	-	-
2012	70.84	138.27	0.551	163.07	30.97	143.17	-	-
2013	87.36	130.11	0.91	168.58	38.30	137.34	-	-
2014	80.34	142.52	0.48	143.32	39.64	145.15	-	-
2015	86.70	140.93	1.40	186.40	41.20	146.80	-	-
2016 (up to July)	38.12	137.71	0.32	186.03	17.78	143.65	-	-
2017/August	62.78	132.11	0.85	186.64	27.20	144.33	-	-

Source: Guwahati Tea Auction Centre

RUBBER INDUSTRY:

The rubber cultivation has gained its popularity in Assam due to congenial agro-climatic condition as well as its eco-friendly environment. The Rubber Board has identified Assam as a "Potential State" from the "productivity" point of view as the State too has ample scope of rubber plantation. Considering the said conditions, the Rubber Board has planned to enhance rubber plantation area to 2 lakh hectares at the end of Twelfth Five Year Plan from the 28102 hectare at present to cope with the growing demand of rubber in the country which is expected to touch 1.78 lakh MT at the end of 2025. The area under rubber cultivation has grown from 16.5 thousand hectares in 2006-07 to 57.65 thousand hectares in 2016-17. The tapping area as well as production of rubber has also been increased considerably during the same period. The growth of coverage of the rubber plantation area as well as production in the State is presented in the Table 11.7 Considering the growth of plantation areas and rubber production trends, there is vast potential for setting up of rubber industries in the State.

TABLE – 11.7: AREA AND PRODUCTION OF RUBBER IN ASSAM

Year	Area (in hectare)	Production (in MT)	Tapping Area (in hectare)	Employment Generation (Mandays)
2006-07	16508	3050	NA	1503550
2007-08	18271	4750	3320	1762591
2008-09	20975	5097	3518	2040686
2009-10	23075	9832	6505	2710230
2010-11	27083	10213	7686	2767450
2011-12	30791	10437	8608	3034993
2012-13	34537	11054	7634	381992
2013-14	39855	14337	9070	140386
2014-15	42097	15342	11080	134357
2015-16	55990	16400	12308	174763
2016-17	57646	17574	15139	179856

Source: The Rubber Board, Zonal Office, Guwahati.

SERICULTURE:

Traditionally, sericulture is a major cottage industry in the State. Sericulture has been practiced in Assam from time immemorial and continues to be an important labour-intensive and agro based cottage industry providing gainful occupation to around 2.50 lakh person in rural and semi-urban areas of Assam. Of this a sizeable number of male workers belong to the economically weaker section of the society and women. Moreover, sericulture is a sustainable farm-based economic enterprise positively favouring the rural poor in the un-organized sector because of its relatively low requirement of fixed capital and higher returns on investment.

The State of Assam is proud of traditionally producing Muga, Eri and Mulberry and lastly the Oak tassar in the hills districts. The State accounts for highest production of non-mulberry silk, muga and eri in the country. Assam has the monopoly in the world in the production of Muga, the "Golden Silk", as more than 97 percent of Muga Silk is produced in Assam. Assam has also achieved the right of 'Geographical Indication' for Muga thread. The State is also a Major producer of Eri Silk (about 65 percent).

This industry has undergone a number of changes with the changes in loom, fabric, design, technology etc. Non-mulberry silk in general and Muga silk in particular has been closely associated with the rituals and traditions of Assam and thus, silk

production and its usage has been an important household activity in the State over the years. Muga Silk and Eri Silk have good demand in the national and international market. Rearing of Eri, Muga and Mulberry silkworm are playing an important role in the economic development of a large section of rural population of the State. It is practiced in 9935 villages at present and provides employment to 3.19 lakh families of the State. The production of silk in the State was 3647.49 MT during the year 2016-17 which is 34.45 percent higher than the previous year. The performance of Sericulture is presented in the table below.

TABLE – 11.8: SERICULTURE ACTIVITIES IN ASSAM

Item		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
1.	Sericulture Villages (Nos.)	10532	10740	10746	11411	11281	11281	9935
2.	No. of Families Engaged	254134	254516	291592	282073	652406	496901	319405
3.	Area under Silk Worm food Plants (In Hect.)	21301	24268	26827	33790	15417	11434	15983.06
3.1	Eri	7670	8044	9172.5	15796	6601	5510	7176.13
3.2	Muga	8908	9400	10230	10371	5995	4383	5931.58
3.3	Mulberry	4723	6824	7424	7623	2821	1541	2875.35
4.	Yield of Cocoons							
4.1	Eri cut Cocoons (in MT)	1108	1622.51	2514.16	3182	3050	3317	4350.58
4.2	Muga Cocoons (in lakh Nos.)	6368	5812	5450	6361	6528	6864	6480.00
4.3	Mulberry Reeling Cocoons (in MT)	110	129.28	225.0	340.5	268	328	439.05
5.	Production of Silk Yarn (in MT)	935.66	1187.42	2068.0	2700.04	2497.40	2712.80	3647.49
5.1	Eri Raw Silk	810.98	1061.61	1934.0	2545.6	2345.0	2555.00	3468.25
5.2	Muga Raw Silk	113.28	114.56	109.0	127.2	126.0	127	129.60
5.3	Mulberry Raw Silk	11.4	11.25	25.0	27.24	26.4	31.02	49.64

Source: Directorate of Sericulture, Assam.

At present Muga silk worm rearing in Assam is suffering due to high climatic pollution, extreme temperature and continuous rearing under domestic nature. To overcome the problem and to regain its wild nature and strength to survive with the present topography, the department proposed to release some muga silk worm in wild plantation in the Assam-Meghalaya border area near Boko in collaboration with State Forest Department. This will help improvement of domesticated Muga silk worm for quality seed production. The department also proposed to provide financial assistance to re-vitalize the Muga Research Sub-Station located at Dhakuakhana and other research organizations/private farms for conducting different experiments/researches for conservation and protection of Muga silk worms.

HANDLOOM:

In Assam, Handloom Weaving is inexorably linked with Assamese Culture and Heritage. Handloom Industry of Assam provides maximum number of employment after agriculture is known for its rich glorious tradition of making handloom and handicraft products. Handloom is a precious part of generational legacy and has been kept alive by the skilled weavers engaged in the age old tradition of weaving since antiquity in Assam. Contrary to use of modern technology and tools in the textile sector in present days, the

handloom sector continued to play very important role in terms of employment generation and the socio-economic development of Assam. Handloom sector in Assam has gradually grown to the expected level for commercial production. During 2016-17, there were 19.49 lakh weavers in the State out of which 15.30 lakh were part time weavers and 4.19 lakh whole time weavers. Number of Handloom demonstration circle were 221 and 14273 numbers of villages were covered under the activity. During the year, under Centrally Sponsored Scheme, 63790 numbers of weavers were covered under the Health Insurance and 2752 weavers were given Weavers Credit Card.

TOURISM:

Tourism is a fastest growing industry in the world. Tourism is not only a growth engine but also an employment generator that has the capacity to create large scale employment both direct and indirect, for diverse sections in society, from the most specialized to unskilled workforce. Tourism in Assam is based on wildlife, natural beauty, unique flora & fauna, holy shrines, lush green tea gardens, turbulent rivers, vibrant and colourful cultural festivals. Assam has immense tourism potentials, which are to be explored as commercial resources. Eco-tourism is one of the fastest growing tourism segments and therefore the Government of Assam has given tremendous thrust with relevant to natural beauty and bounty.

The State Tourism Department has witnessed a considerable success and all round development both in respect of infrastructure development and creation of other facilities over the years with the financial assistance from the Central as well as the State Government. It is felt that to explore tourism potentials, adequate investments and integrated, coordinated and concerted efforts from all concerned departments are necessary. However, the State Tourism department has undertaken various steps for promotion/ infrastructure development in the State both individually and jointly with private sector. For the growth of tourism sector, special emphasis has been given on Tourism Circuit Development, Destination Development, Wayside Amenities etc., through public and private partnership to tap the unexplored potential opportunities. Assam Tourism Policy, 2008 has also been adopted by the State Government giving special emphasis to encourage private investment in Tourism sector by providing financial and logistic support. The State Government has made all basic arrangements for construction of chain of 5[Five] Star Hotels in collaboration with private investors and Indian Hotel Company Ltd.

Eco-tourism is aimed at the appreciation of both natural world and traditional cultures existent in natural areas and to protect natural and cultural assets. Assam has several ethnic groups residing in harmony in spite of the differences in rites and rituals, festivals and attires. One may discover the fascinating legacy of art and crafts in Assam, the proud producer of three unique varieties of Silk, the Golden Muga, the White Pat and Warm Eri. In Assam, one can hear the rhythms of the shuttles of looms in the craft village, which get momentum with the advent of spring. Special priority for development of Religious Tourism & Cultural festivals like "Ambubachi Mela" in Maa Kamakhya Temple, Dol Utsav in Barpeta has also given to attract both Indian and foreign tourists. The Brahmaputra Beach Festival, Kite festival, Kaziranga Golf Competition etc., are

organised in collaboration with the Tourism Department is another important step to attract Indian and Foreign tourists to Assam.

Assam is also blessed with minerals especially petroleum. It is worth mentioning that India's first oil well was drilled in Digboi. The world's third oil refinery and the first oil refinery in India and too in Asia was established and located at Digboi has also special importance from the tourism point of view. River cruise on the Brahmaputra from Guwahati, organised by Government as well as Private tour operators are major attractions. One can opt for short cruises or can avail longer sailing to Kaziranga National Park or to the ethno-religious island of Majuli or to the remnants of the Great Ahom Kingdom in Sivasagar. 'M.V. Mahabahu'- the latest addition for river cruise with starred facility is new attraction for adventure tourism. Of late, Brahmaputra cruises has been recognised as one of the top 10 most adventures cruises by the CNN International in 2013. The Table 11.9 shows the volume of tourist traffic and magnitude of revenue earning by the State over the last seven years.

**TABLE –11.9: NUMBER OF INDIAN AND FOREIGN TOURIST TO ASSAM
AND REVENUE EARNED FROM THE TOURISTS**

Year	Tourist staying in Tourist Lodges		Tourist Staying in other accommodation like Hotel etc.		Total Revenue earned from Tourist Lodges only (Rupees in lakh)
	Indian	Foreign	Indian	Foreign	
2006-07	20279	649	3459591	13008	81.30
2007-08	24057	960	3465757	12839	94.99
2008-09	26439	674	3672267	13859	103.92
2009-10	25665	664	3869860	14030	131.63
2010-11	25831	594	4101616	15039	143.60
2011-12	26439	696	4381897	15964	184.49
2012-13	22057	711	4522609	16997	248.19
2013-14	26394	726	4417999	18360	191.32
2014-15	21092	422	4842734	19583	211.77
2015-16	42988	1077	5599962	25243	1057.24
2016-17	24036	474	5389841	6735	252.39

Source: Directorate of Tourism, Assam.

During the year 2016-17, out of the five National Parks in the State, number of visit by foreign tourist increased in Orang, Dibru-Saikhowa and Nameri National Park. Maximum increase of 201 percent was noticed in Orang National Park compared to number of visit in 2015-16 followed by Dibru-Saikhowa (115 percent) National Park. The Table below shows the trend of number of tourists visited various National Parks in Assam during the last nine years.

TABLE – 11.10: NUMBER OF TOURIST VISITED NATIONAL PARKS IN ASSAM

Year	Kaziranga National Park		Manas National Park		Orang National Park		Dibru-Saikhowa National Park		Nameri National Park	
	Indian	Foreign	Indian	Foreign	Indian	Foreign	Indian	Foreign	Indian	Foreign
2007-08	53640	6106	6391	624	1631	215	1766	53	4154	524
2008-09	100384	5767	1104	240	1285	267	2567	74	5489	479
2009-10	105264	7580	8030	139	1628	325	2613	62	4342	346
2010-11	112392	7447	10843	503	1702	180	2351	40	4460	352
2011-12	117308	7521	19705	237	2678	159	3970	42	5601	457
2012-13	93747	7418	15890	218	1847	70	2656	19	4370	528
2013-14	119289	6922	20527	211	2329	16	4230	54	5866	806
2014-15	123360	7994	9786	475	1946	45	4249	27	8448	1035
2015-16	162799	11417	40559	614	3502	20	2695	27	10384	702
2016-17	159669	7383	36201	351	3354	62	2968	58	11539	874

Source: Principal Chief Conservator of Forest (Wildlife), Assam and Directorate of Tourism, Assam

EFFORTS TO UNVEIL ASSAM TO NATIONAL AND FOREIGN TOURIST:

At present, infrastructure development and destination management has been emphasised for sustained growth of tourism sector of Assam. Priority has also been given to establish an impeccable brand identity in the domestic and international market through publicity both in domestic and overseas countries. To achieve positive response from the national and global market, the Assam Tourism Department participated in different tourism fairs to showcase the tourism product in the national and international market so as to attract domestic and foreign tourists to the region. Accordingly, the Assam Tourism Department participated in the national level tourism fairs like Rath Yatra Festival at Puri, TTF Kolkata, Travel India, Kolkata, Surajkund Craft Mela, Buddhist Conclave, IITF New Delhi etc. In addition, the Assam Tourism Department too participated in several international tourism fairs as a part of publicity campaign and to draw tourists. The electronic and print media are also been extensively utilized for publicity and marketing campaign. The Assam Tourism Department has also started intensive media campaign through Domestic and National Level electronic media. Efforts have been made to establish linkages with the neighbouring North-eastern States and South East Asian countries as a regional tourism hub.

The Assam Tourism Department has prioritized infrastructure development of Rural Tourism for women to showcase the rural tourism products, rural lifestyle, culture, handicrafts etc., for unique visitor community as well as income and employment generation of rural women. In addition, special attention has been given to upgrade existing facilities in wildlife parks, sanctuaries to accommodate more tourists.

APPENDIX – 11.1

TOTAL NUMBER OF REGISTERED MSME UNITS AND TOTAL NUMBER OF WORKERS IN ASSAM

Sl. No.	District	Unit Registration During the year			Total Workers		
		2014-15	2015-16	2016-17	2014-15	2015-16	2016-17
1	2	4	5	6	7	8	9
1.	Kokrajhar	9	10	16	206	61	143
2.	Dhubri	139	29	32	740	192	160
3.	Goalpara	77	59	58	532	303	274
4.	Bongaigaon	167	33	43	994	324	250
5.	Barpeta	122	202	195	818	1411	1128
6.	Kamrup & Kamrup (M)	R-171 M-206	K-58 K (M)-115	R-256 K (M)-179	R-1138 M-1783	K-877 K(M)-681	K-2915 K(M)-2451
7.	Nalbari	100	128	80	577	768	514
8.	Darrang	54	54	62	436	251	399
9.	Morigaon	53	16	49	380	119	265
10.	Nagaon	213	89	187	1276	559	1212
11.	Sonitpur	135	60	99	916	576	630
12.	Lakhimpur	52	35	38	880	357	210
13.	Dhemaji	11	5	16	81	24	111
14.	Tinsukia	119	56	94	747	359	751
15.	Dibrugarh	180	139	306	1480	1099	2632
16.	Sivasagar	282	313	151	2389	2399	1486
17.	Jorhat	141	71	76	866	472	384
18.	Golaghat	112	230	62	825	1823	399
19.	K. Anglong	17	13	30	96	121	194
20.	Dima-Hasao	17	2	0	86	7	0
21.	Cachar	40	27	33	221	165	215
22.	Karimganj	38	44	20	239	203	105
23.	Hailakandi	34	30	23	165	151	98
24.	Chirang	55	54	43	363	350	238
25.	Baska	6	1	4	54	7	22
26.	Udalguri	13	25	25	2208	189	2169
Total		2629	1898	2177	20496	13848	19355

MSME- Micro, Small, Medium Enterprises

Source: Commissionerate of Industries and Commerce, Assam.

APPENDIX – 11.2

DISTRICTWISE NUMBER REGISTERED MSME IN ASSAM DURING THE YEAR 2015-16

Sl. No.	District	Unit Registration during the year 2016-17			
		Micro	Small	Medium	Total
		3	4	5	6
1	Kokrajhar	14	2	0	16
2	Dhubri	31	1	0	32
3	Goalpara	58	0	0	58
4	Barpeta	188	7	0	195
5	Morigaon	47	2	0	49
6	Nagaon	168	18	1	187
7	Sonitpur	92	7	0	99
8	Lakhimpur	37	1	0	38
9	Dhemaji	11	5	0	16
10	Tinsukia	61	31	2	94
11	Dibrugarh	144	156	6	306
12	Sivasagar	104	43	4	151
13	Jorhat	67	9	0	76
14	Golaghat	56	5	1	62
15	Karbi-Anglong	27	3	0	30
16	Dima-Hasao	0	0	0	0
17	Cachar	23	10	0	33
18	Karimganj	18	2	0	20
19	Hailakandi	23	0	0	23
20	Bongaigaon	38	5	0	43
21	Chirang	38	5	0	43
22	Kamrup	188	64	4	256
23	Kamrup (M)	124	48	7	179
24	Nalbari	71	9	0	80
25	Baksa	4	0	0	4
26	Darrang	59	3	0	62
27	Udalguri	19	5	1	25
ASSAM		1710	441	26	2177
MSME-Micro, Small, Medium Enterprises					

Source: Commissionerate of Industries and Commerce, Assam.

APPENDIX – 11.3

INDEX NUMBER OF INDUSTRIAL PRODUCTION OF ASSAM

(Base : 2004-2005 = 100)

Manufacturing (Registered) Sector [2-digit (Division) level]

2-digit NIC 2004	Industry Division	Index Number				
		2011-12	2012-13	2013-14	2014-15	2015-16
1	2	3	4	5	6	7
15	Manufacturing of food products and beverages	117.47	136.7	146.37	143.76	151.43
16	Manufacture of tobacco products	176.66	193.53	204.25	224.58	235.93
17	Manufacturing of Textiles	158.59	178.21	195.52	186.17	203
21	Manufacturing of paper & paper products	117.84	135.63	154.99	151.21	154.9
22	Publishing, Printing & reproduction of recorded media	221.94	254.69	289.2	289.6	312
23	Manufacturing of Coke, refined petroleum products & nuclear fuel	166.56	161.95	163.29	163.263	144.35
24	Manufacturing of Chemical & Chemical Products	178.52	217.53	236.44	237.27	254.8
25	Manufacturing of rubber & Plastic Products	188.65	211.37	226.86	231.46	250.33
26	Manufacturing of other non-metallic mineral products	146.3	175.88	187.43	191.71	208.02
27	Manufacturing of basic metals	148.99	196.32	190.8	190.73	197.93
28	Manufacturing of fabricated metal products, except machinery & equipments	171.01	208.45	252.67	243.56	268.14
29	Manufacturing of machinery & equipments n. e. c.	202.03	258.55	291.36	284.08	313.46
31	Manufacturing of electrical machinery and apparatus n. e. c.	236.24	256.36	274.55	261.54	271.87
32	Manufacture of Radio, television and communication equipment and apparatus	126.48	134.61	142.25	129.43	131.4
33	Manufacture of medical, precision and optical instruments, watches and clocks	143.22	164.86	195.06	203.45	217.76
34	Manufacturing of motor vehicles, trailers and Semi trailers.	133.55	223.66	225.81	209.25	214.84
36	Manufacturing of furniture, Manufacturing n. e. c.	134.58	156.95	179.55	184.7	191.13
TOTAL		159.67	170.48	178.13	178.37	174.27
10-14	Mining and Quarrying	108.35	105.15	102.48	98.20	98.96
15-36	Total Manufacturing	159.67	170.48	178.13	178.37	174.27
40	Electricity	133.42	123.00	130.79	125.54	128.25
GRAND TOTAL		132.68	135.06	137.69	135.30	134.09

Source : Directorate of Economics and Statistics, Assam

APPENDIX- 11.4
DISTRICTWISE DISTRIBUTION OF REGISTERED FACTORIES AND WORKERS IN ASSAM, 2016
(As per NIC, 2008)

Sl. No.	District	Factories	Workers
1	2	3	4
1.	Kokrajhar	42	1779
2.	Dhubri	94	2676
3.	Goalpara	27	1124
4.	Barpeta	73	2081
5.	Morigaon	83	4027
6.	Nagaon	383	18193
7.	Sonitpur	505	23142
8.	Lakhimpur	76	2229
9.	Dhemaji	8	124
10.	Tinsukia	655	25953
11.	Dibrugarh	508	29263
12.	Sivasagar	408	15352
13.	Jorhat	361	10170
14.	Golaghat	330	9153
15.	Karbi-Anglong	54	1385
16.	Dima-Hasao	28	1057
17.	Cachar	343	12632
18.	Karimganj	121	3977
19.	Hailakandi	59	3395
20.	Bongaigaon	76	5910
21.	Chirang	14	1057
22.	Kamrup	1658	59604
23.	Kamrup (M)	-	-
24.	Nalbari	37	1416
25.	Baksa	22	1208
26.	Darrang	95	2975
27.	Udalguri	61	3371
ASSAM		6121	243253

Source: Chief Inspector of Factories, Assam

APPENDIX-11.5
SELECTED INDICATORS OF DIFFERENT STATES /UNION TERRITORIES OF INDIA
(Annual Survey of Industries, 2013-14)

Sl. No.	State/ Union Territory	No. of Factories	No. of Factories in Operation	Total No. of Workers
1	2	3	4	5
1	Andaman & Nicobar Islands	20	20	421
2	Andhra Pradesh	15719	12941	415127
3	Arunachal Pradesh	-	-	-
4	Assam	3518	3283	157687
5	Bihar	3419	3130	96122
6	Chandigarh	285	250	8030
7	Chattisgarh	2534	2271	131032
8	Dadra & Nagar Haveli	1405	930	83397
9	Daman & Diu	1881	1313	89215
10	Delhi	3918	2936	75273
11	Goa	618	577	39618
12	Gujrat	22876	18069	1049725
13	Haryana	6117	5293	467741
14	Himachal Pradesh	2806	2409	132706
15	Jammu & Kashmir	943	882	52886
16	Jharkhand	2688	2347	130450
17	Karnataka	12107	10062	705941
18	Kerala	7132	6143	290055
19	Lakshadweep	-	-	-
20	Madhya Pradesh	4047	3437	239212
21	Maharashtra	29123	23369	1328688
22	Manipur	145	140	4988
23	Meghalaya	108	105	10998
24	Mizoram	-	-	-
25	Nagaland	134	115	3303
26	Orissa	2714	2399	206788
27	Puducherry	857	697	39751
28	Punjab	12278	10394	485520
29	Rajasthan	8820	7874	356006
30	Sikkim	66	66	10227
31	Tamil Nadu	37378	28597	1641460
32	Telangana	14110	12171	629361
33	Tripura	552	538	26524
34	Uttar Pradesh	14463	12382	701782
35	Uttarakhand	2936	2656	312131
36	West Bengal	8859	7895	522241
ALL INDIA		224576	185690	10444404

Source: Central Statistical Organisation (Industrial Statistical Wing), Govt. of India

CHAPTER –XII

POWER

With the rise in the pace of rapid urbanisation, followed by infrastructure development and industrial growth, there is a resulting upsurge of electricity demand in the country, as a whole. In the total electricity consumption, a sizeable part is from domestic and commercial categories. Therefore as a vital input, electricity consumption, its growth trends reflects and helps us to know the priorities set thereby. In the modern world, electricity or power is of paramount importance. This can be best known by the fact that the Power Department has the capacity in propelling all-round growth. In the present times, the development of a country is no longer determined by its gross capita income, rather it is dependent and decided by the energy availability and per capita consumption of energy. As per the Central Electricity Authority Statistics, Northeast part of India, has a hydro power potential of 63, 257 MW, which is about 43 percent of the total assessed hydro power of the Country as a whole Assam, among the North-Eastern states has a capacity to produce 680 MW of hydro power.

In pursuance, of the Indian Electricity Act 2003, and as a part of the programme of Assam Power Sector Development, Government of Assam has unbundled the Assam State Electricity Board (ASEB) in the year 2004, into three Government companies namely:

1. The Assam Power Generation Corporation Limited (APGCL),
2. The Assam Electricity Grid Corporation Limited (AEGCL), and
3. The Assam Power Distribution Company Limited (APDCL)

All these initiatives were taken up by the electricity sector in the state, in the interest of its stakeholders, namely consumers, shareholders, suppliers, creditors, infrastructure builders and the Government of Assam. However, schemes like externally aided projects, rural electrification, accelerated power development and reform programmes (APDRP) are still executed under ASEB. The Assam Power Generation Corporation Ltd. (APGCL) are constituted to see to the power generation in the State Sector. Its final Transfer Scheme was implemented, since August, 2005. This company is mainly responsible for development of both Thermal and Hydro Power Projects, to generate electricity to meet the energy demands in the State, as far as possible and feasible.

The present installed capacity of APGCL is 379.7 MW, of which

- | | |
|---|-------------|
| 1) Namrup Thermal Power Station (NTPS) | = 119.5 MW |
| 2) Lakwa Thermal Power Station (LTPS) | = 157.2 MW, |
| 3) Karbi Langpi Hydro Electric Project (KLHEP) | = 100 MW |
| 4) Myntriang Hydro Electric Project St-II (M. SHEP St-II) | = 3 MW |

As per the 18th Electric Power Survey of India, undertaken by Central Electricity Authority (CEA) for forecasting Electric Energy Requirements, Electric Load and Power Station Bus Bars (Utilities only) for all States and Union Territories of India. As per the survey report by the end of 12th plan period, the projected energy requirements for Assam will be 8947 MW and peak Electric Load 1817 MW. To meet this projected peak

demand, ASEB has given emphasis on development of power projects based on coal and natural gas, along with steps taken up on the following.

- 1) Development of new Projects on hydro energy.
- 2) A distributed growth of small hydro projects.
- 3) Repair and Maintenance of Old Power Stations
- 4) Upgradation of Infrastructure related to distribution, for reduction of transmission and distribution losses thereby, which will lead to an added capacity of 1452 MUA.
- 5) Introduction of Sub-Station Automation and reliable communication system with OPGW, to reduce the system downtime which in turn will help in predictive maintenance.
- 6) Identification and Construction of new Transmission and Transformation Network.
- 7) Transmission capacity expansion for evacuation of power from central sector generating stations for distribution network. Transmission line capacity addition of length 614 CKm and MVA addition of 1310 MVA is expected.
- 8) To become less dependent on power purchased from outside the State.

TABLE-12.1: Long Term Forecast of Electrical Energy Requirements At Power Stations Bus Bar MW (Utilities only)

State	2011-12	2016-17	2021-22
Assam	1257	1817	2534
India	124995	199540	283470

Source: 18th Electric Power Survey Report.

I. INSTALLED CAPACITY AND GENERATION OF POWER:

The noticeable feature of installed generation capacity should be higher growth rates, for the inclusion of renewable energy sources in comparison to use of fossil fuels. At present, the installed capacity of generating plants in the state is 379.7 MW, which includes Coal, Hydel and Gas plants of the State.

Regarding the status of power generation in the state is not at all satisfactory, from the point of view of power requirements in general and also in terms of consumer demand, in particular. There has always been a shortage of power supply in the state due to generation of less amount of power in comparison to its demand. However, the ASEB, has been trying to meet the power shortage by importing power from the Central Government and private foreign sources. It is observed that gross power generation in the State during the year 2014-15 was 1895 MU, in the year 2015-16 was 1851.107 MU and during the year 2016-17 was 1650.607 MU.

The installed capacity of various generating plants and the generation of power in the State during the last three years is shown in the Table 12.2 below-

TABLE – 12.2: INSTALLED CAPACITY AND GENERATION OF ELECTRICITY IN ASSAM

Installed Capacity of Generating Plant (MW)		2014-15	2015-16	2016-17
Hydel	KLHEP	100	100	100
	M. SHEP St-II	3	3	3
Gas	LTPS	120	120	120.0 till 1/1/2017 and 105.0 from 12/1/2017
	NTPS	97	97	97.0
Waste Heat Recovery Unit	LTPS WHRU	37.2	37.2	37.2
	NTPS WHRU	22.5	22.5	22.5
Total	APGCL	379.7	379.7	379.7 till 1/1/2017 and 364.7 from 12/1/2017
Gross Unit Generation (MU)				
Hydel	KLHEP	367.0	396.3	397.1
	M. SHEP St-II	0.71	0.38	5.7
Gas	LTPS	935.3	946.7	891.4
	NTPS	591.7	507.5	356.3
Total	APGCL	1894.7	1851.107	1650.607
AUX Consumption(MU)				
Hydel	KLHEP	1.8	1.982	1.986
	M. SHEP St-II	0.013	0.008	0.057
Gas	LTPS	80.0	76.562	68.136
	NTPS	34.1	27.734	23.168
Total	APGCL	115.9	106.286	93.347
Net Unit Generation (MU)				
Hydel	KLHEP	365.1	394.393	395.144
	M. SHEP St-II	0.697	0.375	5.667
Gas	LTPS	855.3	870.235	823.265
	NTPS	557.6	479.818	333.184
Total	APGCL	1778.7	1744.821	1557.260

Source: Assam Power Generation Corporation Ltd (APGCL).

POWER SUPPLY POSITION:

The energy requirements in the State has been worked out at 8240 Million Units (MU) during the year 2016-17 as against 7857 Million Units (MU) during the year 2015-16 and as 7233 Million Units in the 2014-15. But, Availability of energy during the periods was 7948 MU, 7571 MU and 6955 MU respectively. However, the power generation was 1650.607 MU during 2016-17, 1851.107 MU during 2015-16 and 1894.7 MU during 2014-15. The peak demand of electricity in the State has has increased from 1424 MW in 2014-15 to 1496 MW during 2015-16 to 1679MW during 2016-17, though the shortage of power has come down from 212 MW in 2014-15 to 157 MW in 2015-16 to 45 MW in 2016-17, the shortage in percentage being 15 % in 2014-15, 10% in 2015-16 and 3% in 2016-17 respectively.

TABLE – 12.3: PER CAPITA AVAILABILITY STATUS

Year	Electrical Energy (million unit)		Population	Per capita Requirement (Kwh)	Per Capita Availability (Kwh)
	Requirement	Availability			
2014-15	7233	6955	\$32637000	279	219
2015-16	7857	7571	\$33129000	237	228
2016-17	8240	7948	-	-	-

* Population as per Census 2001 and 2011

Projected population as per 2001 Census

\$ Projected Population Estimated by DES based on 2011 Census.

Note : Figures for 2015-16 are provisional

Source: Commercial Wing of ASEB.

TABLE – 12.4: REQUIREMENT AND SHORTAGE OF ELECTRICITY IN ASSAM

Item	2014-15	2015-16	2016-17
Peak Demand(MW)	1424	1496	1679
Peak Demand MET AT THAT TIME (MW)	1212	1339	1634
Shortage(MW)	212	157	45
Shortage (in %)	15%	10%	3%

TRANSMISSION AND DISTRIBUTION LOSSES:

Power, which and when supplied to various categories of consumers, it passes through various stages from transformation of higher voltage level to final distribution in the premises of the various consumers, the process involves energy losses, known as Transmission and Distribution losses. The Table 12.5, reveals the aggregate transmission and commercial losses in the State, which is gradually coming down, from 21.14 percent in 2014-15 to 18.12 percent in 2015-16 to 17.89 percent in 2016-17. Though situation is gradually improving, however power loss through transmission is an important issue and area of concern, specially for power deficit states like Assam. In order to bring down the T and D losses and AT & C losses to 19.49 percent and 21.34 percent respectively by the

end of Twelfth Five Year Plan period, following measures are taken up to reduce T & D Losses and they are as follows:

- 1) Energy accounting and electricity live ring fencing under R-APDRP.
- 2) Repair & Maintenance and Re-conducting of 33 KV, 11 KV & LT lines.
- 3) Changing of E & M and Stopped Meter with Electronic Meter.
- 4) Establishment of Police Stations in different circles for theft detection and
- 5) Energy Bill Payment through Net Banking

In Assam, the transmission and distribution losses, during the last three years are shown in Table 12.5, below.

TABLE – 12.5: TRANSMISSION & DISTRIBUTION (T&D) LOSSES AND

Item TRANSMISSION & COMMERCIAL (AT&C) LOSSES

Item	2014-15	2015-16	2016-17
Energy Input (MU) (at APDCL end Available)	6955	7571	7948
Energy Billed (MU)	5485	6199	6526
T&D Losses (MU)	1470	1372	1422
T&D Losses (%)	21.14	18.12	17.89
Amount Billed (Rupees in lakh)	318946	380981	443168.00
Amount Realized (Rupees in lakh)	313939	371975	408580.00
Collection Efficiency (%)	98.43	97.64	92.20
Overall Efficiency (%)	77.63	79.94	75.70
AT&C Losses (%)	22.37	20.06	24.30

T & D losses: Transmission and Distribution losses;

AT&C losses: Aggregate Transmission and Commercial Losses.

Source: Assam Power Distribution Company Ltd.

NUMBER OF ELECTRICITY CONSUMERS:

As per 2011, 37.0 percent households in Assam, use electricity as a source of lighting compared to 67.0 percent households at All-India level. The rural-urban difference in use of electricity as a source of light is very high in Assam. Only 28.0 percent of rural households use electricity for lighting purposes in comparison to 84.1 percent urban households in Assam.

TABLE-12.6: HOUSEHOLDS USING ELECTRICITY AS SOURCE OF LIGHTING

Item	Assam			India		
	Rural	Urban	Total	Rural	Urban	Total
Total	53,74,553	9,92,742	63,67,295	16,78,26,730	7,88,65,937	24,66,92,667

Electricity	15,24,221	8,34,679	23,58,900	9,28,08,038	7,30,89,256	16,58,97,294
Households using electricity (%)	28.0	84.1	37.0	55.0	93.0	67.0

Source: Annual Report, 2013-14 (Power and Energy Division), Planning Commission, India

TABLE- 12.7: TOTAL NUMBER OF CONSUMERS

Year	Domestic	Commercial	Total
2013-14	2640938	188801	2829739
2014-15	2945360	196287	3141647
2015-16	3468173	205080	3673253
2016-17	3690714	242031	2932745

Source; Assam Power Distribution Company Ltd.(Commercial Wing)

In order to meet the shortage of electricity generated from its own sources and also to meet the growing demand of consumers in the State, the power distribution company has been purchasing electricity from different sources and agencies from time to time. Energy sale to consumers in MU is shown in Table-12.8 below.

Energy sale to consumers in MU.

TABLE-12.8

Category	2014-15	2015-16	2016-17
JEEBAN Dhara	606	771	487
Domestic A 0.5 Kw to 5 Kw	1535	2075	2639
Domestic-B above 5 kw to 20 kw	202	228	261
Commercial Load above 0.5 to 20 kw	517	578	631
General Load upto 20 kw	130	118	117
Public Lighting	14	17	17
Agriculture upto 7.5 hp	10	12	15
Small Industries Rural upto 20 kw	50	57	64
Small Industries Urban	28	31	33
Temporary			7
LT Total	3093	3887	4271
HT Domestic 20 kw and above	39	43	36
HT c ommercial 20 kw & above	277	324	375

Public Water Works	78	66	87
Bulk Supply Govt. Edu Inst.	71	78	86
Bulk Supply Others	377	384	391
HT Small Industries upto 50 kw	23	22	26
HT Industries-1 (50 kw to 150 kw)	76	78	78
HT Industries-II (above 150 kw)	913	755	617
Tea, Coff & Rub	400	412	426
Oil and Coal	109	129	112
HT Irrigation Load above 7.5 hp	28	22	21
HT Total	2392	2313	2255
All Total	5485	6200	6526

Source: Assam Power Distribution Company Ltd. Bijulee Bhawan, Paltanbazar, Guwahati

RURAL ELECTRIFICATION:

The Power Department has taken up a number of initiatives for electrifying the rural areas of the State under the flagship programme of Rajiv Gandhi Gramin Vaidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY)

Rajiv Gandhi Gramin Vaidyutikaran Yojana (RGGVY):

The Rajiv Gandhi Gramin Vaidyutikaran Yojana (RGGVY) is a scheme for attaching the goal of providing access to electricity to 8406 nos. of Un-Electrified (EU) villages and provide BPL connection to around 10 lakh consumers in 13081 nos of Already Electrified (AE) villages in the State. In Assam, RGGVY was implemented from April 2007. Under this programme, 90% grant is provided by Government of India and 10% as loan by Rural Electrification Corporation (REC) as nodal agency for the programme. Under RGGVY, electrification works of 8348 nos. of un-electrified villages has been completed, 12841 nos. of partially electrified villages has been completed and electricity connections to 1214398 nos. of BPL households were released at free of cost.

Deendayal Upadhyaya Gram Jyoti Yojana-DDUGJY (DDUGJY):

Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) was announced since Budget 2014-15, envisages feeder separation, strengthening of Sub-Transmission and distribution network, metering at all levels, including input points, feeders and distribution transformers, minor grid and off grid distribution network and rural electrification to complete already sanctioned projects. This scheme will help in power supply to rural households and adequate power supply to agricultural consumers.

Under the Deen Dayal Upadhyaya Gramjyoti Yojana, a total of 928 nos. of un-electrified villages have been electrified till date in 2016-17. Power will be supplied to the remaining 1022 nos. of un-electrified villages within 31st May, 2017. Moreover, a total of 5,41, 953 nos. of BPL beneficiaries will be provided electricity connections free free cost.

INITIATIVES ON SOLAR POWER GENERATION IN ASSAM :

Solar power has become a key strategic choice for high growth economies. Renewable energy is no longer considered an “alternate energy” source, but has increasingly become a key part, of the solution to meet a nation’s growing energy needs. The demand for electricity in Assam, is constantly on the rise, with the increase in the population and the growth of infrastructure. It is also seen that, there is a steady rise in the numbers of commercial, industrial, educational, institutional, and residential establishments, triggered by rising population and diversified economic activities. In Assam, the demand for electricity exceeds the supply of the same, resulting in power unavailability and crisis arising thereby.

INITIATIVES TAKEN UP BY APGCL FOR PROMOTION OF RENEWABLE ENERGY:

Special attention is been given to the development of the State, through a separate budget allocation granted by GOA, under various renewable energy programmes, over and above receipt of CFA from the Ministry of New and Renewable Energy. The Government of Assam, has allocated budgetary support for the deployment of community based rural electrification model through mini and micro solar plants for providing basic lighting facilities to the inhabitants of un-electrified villages and un-electrified hamlets of electrified villages. In many North-Eastern States, remote villages have widely dispersed households, small population and are situated at large distances from motorable roads.

In addition to these conditions, many villages in Assam are located in Char Areas, of the Brahmaputra River, which has to be shifted, due to inundation and occurrence of floods. Under such circumstances, good lighting facilities can not only provide basic comforts to the households but also provide safety from wild animals etc. Solar photovoltaic based home lighting systems have been providing, a welcome relief, to people living in such remote villages. Hybrid Solar and Wind lighting prototypes is another promising application related to renewable energy based favourable combination of two or more energy sources within the same system, such as wind and solar ones. The hilly slopes of territories in Assam, are ideal for putting up wind generated power stations.

Grid interactive solar photovoltaic power plan on the roof top terrace of buildings is a viable option of solar energy application. It has been proposed to set up grid connected solar photovoltaic power plants on roof terrace of buildings or ground based projects with provisions of net-metering. The Scheme targets large area roofs or vacant land of Government/ Semi Government offices, hospitals, educational institutions. Implementation of the Projects would meet partial load of buildings during working days and contribute the surplus power available to the Grid during weekends and holidays.

APGCL has also been taking initiatives to make use of solar energy and energy efficiency measures for public street lighting as a part of smart street lighting solutions. The Government has announced its priority for the provision of sufficient and reliable power to everyone in the State. However, with the given resource position and infrastructural constraints, it would take some time to put the system in place for supply of quality and uninterrupted power supply. However, as a beginning, it is proposed to take steps in this direction to cover a few important places of tourist attraction which needs a good infrastructure including uninterrupted power supply to these places. As a part of this 24 × 7 dedicated feeder to Kamakhya, Kaziranga, Majuli, Tezpur, Sualkuchi, Manas, and Pabitora. Accordingly, Rs.3000.00 lakhs is proposed to be provided in the budget. Various new Projects have been taken up in the State power sector recently, such as infrastructure development, providing uninterrupted power supply to all etc. In 2017-18, six new power projects with an installed capacity of 247 MW have been proposed in the Budget. Moreover, Ministry of New and Renewable Energy (MNRE), Govt. of India has proposed 688 MW of Generating capacity from the renewable energy sources in Assam till 2021-22, out of which 663 MW will be from Solar and 25 MW will be from hydro electric power projects.

Under Restructured Accelerated Power Development and Reform Programme (R-APDRP), advanced IT implementation has been successfully completed in 67 towns across Assam, including Guwahati. Initiatives have been taken to reduce AT & C losses in these towns considerably. Implementation of SCADA (Supervisory Control and Data Acquisition) system alongwith Smart Grid Pilot Project. These two projects are expected to help in maintaining round the Clock power supply in Guwahati City.

For the Financial year 2017-18, Government will launch the 'Flagship' Programms of setting up of 2 nos. of solar power plants having capacities of 69 MW at Amguri in Sivasagar District and of 20 MW at Chandrapur in Kamrup District of Assam, for providing 24 ×7 power supply to 5 (five) nos. of towns in Assam, namely Guwahati, Dibrugarh, Sualkuchi, Rangapara and Jorhat. Many states in the country has segregated HT (Industry) and LT (Non-industry) feeders and this has resulted in reduction of AT & C losses of DISCOMs. Our Government will support such proposals for dedicated HT feeders for the HT Consumers. For preparatory works on the same, Rs.1000.00 lakhs will be allocated in the current year. It is proposed to revise Assam, Electricity Duty, under the relevant Act in due course of time. Further, the Government is keen that the pension fund available be managed professionally in such a way that it will be invested to get the maximum return.

CHAPTER – XIII

TRANSPORT AND COMMUNICATION

Transport and Communication is the basic infrastructure for development of a modern economy. An efficient transport system integrates remote, backward and urban areas and plays a vital role in increasing productivity and improving quality of life. Moreover, development of this sector generated large employment opportunities.

Assam being the gateway of the North East India, the need for development of transport and communication sector in the State is paramount for speedy economic development of the region. Due to its geographical isolation, transport has been a major bottleneck in the process of economic progress of the State. The State although served by all the modern means of transport viz., roads, railways, waterways and airways, there is enough scope for further improvement of the facilities. The contribution of the transport and communication sector is calculated at

TABLE – 13.1

CONTRIBUTION OF TRANSPORT & COMMUNICATION SECTOR TO STATE ECONOMY [GSDP AT CONSTANT (2011-12) PRICES]	
(Figure in Percentage)	
Year	Contribution to GSDP
2011-12	5.66
2012-13	6.04
2013-14	11.00
2014-15	6.61
2015-16 (P)	6.92
2016-17(Q)	7.01

7.01 percent of State Gross Domestic Product in 2016-17(Q) at constant (2011-12) prices (New base). The position of the State with regard to the existing means of transport and communications is described briefly in the following paragraph.

ROADS:

The road network in Assam comprises of total 58202 Km. of roads consisting of 3900.44 Km. National Highways, 2530 Km. State Highways, 4379 Km. Major District Roads, 1615 Km. Urban roads, 37030 Km. Rural Roads and the rest are Panchayat & Other Non PWD Roads approximately 6000 km and Municipal Roads are 1087 km. At present 49454.44 Km. road network including 3900.44 Km. National Highways [of which 223.31 Km. under construction and 894.79 Km. newly declared NH Way] is maintained by the State PWD. Excluding the National Highways, 27003 Km. out of the total 45554 Km. road length maintained by the PWD is blacktopped. Most of the State Highways and Major District Roads are Single lane roads and hardly 6 percent of the State Highway is double lane and Major District Roads are intermediate lanes. According to the India road Congress Vision, 2021, the State Highways should be 100 percent double lane and 40 percent of the Major District roads should be doubled lane. Also the weak pavements and bridges should be strengthened to cope with heavy traffic.

The effort of the State PWD helps to bring down the number of semi-permanent timber bridges from 5450 in 2001 to 1433as on March 2017. In addition construction of

the number of RCC bridges has been increased from 309 in 2001 to 4563 in 2016. Presently more than 923 RCC bridges are at different stage of construction.

Roads are also being blacktopped under PMGSY but 50 percent rural roads are still remained gravel road. To strengthen connectivity rural roads need be constructed as all weather roads. Table 13.2 shows the road length network maintained by the State PWD.

TABLE – 13.2: ROAD NETWORK IN ASSAM

(in Km.)

Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Surfaced Road*	21200	22700	23747	23948	25546	27003
Unsurfaced Road	24300	22800	21753	20914	19316	18551
National Highway	2848	3069	3069	3834.68	3862.53	3900.00
State Highway	3134	3134	3134	2530	2530	2530
Major District Road	4413	4413	4413	4379	4379	4379
Rural Road	36544	36544	36544	36544	36544	37030
Urban Road	1409	1409	1409	1409	1409	1615

*Excluding National Highways

Source: Office of the Chief Engineer PWD (Roads), Assam

The surfaced road kilometer (excluding NH Way) constitutes almost 57 percent of the total road length in the State as on March 2017. This indicates that compared to total road length availability [including NH Way and Project roads] of about 58.08 Km. per 100 Sq.Km. and about 146.0 Km. per lakh of population (2011 Census) as on March 2017 availability of surface road calculated at 34.4 Km. per 100 Sq. Km. of geographical area and about 60.0 Km. per lakh of population [2011 Census] in the State during the same period.

NATIONAL HIGHWAY DEVELOPMENT PROJECT:

The National Highways are very important as even though these comprise about 7.0% of the road network but are carrying about 40% of the total road traffic. The Ministry of Road Transport & Highways is responsible for the development and maintenance of National Highways. Out of the total 100087 Km. length of NH in the country, Assam shares only 3.8 percent. Compared to 30.44 Km. NH length per thousand Sq. Km. geographical areas and 8.26 Km. NH length per lakh of population (2011 Census) of the country as a whole, Assam has 49.24 Km. per thousand Sq. Km. geographical area and 12.38 Km. NH per lakh of population in the State.

The Government of India has also proposed to construct/improve roads connecting Doboka (Assam) to Dimapur (Nagaland Border), Baihata-Chariali to Banadardewa, Bandardewa (Assam) to Arunachal Border, Assam/Meghalaya Border to Assam Tripura Border and Silchar (Assam) to Mizoram Border under NHDP Phase-II. The Government of India has approved implementation of 4 laning of NH-37 on Nagaon-Jorhat-Dibrugarh stretch from Numaligarh to Dibrugarh (201 Km.) along with construction of 4-lane Bridge over river Brahmaputra connecting Numaligarh and Gohpur. In addition, construction works of Dhola-Sadiya 2-lane Bridge (bridge length 9.15Km.) connecting

Dhola & Sadiya Ghats upto Islampur (NH 37 extension) at the cost of Rs. 950 crore is completed and inaugurated on 26th May, 2017. This longest river beam bridge in India is named after Dr. Bhupen Hazarika. This project has not only saved about 4 hours travel time between Assam and Arunachal Pradesh, but will also promote socio-economic activity around the area. Government of India has approved implementation of Arunachal Pradesh Package of Roads & Highways covering 2319 Km of roads at an estimated cost of Rs.11703 crore. Out of 2319 Km., 139 Km. falls in Assam.

The Govt. of India has also approved the following three major long-pending road infrastructure projects for Assam worth over Rs. 1,933 crore (excluding land acquisition and other pre-construction activities) with a view to expedite the improvement of infrastructure in Assam and reduce travel time and cost of travel for traffic, particularly heavy traffic, plying between Guwahati and Dibrugarh and beyond. These projects would also increase the employment potential for local labourers for project activities. The project covered the districts of Golaghat, Jorhat, Sivasagar, Dibrugarh and passes through the towns of Numaligarh, Dergaon, Jorhat, Jhanji, Gaurisagar, Sivasagar, Demow, Sepon, Moran and Dibrugarh.

- Four-laning of the Demow-Bogibil junction section of National Highway-37 under the Special Accelerated Road Development Programme in North Eastern Region (SARDP-NE) on Design, Build, Finance, Operate and Transfer (DBFOT) basis in Build-Operate-Transfer (BOT) (Annuity) mode of delivery. The cost is estimated to be Rs. 473.45 crore. The length of the road will be approximately 46 Km.
- The second project is four laning of the 'Jorhat-Demow' section of National Highway-37 under SARDP-NE Phase 'A' on Design, Build, Finance, Operate and Transfer (DBFOT) basis in Build-Operate-Transfer (BOT) (Annuity) mode of delivery. The cost is estimated to be Rs. 874.69 crore. The length of the road will be approximately 80 Km.
- The third project is of four-laning of the 'Numaligarh-Jorhat' section of National Highway-37 also under SARDP-NE Phase 'A' on Design, Build, Finance, Operate and Transfer (DBFOT) basis in Build-Operate-Transfer (BOT) (Annuity) mode of delivery. The cost is estimated to be Rs. 584.68 crore. The length of road will be approximately 51 Km.

IMPLEMENTATION OF FLAGSHIP PROGRAMME FOR DEVELOPMENT OF ROAD INFRASTRUCTURE:

The PMGSY has been implemented with the objective of connecting rural habitations with all-weather roads in order of priority. Till end of March 2017, 10077 villages have been covered under rural connectivity programme. Out of the total 10077 villages, 5210 villages having 1000 or more habitations, 2727 villages with 500 or more habitations and 2140 villages having habitations from less than 250 habitations to below 500 habitations.

ROAD TRANSPORT:

Road transport is considered to be vital to economic development and social integration of the country. Road transport is also one of the most cost effective and preferred mode of transport, both for freight and passengers, keeping in view its level of penetration into populated areas. Easy availability, adaptability to individual needs and the cost savings are some of the factors which go in favour of road transport. Road transport also acts as a feeder service to railway, shipping and air traffic.

MOTOR VEHICLES:

The rapid increase of the number of motor vehicles on road in Assam has been observed over the past few years. The on road vehicle population in the State has reached 2837829 as on March 2017 compared to 2666589 as on March 2016. An additional of 171240 or 6.42 percent on road motor vehicles was added during the year 2016-17 over 2015-16. Out of the total 2837829 motor vehicles during on road about 63.0 percent vehicles were two wheelers. According to the Motor vehicle registering authority of the State as many as 292980 new motor vehicles were registered during the year 2016-17 in the State which is 0.72 percent more than that of the previous year. Out of the total registered motor vehicle more than 69.4 percent were two wheelers. The total number of Motor vehicles on road in the State was recorded about 6.42 percent growth as on March 2017 compared to 20.1 percent growth as on March 2016(2666589) which shows declining trend.

The density of motor vehicles in Assam was 34.9 per Sq. Km. during the year 2015-16 as against 30.4 vehicles per Sq. Km. during the year 2014-15. During the year 2000-01, density of motor vehicles in Assam was only 6.8 per Sq. Km. The increase in the number of Motor vehicles registered as well as Motor vehicles on road in the State over the years may be evident from the Table-13.3.

**TABLE – 13.3: NUMBER OF MOTOR VEHICLE REGISTERED AND
MOTOR VEHICLE ON-ROAD IN ASSAM**

Year	No. of Motor Vehicle Registered	No. of Registered Motor Vehicle per		No. of Motor Vehicle on road	No. of Motor Vehicle on road per	
		100 Sq. Km.	Lakh of Population		100 Sq. Km.	Lakh of Population
2000-01	52518	67	198	534885	682	2017
2010-11	199076	253	655	1363625	1738	4484
2011-12	226010	288	725	1528269	1948	4903
2012-13	227367	290	729	1725222	2199	5528
2013-14	249564	318	799	1984880	2530	6360
2014-15	267900	341	858	2384576	3040	7641
2015-16	290874	370	932	2666589	3400	8545
2016-17	292980	374	939	2837829	3618	9094

Source: Office of the Commissioner of Transport, Assam and Directorate of Economics and Statistics, Assam.

With the increasing growth of motor vehicles the number of road accidents in the State is also increasing. During the year 2015-16, the number of road accidents reported in the State was 7435 which was calculated 2.4 percent less over the previous year. During the year 2015-16, number of road accidents reported 6959. The number of persons killed and injured as a result of road accidents during 2016-17 were 2572 and 6127 respectively compared to 2397 and 7066 number of persons killed and injured respectively during 2015-16. The number of persons killed and injured in 2016-17 recorded 2.4 percent less and 12.6 percent more compared to the number of persons killed and injured reported during the year 2015-16. However, the number of persons killed per 100 accidents recorded 34.4 during 2016-17 compared to 34.6 during 2015-16 showing a negligible decline. The Road accidents severity in Assam may be evident from the Table-13.4 below.

TABLE – 13.4: NUMBER OF ROAD ACCIDENTS AND PERSONS INVOLVED IN ASSAM

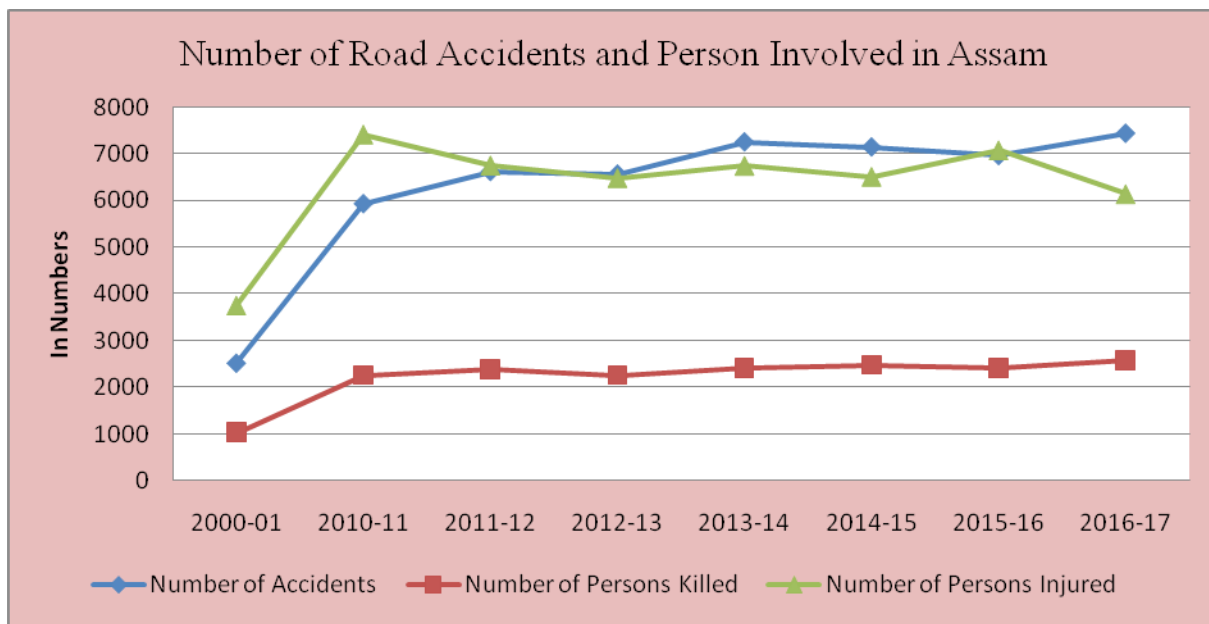
Year	Number of Accidents	Number of Persons		Accident Severity*
		Killed	Injured	
2000-01	2516	1021	3744	40.6
2010-11	5929	2250	7404	38.0
2011-12	6617	2375	6741	35.9
2012-13	6562	2252	6472	34.3
2013-14	7251	2407	6734	33.2
2014-15	7143	2465	6499	34.5
2015-16	6959	2397	7066	34.4
2016-17	7435	2572	6127	34.6

*Accident Severity: Number of persons killed per 100 Accidents.

Source: Office of the Additional Director General of Police, Criminal Investigation Department, Assam.

The Commissionerate of Transport has laid special emphasis for promotion of Road safety through Education and Enforcement during the 12th Five Year plan period. The education component comprises to impress on spreading awareness on Road Safety and for enforcement. The Enforcement Staff will be trained on the legal front and will be provided with latest equipments and mobility to prevent traffic offences and accidents. The Commissionerate of Transport has also given stress to construct driving track and vehicle inspection ground in every district in a phased manner in order to have a sound Transport System to check road accidents throughout the State.

Apart from providing fast and comfortable services to the commuters as well as to create self-employment avenues among the unemployed youths, Trekkers services, post-paid City Taxi services have been introduced in the State, which became not only very popular in the greater Guwahati and in adjoining areas but also in various parts of the State.



The collection of transport revenue by the Department of Transport during the year 2016-17 was Rs. 546.65 crore as against Rs. 453.93 crore in 2016-17. The collection of transport revenue during the year 2015-16 was 19.7 percent more than that of 2014-15.

ASSAM STATE TRANSPORT CORPORATION:

The public Road Transport is the most important means of communication for the movement of goods as well as passengers traffic in the State. In the road transport system of the State, both public and private sector operators are playing equally important role. Earlier, the Assam State Transport Corporation (ASTC), a State Government undertaking and one of the premier public enterprises of the State with its headquarter in Guwahati, is mainly concerned with the movement of passenger traffic on the nationalized routes of the State, while the private sector road transport operators are involved in the Intra-State movement of both goods and passenger traffic throughout the State. With the changing scenario, both the ASTC and private operators are providing transport services equally in the interest of passenger traffic. The ASTC has been providing efficient, safe, reliable, economic and dedicated services to the people especially in the rural and other backward areas since its inception and have earned the appreciation of the people of the State. ASTC has luxury and regular buses for normal bus routes and special mini buses for hill routes. ASTC operates Night Super deluxe, Executive class; air conditioned class and Volvo coach buses providing affordable fares and reliable road transport to passengers. Besides providing online ticket booking facility to passengers, ASTC also provides courier services, cargo services.

To sustain its services it is felt necessary to improve infrastructural facilities like well-developed station buildings and to have well equipped maintenance workshops. As a step towards improvement of passenger amenities the State Government has already constructed two Inter-State Bus Terminus (ISBT) one at Guwahati and the other at Silchar to facilitate Inter-State transportation of passengers. At present, both the Inter-

State Bus Terminuses are fully functional. Inter-State Bus Terminuses have also been constructed at Jorhat, Dibrugarh and Sivasagar by the ASTC with all modern facilities for passengers and bus operators. For providing better passenger amenities, the ASTC has taken initiative to construct new Bus Terminuses at Guwahati City (City Service), Bongaigaon, Halflong, North Lakhimpur and Nalbari. The ASTC has also proposed to construct a modern Inter-State Bus Terminus at Adabari to cater to the demands of the increased number of buses and passengers and to reconstruct/improve the present status of 100 numbers of Station buildings, both major & minor, spread all over the State during 12TH Five Year Plan. The ASTC has also set up a multistoried car parking building at Guwahati City to ease out shortage of car parking space within the market locality at Paltan bazar. To improve its performance and for better transport connectivity, as a part of the Public Transport Policy of the Govt. of India, the ASTC needs to purchase new Buses every year for replacing the old and over-aged ones as well as to augment its fleet position to provide its services to every nook and corner of the State as well as to mobilize its earnings. During the 11TH Five Year Plan (2007-2012) period, ASTC acquired as many as 448 new vehicles and planned to procure additional 140 buses under "Assam Bikash Yojana". The performance of ASTC during the period 2011-12 to 2016-17 may be evident from the Table-13.5.

TABLE – 13.5: PERFORMANCE OF ASSAM STATE TRANSPORT CORPORATION (ASTC)

Year	Average No. of own vehicle held	Average No. of own Vehicle on road	Fleet utilisation (%)	Total km operated during the year (in lakh)	Monthly Av. Net income from own buses (Rs. In lakh)	Staff-Bus ratio	No of Private Buses operated under ASTC	Monthly Average Income from Privately operated buses (Rs. in lakh)
2010-11	357	299	84	159.45	85.30	6:01	1189	95.12
2011-12	538	441	82	222.36	123.61	5:01	1170	92.25
2012-13	665	540	81	248.48	136.64	4:01	1344	76.31
2013-14	751	559	74	279.30	138.32	4:01	1300	72.52
2014-15	815	570	69.88	284.45	148.40	6:01	1112	61.31
2015-16	1090	668	61.28	300.69	244.69	6:01	1009	56.82
2016-17	1074	650	60.52	266.89	167.90	6.01	1139	55.04

Source: Assam State Transport Corporation.

The Rural Connectivity Scheme has become very popular with the masses and there is huge demand for economically viable transportation system. As the private bus operators are reluctant to operate in the rural and interior areas of the State, ASTC with its social service oriented motive planned to provide more bus services in these areas so that the rural masses may have easy transport accessibility in reaching nearest towns or District/Sub-Division Head Quarters.

To cater the transportation needs of the ever increasing population in both the urban and rural areas of the State, the ASTC has planned to acquire 1550 buses [@ 330 buses per year] by the end of the Twelfth Five Year Plan. ASTC has received 182 buses under the JNNURM scheme. With the augmentation of fleet, the procurement of bus chassis will increase which will assist the small scale industries engaged in fabrication of bus bodies and ancillary business to boost their business as well as help in employment

generation. Moreover, the ASTC is having a substantial area of un-utilised land within its Station Complexes spread all over the State and these properties can be utilised for commercial purposes, such as, construction of market complexes, parking yard for small segment vehicles etc., which can be let-out to educated un-employed youth of the State, thereby, generating employment opportunity as well garnering additional revenue for the Corporation. For creating the necessary infrastructure the ASTC has planned to invest Rs.100.00 lakh during the 12TH Five Year Plan period. The ASTC is implementing Dharmajyoti Scheme under which 50 percent bus fare is charged from the pilgrims visiting religious places within and outside the State of Assam. The Scheme has become very popular and more than 2(two) lakh pilgrims have availed the facility.

RAILWAYS:

As per information available from the N.F. Railway, Headquarters, Maligaon, Guwahati, Assam has total railway route length 2440.39Km. at present. This 2440.39 km is broad gauge railway length with no meter gauge and narrow gauge railway. As per Indian Railway Statistical Publication 2015-16, the total Railway Route length of India as on 31st March, 2016 is 66687 Km. out of which Electrified Route length is 23555 Km. Assam shares 3.7 percent of the total Railway Route length of the country. The total number of passengers carried by N.F. Railway is 113.74 Million Nos. and the total Cargo carried is 30.65 Million Tonnes during 2016-17. The revenue generated from this goods carried is Rs. 1875.31 Crore and the revenue generated from the passengers carried is 1018.99 crore during 2016-17 as compared to 1025.54 crore in 2015-16 which shows a decline in the earnings of railway.

The Ministry of Railways has undertaken various developmental activities in the Railway Sector in the State including extension of railways line to link the other States of North-Eastern States Meghalaya, Arunachal Pradesh, Tripura and Mizoram through Assam. The ongoing railway projects, Bogibeel rail cum Road Bridge is under progress and gauge conversion of Lumding – Silchar – Jiribam has been completed. Badarpur to Baraigram – Kumarghat, Rangia – Murkongselek, Bhairabi – Sairang projects are declared as national projects and the works are on progress. The construction of 19.75 Km. railway stretch connecting Dudhnoi (Assam) – Mendipathar (Meghalaya) and construction of new Broad Gauge lines connecting Harmuti (Assam) and Naharlagun (Arunachal Pradesh) – 20 Km has been completed and New Mainaguri to Jogighopa (257 Km.), New Jalpaiguri – Siliguri – New Bongaigaon (433 Km.) are under progress.

The Bogibeel rail-cum-road bridge, India's longest bridge coming up across the mighty Brahmaputra and the fourth bridge across the Brahmaputra River is expected to be not only the lifeline for the Northeast but will also strengthen the country's security. The project of 4.94 Km. rail cum road bridge is implemented by the North East Frontier Railway is scheduled to be completed in 2018 which will connect two existing railway networks running at north bank and south bank of the river and will provide connectivity to around five million people residing in upper Assam and Arunachal Pradesh. It starts from Chaulkhowa station and Moranhat Station at south bank and joins between Sisibargaon and Siripani station of Rangia – Murkongselek section in north bank.

The Railways run a number of inter-State trains linking Guwahati and Dibrugarh with other important places of the country, such as Delhi, Kolkata, Mumbai, Chennai, Tiruvantapuram, Bangalore, Cochin, and Jammu etc.

AIR TRANSPORT:

Assam is well connected with the rest of the country through Air Transport. The State has the highest numbers of operational civil airports in the North-East and these are located at Guwahati, Tezpur, Jorhat, Dibrugarh, North Lakhimpur and Silchar. In addition, one more civil airport located at Dhubri (Rupshi) district of Assam is lying closed and non-functional for long time. The State Govt. has demanded to reopen the airport for passenger traffic for the benefit of the State which will further benefit the people of Meghalaya. All major airlines including private commercial airlines viz., Indian Airlines, Spice jet, Indigo, Go-air etc. are operating their flights to and from Guwahati and intra-state air services regularly. In addition to these civil airports, small private airstrips in the interior areas are present in large numbers. Some small and remote airstrips are being operated under private operators like tea gardens and PSUs.

In the Guwahati sector movement of air traffic as well as passenger traffic [both domestic and international] has been increasing rapidly since 2004-05. However, as per available records, air traffic movement and passenger traffic (only for LGBI Airport, Guwahati and Mohanbari Airport, Dibrugarh published by the DGCA) has gone down by 19.7 percent and up by 21.6 percent respectively during 2015-16 compared to the previous year. Similarly average number of fights handled by these two airports per day has gone down to 67 in 2015-16 from 83 in 2014-15. In respect of handling of freights, the growth was calculated at 10 percent in 2015-16 over the previous year.

TABLE – 13.6: AIR TRANSPORT STATISTICS OF ASSAM

Year	Air Traffic Movement (No.)	Passenger Handled (No.)	Freight loaded /Unloaded (Tonne)	Mail loaded/unloaded (Tonne)	Average number of flight per day	Average number of passenger handled per day	Average Cargo Handled per day (Tonne)
2004-05	20334	828640	5199	1320	57	2270	18
2011-12*	35022	2685871	8601	N.A.	96	7359	24
2012-13*	33535	2526434	6668	N.A.	92	6922	18
2013-14*	29426	2442613	8124	N.A.	81	6692	22
2014-15*	30363	2552861	10796	N.A.	83	6994	30
2015-16*	24392	3103961	11976	N.A.	67	8504	33
2016-17	37383	3759494	17283	N.A.			

* Figures excluding Lakhimpur, Tezpur and Jorhat Airport.

Source: Directorate General of Civil Aviation Statistical Division, New Delhi

The LokapriyaGopinathBordoloi International Airport, Guwahati is the only International Airport in the North-East India. The number of aircraft movement, passengers as well as freight handled in the LGB International airport during the period from 2007-08 to 2016-17 is detailed in the Table-13.7.

TABLE – 13.7: AIR TRANSPORT STATISTICS OF L.G.B. INTERNATIONAL AIRPORT, GUWAHATI

Year	Aircraft Movement	Passenger handle (No)		Freight loaded/unloaded (Tonne)
		Embark/Disembark	Transit	
2007-08	98	2044	1393	6
2008-09	100	7282	0	2
2009-10	46	5421	0	0
2010-11	226	14523	NA	0
2011-12	452	26864	NA	0
2012-13	416	21810	NA	94
2013-14	494	24633	NA	36
2014-15	474	27564	NA	15
2015-16	512	28913	NA	11
2016-17	490	37383	NA	03

Source: Directorate General of Civil Aviation Statistical Division, New Delhi and Airport Authority of India

INLAND WATER TRANSPORT:

Inland water transport is generally accepted as the most efficient mode of transportation from the point of energy consumption. It is also considered as the cheapest mode of transportation as well as labour intensive and environment friendly in nature. Assam is a riverine State. As much as 32 percent of the water resource of the country flow down through the river Brahmaputra, Barak and their myriad tributaries weave a vast network of waterways in the State. The Brahmaputra has 891 Km. navigable length of water ways from Sadiya to Dhubri while the Barak has 121 Km. length of navigable waterways. The Sadiya - Dhubri stretch (891 Km.) of the Brahmaputra River has been declared as the 2ND National waterways of the country in the year 1988 and afterwards the proposals to activate the Commercial Service have been moved for overall economic development of the North-eastern Region. The Lakhipur - Bhangra stretch of 121 Km. of the Barak River is also declared by the Union Govt. as the 6th National Waterway in January 2013 for unified development of the waterways for shipping and navigation and transportation of cargo to the North Eastern Region particularly in the states of Assam, Nagaland, Mizoram, Manipur, Tripura and Arunachal Pradesh.

For effective exploitation of the waterways, being the cheapest mode of transport and in order to cater to the growing need for goods and passenger movement, two Government owned organisations of Assam viz, Central Inland Waterways Corporation and Directorate of Inland Water Transport (IWT), are operating the water transport

services on the river Brahmaputra and Barak on commercial basis and have been trying to improve the water transport system in the region. The Brahmaputra has several small river ports. In addition, there are more than thirty pairs of ferry ghats on the Brahmaputra transporting both passengers and cargo. But due to scarcity of serviceable vessels under the department most of the ferry services often suffer problems in their smooth operation. However, there is need to augment the IWT fleet by suitable type of vessels to ensure adequate cargo support.

At present the Directorate of Inland Water Transport is operating 85 (eighty five) ferry services under 3(three) IWT Divisions on the river Barak, Brahmaputra and its tributaries for the purpose of public utility. The IWT Department has introduced 54 nos. of cargo cum passenger service also in Assam for transportation of commuters throughout the nook and corner of the State where no road communications are available. The total number of passengers carried is 9187143 and the total amount of goods carried is 387108 qtls. in 2016-17. The revenue earned by the IWT department during the same period is Rs. 5.5 crore. At present the IWT department has possessed 211 vessels of different capacity and proposed to add a good number of vessels during the 12th Five Year plan period. Besides these Government owned organisations, large number of private owners conducted ferry services [including commonly known *Bhoot-bhooty* services] to transport goods and passengers to the remotest hinterlands under un-organised sector. It is worth mentioning here that, IWT, Assam will complete construction and commission of 7 (seven) vessels out of 15 (fifteen) within 2016-17.

OTHER ACTIVITIES:

The IWT department has introduced Air-conditioned long distance river cruise service for the development for river tourism. The department has leased out a vessel M. K. Charaidew to private entrepreneur on hire basis. The department has also introduced two luxurious A/C cruise vessels on the river Brahmaputra and they are being operated by the department itself at Guwahati. The IWT department has also constructed a RCC jetty on the 11 nos. of floating restaurants (A/C & Non A/C) on board of IWT vessels and three river cruise services on the river Brahmaputra. The department has also constructed 7 nos. of 25m long single Decker floating terminal at north bank and 2 nos. of 28m long double Decker floating terminal at the south bank of the Brahmaputra at Guwahati under centrally Sponsored scheme.

COMMUNICATION:

Postal Communication:

The Assam Postal Circle has a network of 4012 Post Offices and 12427 nos. of Letter Boxes [as on 31st March 2017] out of which 11304 post offices are located in rural areas. On an average, each Post Office serves a population of 22523 persons and covers 20.72Sq.Km. in rural areas while 4.39 sq km in urban areas. There are 3 Night Post Offices also functioning in the State located at Guwahati GPO, Dibrugarh HO and Silchar HO for convenience of the people. In addition, there are 625 modernised post offices and 629 computerised post offices in the State. Apart from the above, there are 4 National

Speed Post Centre and 16 Speed Post Centre in the State and Postal Mail Conveyance covers 4428 railway kilo metre.

The Assam Postal Circle has taken initiative to start Core Banking Solution (CBS) in 12 selected post offices of Assam under Pilot Project to bring the postal customers under postal banking coverage so that the customers can access their savings bank accounts from any of the above selected post office. Assam is among the six states across India selected for the Pilot. After successful implementation of CBS in these pilot offices, other post offices will be brought under coverage of CBS in a phased manner. In addition; Assam State has also been selected for the Rural-ICT project for computerisation and networking of rural post offices (also called Branch Post Offices). A total of 375 Branch Post Offices of Sivasagar Postal Division comprising of three districts –Sivasagar, Jorhat and Golaghat are the pilot offices covered under Rural-ICT project for Assam Circle.

The Circle is utilising services of Indian Airlines & Jet Airways for transmitting outward airmails from all the Air Centres of the region. From Guwahati, outward airmails are transmitted in direct flight for Kolkata by Indian Airlines and for Delhi Sector by Jet Airways. For mail transmission in the North East Region freighter air craft service has been used which is running in the Kolkata- Guwahati-Imphal- Agartala Sector. The service of ASTC and Private Night Super Buses are also utilised for transmission of local mails to all District Headquarters except Morigaon and Dhemaji.

Telecommunication:

Assam Telecom Circle of Bharat Sanchar Nigam Limited (BSNL) is the largest telecom operator in Assam which was formed in 1987, providing comprehensive range of telecom services in the State. BSNL is reaching the nook and corner of Assam with focused development thrust. At present 570 telephone exchanges are functioning in the State (as on March 2017). It is evident from the status of telecom facilities in Assam shown in the Table 13.8 that the overall tele-density (Telephone per 100 of population) of the State as on March 2016 was 63.25 as against the national average 87.85. While the urban tele-density of Assam stood at 148.86 as on March 2016 compared to 132.26 as on March 2015, the rural tele-density was only 46.63 as on March 2016 and seems to be higher over the previous year (39.18). However, in respect of overall tele-density as well as urban tele density the position of Assam stood far below the national average [overall 87.85 and Urban 164.13 as on March 2016. In respect of rural segments also tele-density of Assam was considerably below the national average. (Rural-52.97) during the same period.

TABLE – 13.8: TELECOM FACILITIES IN ASSAM

Item	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17		
1	2	3	4	5	6	7	8	9		
Direct Exchange Lines	1449647	1739591	1492608	1430077	1463773	1427318	1503449	1667066		
Rural Telephone Connections	481092	594291	491881	445399	459014	449347	482397	547081		
Village Public Telephones (VPTs)	23992	24196	24415	24688	24692	24692	24663	5297		
Total Telephones	Total - A+B	9064392	11928394	14437929	14582059	15462192	16611629	17318325	20694170	
	Wire line Phones (Fixed DELs)	PSU Operators	307725	255584	227229	193915	182904	176841	165994	155434
		Private Operators	614	2099	2625	480	1080	1350	1440	1980
		Total - A	308339	257683	229854	194395	183984	178191	167434	130810
	Wireless Phones (GSM+CDMA)	PSUs Operators	1141922	1484007	1265379	1236162	1280869	1276828	1261324	1470150
		Private Operators	7614131	10186704	12942696	13151502	13997339	15156610	15889567	19066606
Total - B		8756053	11670711	14208075	14387664	15278208	16433438	17150891	20536756	
Tele-density [%] (Phones Per 100 of Persons)	Urban	96.54	124.45	148.54	130.92	126.27	129.05	132.26	148.86	
	Rural	18.49	23.93	28.35	31.13	34.36	37.41	39.18	46.63	
	Total	29.99	38.98	46.61	46.51	48.74	51.9	53.95	63.25	
Public Call Offices [Local+STD+Highway]	33862	27380	19307	11929	11207	10350	8909	6321		

Source: Annual Reports- 2016-17 of Department of Telecommunication, Govt. of India

The subscriber base basic services provided by the BSNL in the State were 1667606as on March 2016 which shows a growth of 10.9 percent over the previous year. The total number of telephone connections as on March 2016 was 19.5 percent more than that of March 2015. Private operators also provided 1980 wire-line phones to its subscribers till March 2016 in Assam. In respect of wireless phone (mobile segment) connections, there were 2.05 crore mobile subscribers in Assam as on March 2016. BSNL alone provides around 8.6percent of the total mobile connections in the State till March 2016. The private mobile service operators, on the other hand, provided about 1.90 crore mobile connections as on March 2016. Thus, the share of mobile connections provided by the private operators has increased from 91.7 percent as on March 2015 to 92.8 percent as on March 2016. Bharati Televentures (Airtel), Disnet Wireless (Aircel), Reliance and Vodafone are the main private mobile service provider companies operating in Assam.

According to the Annual Report 2016-17 of the Department of Telecommunications, Govt. of India, there were 20694170 telephones in Assam out of which 2.64 percent were rural. Moreover, the total telephones in Assam as on March 2016 share only 1.84 percent of total telephones in the Country. BSNL also provided Village Public Telephones (VPTs) to 5297 inhabited villages of Assam till March 2016.

TABLE – 13.9: MAJOR GROUP-WISE WIRELESS SUBSCRIBER IN ASSAM

(As on October, 2016)

Circle	Wireless Subscriber Group						Total
	Bharati	Reliance	Vodafone	Idea	Aircel	BSNL	
Assam	6239681	1383658	3898309	1228166	5598124	1404494	19752432
India	26226759 6	86167084	20190090 1	18515392 9	90344161	94952784	920786455

Source: Annual Report 2016-17, Department of Telecommunications, GOI.

APPENDIX-13.1
DISTRICT-WISE LENGTH OF PWD ROADS BY TYPE
AS ON 31ST MARCH' 2017 IN ASSAM

(in Km.)

Sl. No.	District	Black Topped	Earthen/ Gravelled	Total
1	2	3	4	5
1.	Kokrajhar	1097	705	1802
2.	Dhubri	912	241	1153
3.	Goalpara	879	670	1549
4.	Barpeta	1161	824	1985
5.	Morigaon	651	491	1142
6.	Nagaon	2111	972	3083
7.	Sonitpur	1604	1045	2649
8.	Lakhimpur	923	167	1090
9.	Dhemaji	906	435	1341
10.	Tinsukia	1165	578	1743
11.	Dibrugarh	1200	492	1692
12.	Sivasagar	1280	1595	2875
13.	Jorhat	1170	1035	2205
14.	Golaghat	1502	979	2481
15.	Karbi-Anglong	1065	3135	4200
16.	Dima-Hasao	484	1235	1719
17.	Cachar	1153	9	1162
18.	Karimganj	564	371	935
19.	Hailakandi	314	159	473
20.	Bongaigaon	729	76	805
21.	Chirang	574	52	626
22.	Kamrup	2200	998	3198
23.	Kamrup (M)	552	112	664
24.	Nalbari	708	305	1013
25.	Baksa	864	209	1073
26.	Darrang	675	392	1067
27.	Udalguri	560	1269	1829
ASSAM		27003	18551	45554

Source: Chief Engineer, P.W.D. (Roads) Assam, Chanmari, Guwahati-3

APPENDIX- 13.2

**DISTRICT-WISE LENGTH OF ROADS ACCORDING TO
DIFFERENT CLASSES UNDER PWD IN ASSAM, AS ON 31ST MARCH'2017**

(in Km.)

Sl. No.	District	State Highway	Major District Road	Rural Road	Urban Road	Total
1	2	3	4	5	6	7
1.	Kokrajhar	23	131	1632	16	1802
2.	Dhubri	55	53	1007	38	1153
3.	Goalpara	137	48	1354	10	1549
4.	Barpeta	120	171	1663	31	1985
5.	Morigaon	134	86	909	13	1142
6.	Nagaon	260	326	2409	88	3083
7.	Sonitpur	55	402	2133	59	2649
8.	Lakhimpur	121	97	828	44	1090
9.	Dhemaji	45	42	1168	86	1341
10.	Tinsukia	41	171	1479	52	1743
11.	Dibrugarh	109	163	1357	63	1692
12.	Sivasagar	100	310	2425	40	2875
13.	Jorhat	127	89	1903	86	2205
14.	Golaghat	160	157	2131	33	2481
15.	Karbi-Anglong	228	561	3341	70	4200
16.	Dima-Hasao	223	199	1237	60	1719
17.	Cachar	107	165	848	42	1162
18.	Karimganj	35	342	539	19	935
19.	Hailakandi	17	99	351	6	473
20.	Bongaigaon	41	16	712	36	805
21.	Chirang	0	189	429	8	626
22.	Kamrup	52	230	2916	0	3198
23.	Kamrup (M)	0	0	0	664	664
24.	Nalbari	70	45	876	22	1013
25.	Baksa	71	43	959	0	1073
26.	Darrang	143	119	785	20	1067
27.	Udalguri	56	125	1639	9	1829
ASSAM		2530	4379	37030	1615	45554

Source: Chief Engineer, P.W.D. (Roads) Assam, Chanmari, Guwahati-3.

APPENDIX-13.3
LENGTH OF ROADS PER LAKH OF POPULATION AND
PER 00 SQ. KM. AREA IN ASSAM AS ON 31 MARCH 2016

(in Km.)

District	Total Road length	Population	Road Length per lakh of population	Area (In Sq. Km.)	Road Length per '00 Sq. Km. of Geographical Area
1	2	3	4	5	6
Kokrajhar	1905.75	887142	214.82	3296	57.82
Dhubri	1337.55	1949258	68.62	2176	61.47
Goalpara	1647.70	1008183	163.43	1824	90.33
Barpeta	1888.29	1693622	111.49	2282	82.75
Morigaon	1240.50	957423	129.57	1551	79.98
Nagaon	3356.92	2823768	118.88	3973	84.49
Sonitpur	2864.17	1924110	148.86	5204	55.04
Lakhimpur	1190.00	1042137	114.19	2277	52.26
Dhemaji	1484.35	686133	216.34	3237	45.86
Tinsukia	1959.43	1327929	147.56	3790	51.70
Dibrugarh	1888.19	1326335	142.36	3381	55.85
Sivasagar	3053.45	1151050	265.28	2668	114.45
Jorhat	2115.62	1092256	193.69	2851	74.21
Golaghat	2608.52	1066888	244.5	3502	74.49
Karbi-Anglong	4471.28	956313	467.55	10434	42.85
Dima-Hasao	2048.82	214102	956.94	4888	41.92
Cachar	1356.83	1736617	78.13	3786	35.84
Karimganj	1049.16	1228686	85.39	1809	58.00
Hailakandi	572.99	659296	86.91	1327	43.18
Bongaigaon	884.86	738804	119.77	1093	80.96
Chirang	689.00	482162	142.9	1923	35.83
Kamrup	3359.92	1517542	221.41	3105	108.21
Kamrup (M)	528.00	1253938	42.11	955	55.29
Nalbari	983.79	771639	127.49	1052	93.52
Baksa	1174.45	950075	123.62	2457	47.80
Darrang	1144.00	928500	123.21	1585	72.18
Udalguri	1921.00	831668	230.98	2012	95.48
ASSAM	48724.54	31205576	156.14	78438	62.12

N. B.: Figures include National Highways.

Source: Chief Engineer, P.W.D. (Roads) Assam.

APPENDIX- 13.4
COLLECTION OF REVENUE AND TARGET OF THE DEPARTMENT OF TRANSPORT,
ASSAM

(Rupees in crore)

SL. No.	Name of D.T.O & Check Gate	2014-15	2015-16		2016-17	
		Revenue Realised	Target	Revenue Realised	Target	Revenue Realised
1	2	3	4	5	6	7
1.	Kamrup (R & L)	110.19	149.03	129.57	163.93	149.94
2.	Kamrup (R.T.A)	0.76	0.96	1.52	1.06	1.67
3.	Kamrup(Enforcement)	1.84	2.40	2.46	2.64	4.48
4.	Kamrup (Rural)	8.24	11.10	12.72	12.21	18.14
5.	Barpeta	8.42	11.13	9.34	12.24	12.66
6.	Nalbari	5.70	7.47	7.48	8.22	8.71
7.	Goalpara	5.95	7.85	7.29	8.64	8.77
8.	Dhubri	7.91	10.42	9.65	11.46	11.49
9.	Sonitpur	15.24	20.57	20.28	22.63	24.47
10.	Mangaldoi (Darrang)	5.33	7.02	6.07	7.72	8.59
11.	Lakhimpur	10.90	14.33	13.03	15.76	16.16
12.	Dibrugarh	21.23	28.66	25.21	31.53	31.53
13.	Tinsukia	19.67	26.53	20.66	29.18	26.48
14.	Dhemaji	3.91	5.15	4.69	5.67	4.97
15.	Sivasagar	20.16	27.23	23.94	29.95	30.18
16.	Jorhat	18.57	25.30	24.10	27.83	28.45
17.	Golaghat	8.68	11.41	11.65	12.55	14.28
18.	Nagaon	19.01	25.64	22.63	28.2	28.49
19.	Morigaon	4.42	5.76	4.84	6.34	6.68
20.	Dima Hasao	0.80	1.02	0.71	1.12	1.03
21.	Karbi-Anglong	5.01	6.59	6.44	7.25	6.34
22.	Karimganj	3.63	4.60	4.41	5.06	5.31
23.	Hailakandi	3.35	4.40	3.93	4.84	4.31
24.	Cachar	17.39	23.42	20.62	25.76	22.06
25.	Srirampur M.V. Check gate	2.01	4.00	1.27	4.4	3.11
26.	Boxirhat M.V. Check gate	2.95	4.00	2.60	4.4	4.62
27.	Kokrajhar	6.38	8.36	7.33	9.2	8.08
28.	Bongaigaon	9.10	12.26	12.53	13.49	13.91
29.	S.T.A.	23.21	30.25	26.42	33.28	28.36
30.	Digharkhal M.V. Check gate	1.23	3.00	1.20	3.3	1.34
31.	Udalguri	2.79	3.88	3.49	4.27	3.61
32.	Chirang	3.26	4.24	3.62	4.66	5.09
33.	Baksa	1.56	2.02	2.23	2.22	3.34
	A SSAM	378.98	510.00	453.93	561.01	546.65

Source: Office of the Commissioner of Transport, Assam

APPENDIX- 13.5**DISTRICT-WISE NUMBER OF MOTOR VEHICLE REGISTERED IN ASSAM**

Sl. No	District	Total Number of Vehicles Registered					
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
1	2	3	4	5	6	7	8
1.	Dhubri	5803	5575	5895	6765	9810	7490
2.	Kokrajhar	4953	4040	4589	5045	6531	5441
3.	Bongaigaon	6863	8060	7749	7966	10735	11078
4.	Goalpara	4729	9527	4417	3922	4469	5395
5.	Barpeta	10087	8128	9869	7834	9999	11266
6.	Nalbari	2930	4323	5275	6553	8496	8278
7.	Kamrup (M)	64815	58638	66941	66691	71906	62267
8.	Darrang	4840	5095	5546	5595	7241	9648
9.	Sonitpur	11681	10742	12974	14174	17439	20293
10.	Lakhimpur	8524	7265	9808	11299	12725	12561
11.	Dhemaji	3784	4084	2990	4229	4186	4078
12.	Morigaon	3193	3375	3129	4531	5278	6085
13.	Nagaon	13966	13687	15961	18382	19017	22008
14.	Golaghat	4693	4697	6419	6089	1913	7134
15.	Jorhat	14279	13166	15146	14672	11939	15045
16.	Sivasagar	9327	11439	12955	13653	12878	15043
17.	Dibrugarh	14866	12782	13358	14978	15376	14684
18.	Tinsukia	10882	11046	12571	14847	14437	11899
19.	Karbi-Anglong	4211	4461	4918	4847	3188	3640
20.	Dima-Hasao	411	349	483	439	661	736
21.	Karimganj	1954	2650	2753	2732	3228	3177
22.	Hailakandi	2209	2098	2262	2618	2461	2364
23.	Cachar	9314	9164	10103	9760	10166	9866
24.	Baksa	2468	1827	1436	1388	2327	3337
25.	Chirang	2631	2214	2307	2952	2334	3319
26.	Udalguri	2597	2400	2677	2858	3347	3144
27.	Kamrup	0	6535	7033	13081	18787	13704
ASSAM		226010	227367	249564	267900	290874	292980

Source: Office of the Commissioner of Transport, Assam.

APPENDIX – 13.6

DISTRICT-WISE NUMBERS OF MOTOR VEHICLE ON ROAD IN ASSAM

Sl. No	District	Total No. of Vehicles on Road					
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
1	2	3	4	5	6	7	8
1.	Dhubri	23329	24011	29906	31928	49620	57110
2.	Kokrajhar	6739	10556	15611	32778	40248	45494
3.	Bongaigaon	37511	44711	53593	61486	72221	83177
4.	Goalpara	24692	36439	34494	38396	47094	50683
5.	Barpeta	44562	54651	62766	71211	81040	91411
6.	Nalbari	28611	32934	49304	61524	68662	75052
7.	Kamrup (M)	584217	645131	709103	770041	852522	911403
8.	Darrang	34191	34549	37076	32729	33660	43912
9.	Sonitpur	21693	22387	35361	112438	129392	166764
10.	Lakhimpur	49597	63583	73028	85628	100746	111044
11.	Dhemaji	16947	17615	29117	33260	41847	25904
12.	Morigaon	16733	20597	23731	28232	28959	39468
13.	Nagaon	85063	98406	115395	142302	150657	165089
14.	Golaghat	6872	19769	26188	27295	33320	19759
15.	Jorhat	145667	158874	174077	187096	201204	216053
16.	Sivasagar	98127	97800	110735	199087	166854	181897
17.	Dibrugarh	107057	108419	126458	141168	157520	186126
18.	Tinsukia	71526	77753	86508	97527	147510	114859
19.	Karbi-Anglong	21703	21963	26964	31779	35149	51017
20.	Dima-Hasao	5405	5416	5899	5329	5346	6082
21.	Karimganj	13248	16611	19338	22102	25251	28469
22.	Hailakandi	10905	15477	17815	20386	22692	25059
23.	Cachar	53960	62657	70202	78685	77743	125605
24.	Baksa	3483	6412	7812	9177	10512	12751
25.	Chirang	8808	9096	14688	17618	20135	23214
26.	Udalguri	7623	10046	12744	15479	19373	22525
27.	Kamrup (R)	0	9359	16967	29895	47312	57902
A S S A M		1528269	1725222	1984880	2384576	2666589	2937829

Source: Office of the Commissioner of Transport, Assam.

CHAPTER – XIV INSTITUTIONAL FINANCE

BANKING:

The financial system of a country is of immense use and plays a vital role in shaping the economic development for a nation. A well structured and efficient network of financial institutions gives rise to economic growth. Banks are playing an important role in sustaining economic development by mobilizing deposits and credits. With the objective to bring as many as people within the bank coverage, the bank network has been increased by opening new branches in the State. As a result, the number of reporting Bank Offices of all Scheduled Commercial Banks in Assam has been increased from 1317 as on March 2008 to 2276 as on March 2017. With the increase in the bank networking, the dependence per bank offices in Assam has been considerably decreased over the years and reduced from 59.56 Sq.km as on March 2008 to 34.46 Sq.km as on March 2017. However, average population covered per bank branch office in Assam was calculated at 13.71 thousand (based on Population Census 2011) as on March, 2017 compared to All India average of 8.8 thousand during the same period. The table 14.1 shows the number of Scheduled Commercial Bank Offices in Assam as well as in India and the trend of deposits and credit over the period of past ten years.

Banking sector comprises of Scheduled and non-scheduled banks. Scheduled banks are of two types viz. Scheduled Commercial Banks and Scheduled Cooperative Banks. Scheduled Commercial banks are classified into five types –State bank of India & its associates, Nationalized Banks, Private sector Banks, Regional Rural Banks and Others (Foreign Banks). At the end of March, 2017, there were 2276 bank offices, of which, 46 percent bank offices were located in rural, 28 percent were in semi-urban and 26 percent were in urban areas. At the end of March 2017, growth of aggregate deposits in the State was 17.8 percent compared to 6.6 percent growth in the previous year. Growth of bank credit, on the other hand, was calculated at 14.3 percent during the year ending March 2017 compared to 18.8 percent growth of aggregate credit in the previous year.

TABLE – 14.1: GROWTH OF SCHEDULED COMMERCIAL BANKS IN ASSAM AND INDIA

(at the end of March)

Year	Number of Offices*		Deposits (Rs. in Crore)		Credit (Rs. in Crore)	
	Assam	India	Assam	India	Assam	India
2008	1317	74326	31666	3228817	13057	2394566
2009	1369	79058	39427	3937336	15115	168977
2010	1434	83997	49545	4601926	18311	3345619
2011	1504	89110	59101	5426510	21053	4076868
2012	1574	96059	67455	6174147	25171	4821527
2013	1682	104647	77730	7051332	28576	5506496
2014	1861	115822	85069	8028220	31713	6264290
2015	2047	125863	97378	8922111	35911	6878472
2016	2177	132587	103794	9659968	42671	7520929
2017	2276	137770	122307	107514386	48776	79270028

*Reporting Offices only.

Source: Quarterly Statistics on Deposits and Credit of Scheduled Commercial Banks, March 2008 to March 2017 of RBI.

A comparative status of performance of the Bank Groups in Assam up to March, 2017 may be evident from the Table 14.2.

TABLE -14.2: BANK GROUP WISE SCHEDULED COMMERCIAL BANKS IN ASSAM

(Upto March, 2017)

Bank Group	No. of offices	Deposits (Rs. in Crore)	Credit (Rs. in Crore)
State Bank of India and its Associates	382	50271	16720
Nationalized Banks	1119	50353	17547
Foreign Banks	1	159	75
Regional Rural Banks	477	8536	4517
Private Sector Banks	297	12992	9918
All Scheduled Commercial Banks	2276	122311	4877

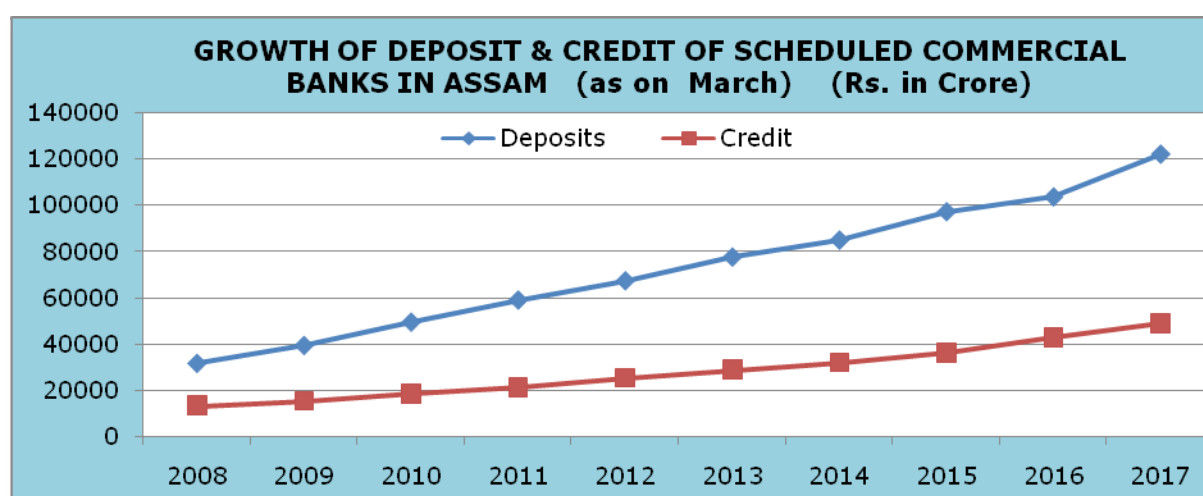
**Reporting Offices only: Total may not be equal due to rounding off.*

Source: Reserve Bank of India.

GROWTH OF DEPOSITS AND CREDIT:

The expansion of banking facilities in the State over the years has resulted in increase of volume of deposits and also disbursement of credit. The aggregate deposit with Scheduled Commercial Banks in Assam, which was Rs. 103794 crore in March 2016, has increased to Rs.122307 crore in March 2017. The volume of deposits has been increased by 17.84 percent in March 2017 over the previous year. The per capita deposit in the State has also been increased from Rs. 33267 in March 2016 to Rs. 39201 in March 2017. Thus, the per capita deposit in the State has recorded 17.84 percent increase over the previous year.

Like deposits, disbursement of credit by Scheduled Commercial Banks also recorded an impressive growth in Assam. The total volume of credit disbursed by the banks has been increased to Rs.48776 crore in March 2017 from Rs.42671 crore in March 2016 thereby recorded a growth of 14.31 percent. However, the credit disbursement by the Scheduled Commercial banks in Assam shared only 0.62 percent of the total credit disbursed in the country as a whole during March 2017. The per capita credit has been increased to Rs.15633 in March 2017 compared to Rs.13677 in March, 2016.



CREDIT – DEPOSIT RATIO:

The Credit-Deposit ratio of all Scheduled Commercial Banks in Assam has reduced from 41.1 percent in 2015-16(ending March, 2016) to 39.9 percent in 2016-17(ending March, 2017). The Credit –Deposit Ratio of all Scheduled Commercial Banks in Assam, however, remained far below when compared with the All India ratio. During the year 2016-17 (ending March) the Credit-Deposit Ratio of all Scheduled Commercial Banks in Assam was 39.9 percent compared to 73.7 percent at the all India level. Table 14.3 shows the Credit - Deposit ratio of all scheduled commercial banks in Assam and India from 2008 to 2017. Table-14.4 shows the status of Credit-Deposit ratio in the districts of Assam.

TABLE – 14.3: CREDIT DEPOSIT RATIO OF ALL SCHEDULES COMMERCIAL BANKS IN ASSAM AND INDIA

(as on March)

Year →	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Assam	41.2	38.3	37.0	35.6	37.3	36.8	37.3	36.9	41.1	39.9
India	74.2	72.6	72.7	75.1	77.5	78.1	78.0	77.4	77.9	73.7

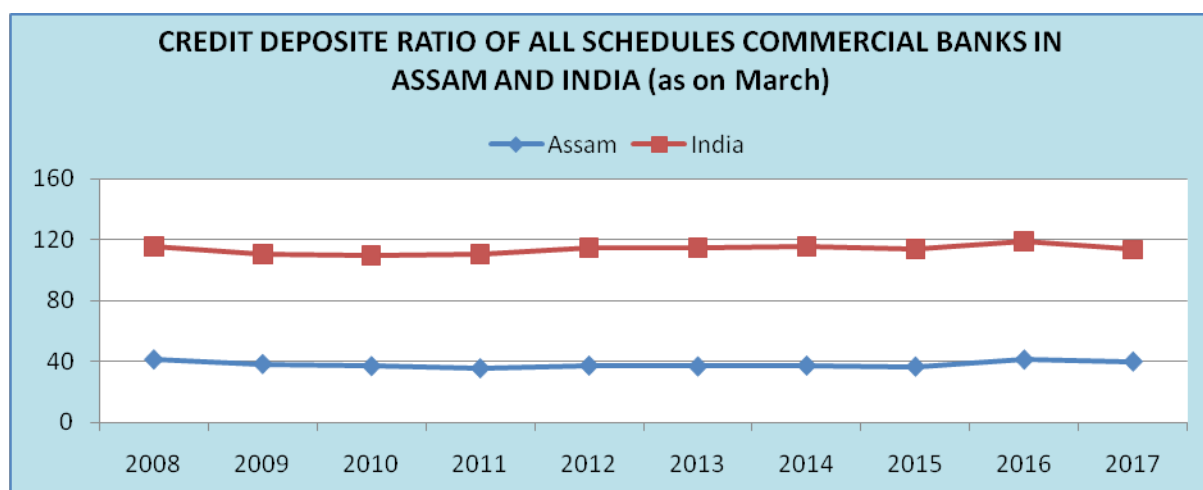
Source: Quarterly Statistics on Deposits and Credit of Scheduled Commercial Banks, March 2008 to March 2017, Reserve Bank of India

TABLE – 14.4: DISTRICT-WISE CREDIT DEPOSIT RATIO IN ASSAM
(As on March)

(Figure in %)

DISTRICT	2013	2014	2015	2016	2017	DISTRICT	2012	2013	2014	2015	2016	2017
Kamrup	44.8	42.0	48.2	72.2	64.2	Nagaon	43.8	41.5	41.7	38.2	42.0	47.4
Bongaigaon	34.7	37.5	37.0	41.2	44.1	Tinsukia	34.3	35.2	36.2	35.4	36.6	37.3
Goalpara	39.2	38.7	36.4	40.8	39.3	Karbi Anglong	37.3	32.2	28.7	30.5	40.0	41.0
Hailakandi	35.4	34.3	32.7	36.5	34.5	Karimganj	32.9	32.5	30.0	27.2	29.6	29.7
Morigaon	56.5	60.0	57.0	66.5	71.0	Dima Hasao	25.2	21.1	20.6	19.6	22.6	23.0
Sonitpur	47.5	48.1	46.7	48.3	50.3	Dhubri	41.2	39.0	36.8	34.6	42.8	48.1
Darrang	53.8	53.8	48.7	56.3	59.0	Kokrajhar	30.4	26.7	26.9	27.1	27.9	25.6
Nalbari	47.6	49.5	47.0	49.9	49.1	Barpeta	43.5	44.2	45.2	44.9	51.8	58.0
Dibrugarh	25.0	32.0	30.0	31.1	37.6	Cachar	33.8	33.2	35.0	31.5	33.7	35.5
Lakhimpur	62.1	61.7	59.0	67.0	68.5	Kamrup(M)	34.0	34.4	33.4	35.3	39.7	33.0
Jorhat	39.2	43.5	36.0	42.3	46.2	Chirang	35.4	39.5	29.6	27.8	32.8	32.7
Sivasagar	41.8	44.4	42.4	39.2	41.2	Baksa	49.0	50.2	41.0	41.3	48.1	47.7
Golaghat	46.2	47.0	37.7	43.7	54.4	Udalguri	64.8	67.5	64.6	67.6	70.2	54.4
Dhemaji	65.4	65.0	55.8	62.3	51.8	Assam	37.3	36.8	37.3	36.9	41.1	39.9

Source: Quarterly Statistics on Deposits and Credit of Scheduled Commercial Banks, Reserve Bank of India



PRIORITY SECTOR ADVANCES:

The priority-sector advances showed a growth of 13.95 percent at the end of March 2017 over the end of March 2016 according to the State Level Bankers' Committee reports. The agriculture sector was disbursed Rs.12938.49 crore in 2016-17 of which Scheduled Commercial Banks shared 71.25 percent, Regional Rural Banks 14.79 percent and Co-operative Banks 0.48 percent. Remaining 13.48 percent was disbursed under various schemes of NEDFi, NABARD (RIDF), MIDC and SIDBI. The Agriculture sector credit during the period was disbursed to 20.29 lakh accounts. Out of the total priority sector advances, the disbursement of advances to agriculture sectors has increased from Rs. 11910.33 crore in 2015-16 to Rs.12938.49 crore in 2016-17. The per capita priority sector advances has been significantly increased from Rs. 9333 in 2015-16 to Rs. 10635 in 2016-17 (13.95 percent increase)

TABLE – 14.5: ADVANCES UNDER PRIORITY SECTOR

(Rs. in Crore)

Sectors	2012-13	2013-14	2014-15	2015-16	2016-17
Aggregate Advances	32825.11	37902.92	43142.92	54371.52	57645.58
Total Priority Sector Advance	19429.10 [59.19]	21645.83 [57.11]	22987.58 [53.28]	29120.39 [53.56]	33182.65 [57.56]
Agriculture	6614.39 [20.15]	7497.58 [19.78]	8878.37 [20.58]	11910.33 [21.90]	12938.49 [22.44]
Industries	4326.50 [13.18]	5158.53 [13.61]	5465.16 [12.67]	8673.42 [15.95]	12013.83 [20.84]
Per capita Priority Sector Advances [Figure in Rupees]	6227	6937	7368	9333	10635

* Figure within bracket indicates percentage share to Aggregate Advances.

❖ Per Capita Priority Sector Advances calculation based on the Population Census 2011.

Source: Various Reports of State Level Bankers Committee, Assam.

REGIONAL RURAL BANKS:

Regional Rural Banks [RRBs] were established under the Regional Rural Banks Act, 1976 with an objective to give a boost to rural economy by providing rural credit to farmers, agricultural labourers, artisans and small entrepreneurs etc. At present, there are two **RRBs** in the State - Assam Gramin Vikash Bank [AGVB] and Langpi Dehangi Rural Bank [LDRB]. While the Assam Gramin Vikash Bank is operating both in the Brahmaputra Valley and Barak Valley covering all the districts with 409 branches, the service area of the Langpi Dehangi Rural Bank is confined within the hill districts of Assam with 59 bank branches as on March 2017.

Out of the total branch network of the Assam Gramin Vikash Bank, 309 branches located in rural areas, 83 branches in semi-urban areas and 18 branches in urban areas. In respect of Langpi Dehangi Rural Bank, 51 branches located in rural areas and 7 branches located in semi-urban areas. The aggregate deposits of RRBs was Rs.8542.93 crore at the end of March 2017 compared to Rs.7950.43 crore at the end of March 2016. The growth of aggregate deposits of RRBs was calculated at 7.45 percent at the end of March 2017 over March ending 2016 as against 0.86 percent growth in 2016 over the previous year. There is slightly decrease in aggregate volume of credit disbursed by these banks in 2016-17 compared to 2015-16, which was Rs.4520.96 crore as on March 2017 compared to Rs.4571.04 crore as on March 2016. Credit-Deposit ratio of these banks has reached 52.92 at the end of March, 2017 compared to 57.62 as on March 2016. The performance of Regional Rural Banks is presented in the Table- 14.6.

TABLE – 14.6: ACHIEVEMENTS OF REGIONAL RURAL BANKS IN ASSAM

(RUPEES IN LAKH)

Period (as on)	Achievements under Annual Credit Plan			Credit - Deposit Ratio (%)	
	Annual Target for All Banks	Achievement of All Banks	Achievement of RRBs	All Banks	RRBs
31.3.2008	175518.40	155511.33	32211.73 (20.71)	50.48*	52.64
31.3.2009	221924.24	150226.67	37082.91 (24.68)	45.85*	49.62
31.3.2010	257892.21	250725.49	52181.55 (20.81)	42.05*	47.50
31.3.2011	354847.18	289468.82	70261.61 (24.27)	39.71*	47.94
31.3.2012	449985.62	458541.64	76721.43 (16.73)	44.64*	53.75
31.3.2013	642041.89	463765.9	61755.56 (13.32)	43.56*	56.28
31.3.2014	1067096.67	647419.05	78707.27(12.16)	43.48*	55.88
31.3.2015	1001174.85	612794.07	86143.45(14.05)	42.79	52.79
31.3.2016	779300.00	894483.19	71248.25 (7.96)	14.05	57.62
31.3.2017	1110500.00	1124367.00	77733.00 (6.91)	7.96	52.92

Figure in bracket shows the percentage share of achievements of RRBs to All Banks.

*Lending by NEDFi and under RIDF by NABARD has been incorporated as priority sector advances.

Hence C.D ratio figure is different from the figure shown in the Table-14.4.

Source: State Level Bankers Committee reports of various years.

PRIME MINISTER'S JAN DHAN YOJANA (PMJDY)

The scheme has been started with a target to provide 'universal access to banking facilities' starting with "Basic Banking Accounts" with overdraft facility of Rs. 5000.00 after six months and RuPay Debit card with inbuilt accident insurance cover of Rs.1.00 lakh and RuPay Kisan Card. Under the scheme:

1. Account holders will be provided zero-balance bank account with RuPay debit card, in addition to accidental insurance cover of Rs.1.00 lakh (to be given by 'HDFC Ergo').
2. Those who open accounts by January 26,2015 over and above the Rs.1.00 lakh accident, they will be given life insurance cover of Rs.30, 000.00 (to be given by LIC).
3. After Six months of opening of the bank account, holders can avail Rs.5,000 overdrafts from the bank.
4. With the introduction of new technology introduced by National Payments Corporation of India (NPCI), a person can transfer funds, check balance through a normal phone which was earlier limited only to smart phones so far.
5. Mobile banking for the poor would be available through National Unified USSD Platform (NUUP) for which all banks and mobile companies have come together.

Accounts opened in Assam under PMDGY as on 31st March, 2017 stands at 117,79,739 as per SLBC report for quarter ending March, 2017.

AGRICULTURAL CREDIT:

Credit is an essential requirement for revitalizing agriculture sector. According to the State Level Bankers' Committee Report, banks operating in the State disbursed agricultural credit of Rs. 4407.86 crore during the year 2016-17 as against the annual commitment of Rs. 5710.00 crore. During the year 2015-16, total agricultural credit disbursed in the State was Rs. 3901.29 crore against the annual commitment of Rs.3636.00 crore.

TABLE – 14.7: TREND OF CREDIT FLOW TO AGRICULTURE UNDER ANNUAL CREDIT PLAN

Year	Advance to Agriculture (Rs. in crore)	Crop Loans (Rs. in crore)	% Share of crop Loan to Total Agricultural Advances	Per Capita Crop Loan (Rupees)	Crop Loan per farmer family# (Rupees)
2009-10	814.69	359.39	44	134.82	*1307
2010-11	876.76	373.63	43	139.94	*1359
2011-12	2002.47	1082.03	54	346.80	*3935
2012-13	1851.01	908.28	49	291.11	*3303
2013-14	2756.66	1460.02	53	468.00	#5368
2014-15	2492.60	1599.75	64	513.00	#5881
2015-16	3901.29	1014.26	26	325.08	#3729
2016-17	4407.86	1253.20	28	401.67	#4607
(%) Growth 2016-17 over 2015-16	12.98	23.56	-	23.56	23.55

* Total Farmer Family =27.50 lakh as per Agriculture Census 2005-06.

#Total Farmer Family = 27.20 lakh as per Agriculture Census 2010-11

Source: Reports of State Level Bankers Committee, Assam.

It is observed that the annual growth of advances to agriculture during the year 2016-17 was increased by 12.98 percent.

FINANCING UNDER KISHAN CREDIT CARD SCHEME:

Like other states of the Country, the banks operating in Assam have been extending timely, cost effective and hassle free credit support to the farmers of the State through Kishan Credit Card [KCC] Scheme which was introduced in 1998-99. Kishan Credit Card scheme has facilitated in augmenting credit flow for agricultural activities. The scope of the KCC has been broad-based to include term credit and consumption needs. During the year 2016-17, 2.82 lakh KCC were issued to the farmers of the State and sanctioned Rs.1259.88 crore compared to 2.17 lakh KCC issued and sanctioned Rs.1084.10 crore in 2015-16. Cumulatively about 17.87 lakh KCCs have been issued in the State up to March 2017 since introduction of the scheme. The Scheme, thus, covered around 65.70 percent of the total farmer family (there are 27.20 lakh farmer families as per Agriculture Census 2010-11) of the State at the end of March 2017.

TABLE – 14.8: ADVANCES UNDER KISHAN CREDIT CARD SCHEME

(Rupees in lakh)

Year	Annual Achievement		Cumulative Achievement	
	Card Issued (No.)	Amount	Card Issued (No.)	Amount
2007-08	62132	16365.83	329932	67908.97
2008-09	103361	37589.23	480393	104682.06
2009-10	149822	43055.94	630070	158372.04
2010-11	163063	50495.87	793801	209071.23
2011-12	371474	130329.35	967220	307834.01
2012-13	265797	93219.58	1329203	393538.41
2013-14	308306	150567.42	1586687	1551091.21
2014-15	281889	133136.24	1809898	629941.72
2015-16	217460	108409.61	1706822	691273.68
2016-17	281773	125988.00	1786652	757335.00

Source: Reports of State Level Bankers Committee, Assam.

MICRO-FINANCE:

The Micro Finance Scheme is an effective instrument for financial inclusion which was launched to meet the financial demands of small entrepreneurs and regarded as an effective programme for poverty alleviation and also empowerment of the poor. The micro-finance programme of NABARD, which began in 1992 with formation of 500 Self Help Groups (SHGs), has emerged as the largest micro-finance programme in the world. The Self-Help Group – Bank linkage programme, the main micro-finance model and institutional finance mechanism to provide financial credit support to the micro-entrepreneurs (including farmers) in the country as a whole, has been proved to be the most cost effective credit delivery system in India. The programme has also helped in providing banking services to the uncovered rural poor.

The Self Help Groups movement started picking up in Assam in the recent years. The programme has gathered momentum from the year 2001-02 onwards. Till the end of March

2017 all total 664071 SHGs have been bank linked in the State out of which 355648 SHGs were credit linked. Cumulative position of bank linked SHGs presented in the Table-14.9 –14.9.

TABLE – 14.9: SELF-HELP GROUPS FINANCED BY BANKS

(Rs. in lakh)

Year	Total bank linked SHGs		Deposit linked		Credit Linked	
	Number	Amount	Number	Amount	Number	Amount
2007-08	257863	57417.70	142147	6044.72	115716	51372.98
2008-09	305132	77365.49	166740	7485.51	138392	69879.98
2009-10	374745	92724.79	210890	9123.46	163855	83601.33
2010-11	433954	118051.17	240032	11195.29	193922	106855.88
2011-12	499183	139741.00	272822	10928.00	226361	128813.00
2012-13	540566	164138.86	281018	12228.9	259548	151909.96
2013-14	589268	175686.05	319417	15092.27	269851	160593.78
2014-15	568225	157395.13	319423	13487.17	248802	143907.76
2015-16	541292	131002.38	316585	10254.68	224707	120747.70
2016-17	664071	230370.00	308423	11106.00	355648	129264.00

Source: Reports of State Level Bankers Committee, Assam

SHG-BANK LINKAGE UNDER SGSY:

Swarnajayanti Gram Swarojgar Yojana is the mother programme of all poverty alleviation programmes. The objective of the programme is to uplift economic status of the rural people living below the poverty line by providing sustainable economic activities with bank loan and Government subsidy. Up to the end of March 2017, about 3.36 lakh SHGs have been covered under the ambit of bank credit in the State out of which 1.05 lakh SHGs have been covered SGSY programme. Cumulative progress of SHG-Bank linkage programme under SGSY shown in the Table -14.10

TABLE – 14.10: SHG-BANK LINKAGE UNDER SGSY

(Rs. in lakh)

Year	Total Credit Linked SHGs		Credit linked SHGs under SGSY	
	Number	Amount	Number	Amount
2007-08	115716	51372.98	54790	31006.57
2008-09	138392	69879.98	69144	45898.88
2009-10	163855	83601.33	84678	55161.36
2010-11	193922	106855.88	102166	74784.79
2011-12	226361	128813.00	123473	94423.5
2012-13	259548	151909.96	134107	106687.46
2013-14	269851	160593.78	139340	105503.75
2014-15	248802	143907.96	123055	92746.31
2015-16	224707	120747.70	112806	78666.13
2016-17	355648	219264.00	105143	73561.00

Source: Reports of State Level Bankers Committee, Assam

NATIONAL BANK FOR AGRICULTURE AND RURAL DEVELOPMENT (NABARD):

During 2016-17, the NABARD disbursed refinance to banks in the State to the tune of Rs.205.28 crore compared to Rs.189.76 crore in 2015-16. Agency wise, purpose wise and activity wise refinance disbursed by the NABARD are shown in the Table-14.11.

TABLE – 14.11: AGENCY WISE, PURPOSE WISE AND ACTIVITY WISE REFINANCE DISBURSED BY NABARD

(Rs. in lakh)

Purpose/Programme	2015-16			2016-17		
	Commercial Banks	RRBs	Total	Commercial Banks	RRBs	Total
Farm Mechanization	-	792.41	792.41	6.639	127.25	133.889
Plantation & Horticulture	-	914.71	914.71	604.775	28.07	632.845
Animal Husbandry (Dairy, Poultry, Sheep, Goat & Piggery)	-	2338.67	2338.67		1432.445	1432.445
Fisheries	-	569.09	569.09		40.82	4082
RNFS (i/c Rural Housing)	2740.01	-	2740.01	3096.67		3096.67
SHG	-	8121.00	8121.00			
Others	-	3500.36	3500.36	3760.778	11430.215	15190.993
Total	2740.01	16236.24	18976.25	7468.862	13058.80	20527.662

Source: National Bank for Agriculture and Rural Development

INFRASTRUCTURE SUPPORT UNDER RURAL:**INFRASTRUCTURE DEVELOPMENT FUND (RIDF):**

To meet the major infrastructure gaps, the Government of Assam has taken initiative for development of infrastructure in rural areas with the financial assistance from NABARD under RIDF. As on 31st March, 2017, NABARD has sanctioned 3054 projects involving RIDF loan of Rs.4985.00 crore. Out of the total loan sanctioned Rs.4985.00 crore, Rs. 3257.46 crore has been disbursed to the State Government as on 31st March, 2017. As against 3054 projects sanctioned 1454 projects have been completed as on 31.12.2016 and remaining projects are under various stages of implementation. The activity wise number of projects and amount sanctioned including amount released under RIDF are shown in Table-14.12.

TABLE – 14.12:ACTIVITY WISE PROJECT WISE INFRASTRUCTURE DEVELOPMENT LOANS SANCTIONED AND DISBURSED BY NABARD UNDER RIDF (As on 31-03-2017)

(Rs. in crore)

Activity	No. of Projects	Loan sanctioned	Loan disbursed
Rural Bridges	1367	1448.36	1292.03
Rural Roads	630	1178.16	661.70
Irrigation	159	238.11	188.24
Flood Control	144	698.03	553.73
Animal Husbandry & Vety. Projects and Modern Abattoir (MA & AH Project)	282	193.32	79.11
Small Hydel Project	2	46.14	46.14
Marketing Infrastructure	6	33.99	30.95
Beel Fisheries Projects	84	52.43	17.26
Pay & use toilets	21	8.30	2.49
Meat Processing	1	3.92	3.91
Revitalization of sericulture Farms	40	23.04	11.40
Rural Godowns	245	95.62	47.55
Soil Conservation	33	51.33	12.05
Agriculture Department (STW/Soil Testing /Solar SPV ETC.)	40	914.25	310.90
Total	3054	4985.00	3257.46

Source: NABARD Regional Office, Guwahati.

NORTH EASTERN DEVELOPMENT FINANCE CORPORATION LTD [NEDFI]:

NEDFi, since its inception has been playing a crucial role in catalyzing the development of economy of the Northeast India. NEDFi has been instrumental for identifying, financing and nurturing eco-friendly and commercially viable industries, infrastructure and agro-horticultural projects in the region. NEDFi is also giving special emphasis to cover small enterprises and micro finance to the needy at the grassroots in the region. During the year 2016-17, the Corporation sanctioned Rs.394.88 crore and disbursed Rs.349.09 crore in the Region. The sanction and disbursement in the State of Assam during 2016-17 was Rs.210.91 crore and Rs.185.27 crore respectively.

MICRO FINANCE SCHEME:

NEDFi's Micro Finance Scheme has proved to be an effective instrument for financial inclusion where credit is routed to SHGs/JLGs and individuals through established and good Non-Government Organizations (NGO)/Micro Finance Institutions (MFIs) to meet the needs of smaller entrepreneurs (preferably Self-Help Group or

individual) of the region for taking up productive activities in the field of agriculture, micro industries and service sectors including transportation, etc.

Till the end of March 2017, the Corporation has sanctioned Rs.589.80 crore and disbursed Rs.570.72 crore, through which NEDFi has been able to reach out to more than 6.00 lakhs beneficiaries in the NE Region.

TABLE – 14.13: SUMMARY OF AMOUNT SANCTIONED AND AMOUNT DISBURSED UNDER MICRO FINANCE IN ASSAM (as on March, 2017)

(Amount Rupees in Lakh)

Item	2012-13	2013-14	2014-15	2015-16	2016-17
Amount Sanctioned	3691	5520	5275	5635	6150
Amount Disbursed	3866	5570	5848	5885	4450

Source: Annual Reports of NEDFi various years.

DISBURSEMENT OF CENTRAL SUBSIDIES:

The Corporation is a nodal agency for disbursement of Central Subsidies under NEIP 1997 & NEIIPP 2007, which is administered by the Department of Industrial Policy and Promotion, Ministry of Commerce, Govt. of India. The Corporation is thus facilitating disbursement of Central subsidies to various industrial units in the region. The details of disbursement under various schemes during the financial year 2015-16 and 2016-17 may be evident from the Table - 14.14

TABLE – 14.14: SCHEMewise DISBURSEMENT OF SUBSIDIES BY NEDFi

(Rs. in Crore)

Scheme	2015-16	2016-17	Cumulative as on 31-03-2017
Central Transport Subsidy (CTS)	56.50	53.79	2671.71
Central Capital Investment Subsidy(CCIS)	238.08	123.54	977.48
Central Interest Subsidy(CIS)	0.01	40.13	231.35
Central Comprehensive Insurance Subsidy	0.02	6.73	20.16
Freight Subsidy	nil	18.84	18.84
Total	294.61	243.03	3919.53

NEDFi'S PERFORMANCE IN ASSAM AND NER:

During the year 2016-17, loans sanctioned by NEDFi for the entire NE region was increased by 9 percent and that for Assam was decreased by 14 percent compared to the previous year. While loan disbursed by NEDFi for the entire NE region was increased by 15 percent and that for Assam was increased by 7 percent during 2016-17 compared

to the previous year. Loan sanctioned and disbursed by the NEDFi to the North-Eastern States including Assam may be evident from the Table-14.15.

**TABLE – 14.15: YEAR-WISE LOAN SANCTIONS AND DISBURSEMENTS BY NEDFi
(As on March 2017)**

(Rupees in lakh)

Year	Sanctions		Disbursements	
	Total NER	Assam	Total NER	Assam
2012-13	45349	26047	34873	20842
2013-14	45751	25684	36469	18488
2014-15	31203	15070	38720	20726
2015-16	36186	24655	30299	17278
2016-17	39488	21091	34909	18527

Source: NEDFi

**TABLE – 14.16: YEAR-WISE NUMBER OF PROJECTS SANCTIONED (AS ON
MARCH 2017)**

States	2012-13	2013-14	2014-15	2015-16	2016-17
Assam	145	109	69	66	77
NER	535	543	428	422	472

Source: NEDFi

ASSAM FINANCIAL CORPORATION:

The Assam Financial Corporation has significant contribution towards the industrial development of the region. The Corporation has been persistently working to improve its performance. On the sanction and disbursement front, in spite of various constraints, the Corporation is continuing its lending operations. At present the Corporation has 2 numbers of DGM level branches, 3 numbers of Senior Manager level branches, 6 numbers of Branch Manager level branches, 2 numbers Field Offices and one Satellite Office to provide need based customer service.

The Corporation has been able to maintain its profit trend for 11th consecutive year by earning a profit of Rs. 14.50 lakhs during 2016-17 compared to the previous year profit of Rs. 8.91 lakhs. During the financial year 2016-17, total loan sanctioned amounted to Rs.1740.00 lakhs and total disbursement amounted to Rs.1606.70 lakhs compared to Rs.1056.15 lakhs and Rs.946.70 lakhs respectively in the previous year.

During the year 2016-17, the total recovery of loan increased to Rs. 2149.40 lakhs from Rs.2087.08 lakhs in the previous year. The total income of the Corporation during 2016-17 recorded at Rs. 1171.88 lakhs as against Rs. 1142.06 lakhs in 2015-16. On the

expenditure side, the total expenditure increased to Rs. 1157.38 lakhs during the year 2016-17 from Rs. 1133.19 lakhs in the previous year.

In micro finance sector, a new scheme called "Kanaklata Micro Finance scheme" was introduced in the last year to encourage the women entrepreneurs in the rural as well as semi urban & urban areas of Assam to set up their own enterprise for livelihood support of their families and contribute towards the socio-economic development of the state and the scheme has got tremendous response from the beneficiaries. The Corporation has sanctioned micro finance loan of Rs.480.50 lakhs as against the disbursement of Rs.660.00 lakhs during the year 2016-17. The Corporation has sanctioned and disbursed total loan of Rs.2867.26 lakhs and Rs.2123.26 lakhs respectively in micro finance sector and provided livelihood support to more than 27,000 beneficiaries so far.

CHAPTER-XV

CO-OPERATION

The main task of the Co-operation Sector is to facilitate the formation and working of Co-operative Societies in the State for the purpose of promoting self-help and mutual aid among agriculturalists, artisans and other persons with common economic needs so as to bring about a higher standard of living, better business, better method of production and equitable distribution. The Co-operative institutions have advantage in tackling the problems of poverty alleviation, food security and employment generation and considered as a potential instruction for delivery of goods and services. This delivery mechanism of goods and services to the people through cooperative window is considered to be the best as it associates with the target group in its process implementation.

The co-operation movement in Assam has completed more than 100 years, geographically covering almost all the villages in the State and functionally covering almost all the economic activities. But despite this impressive and noticeable growth, the co-operative movement could not gather inherent strength to grow and survive in the present day free market economy. The co-operative sector, which legitimately belongs to the voluntary sector, was increasingly being absorbed in the vortex of the state sector. As a result, the co-operatives, which truly belong to the members, were wrongly being perceived as state owned enterprises.

Since the Assam economy is predominantly rural in character, an extensive network of sound and viable co-operatives can help tremendously in giving right shape to the socio-economic structure of Rural Assam in particular and for achieving the much needed overall economic growth and social transformation of the State. But, the co-operative sector failed to achieve its desired objective due to existence of good number of uneconomic and dormant cooperatives. Therefore, to strengthen the role of existing Cooperative Societies towards socio-economic development as well as their impact on poverty reduction, employment generation and social integration the Assam Cooperative Act, 2007 has been enacted to give renewed fillip to the effort of the State Government to promote voluntary formation, autonomous functioning, democratic control and professionalism to the cooperative societies.

This act is amended by the Assam Legislative Assembly as "The Assam Co-operative Society (Amendment) Act 2012 with effect from 5th February 2013 with insertion of separate Chapter for Cooperative Credit Society" as per MOU signed by the State Government with Central Government and NABARD in the year 2012 for revival of Short Term Cooperative Credit Structure (STCCS). However, setting up of the Assam Rajiv Gandhi University of Cooperative Management under the academic guidance of Indian Institute of Management, Ahmedabad with the State Government initiative brings some hope to the cooperative sector to achieve professionalism and quality performance of various societies in the State as envisaged.

The Co-operative Department of Assam has given special thrust in certain areas at present for revival of the cooperatives structure in the state so as to attain the objective of upliftment of the economic conditions of the poor people of the society by providing low cost credit to the farmers and employment generation programmes. The Government of Assam proposed to strengthen the cooperative societies by giving logistic support in terms of better regulation, better facilitation and by closing the sick cooperatives and nurturing the good and economically viable cooperatives.

The main objectives of the Co-operative Department are

- Registration Supervision, assistance, Counseling and all round development of the Co-operative movement.
- To provide Co-operative Education
- Election and Audit of Co-operatives societies
- Implementation of various development schemes through co-operative societies in different sectors of the economy i.e. agriculture, farming, fisheries, diary industries, processing, marketing, housing etc.
- Promotion of autonomous functioning, democratic control and professional management of co-operative societies.
- Liquidation of societies.

TABLE – 15.1: STATISTICS OF CO-OPERATIVE SOCIETIES IN ASSAM

Year	Number of Societies	Membership (in '000 nos)	Share Capital (Rs. in Crore)	Working Capital (Rs. in Crore)
2011-12	8006	4600	98.35	2806.09
2012-13	8422	4592	102.07	2812.66
2013-14	8835	4513	103.23	3171.31
2014-15	9222	4416	84.37	3279.71
2015-16	10252	4291	90.27	3125.64

Source: Registrar of Co-operative Societies, Assam.

At present there are 9222 nos. of different types of Cooperative Societies in the State including State Level Cooperative societies such as ASCARD Bank, APEX Bank, APOL, HOUSEFED, and FISHFED. Various types of Primary Cooperative Societies like Gaon Panchayat level Cooperatives (GPSS), women Cooperatives, Housing Cooperatives, Fishery & Pisciculture cooperatives, Farming Cooperatives, Consumer Cooperatives, Tourism Cooperatives, handloom Cooperatives, Dairy Cooperatives etc are also organized for specific purposes and performing various economic activities.

STRATEGY FOR TWELFTH FIVE YEAR PLAN:

The aim of the 12th Five year plan is inclusive growth having Agriculture and allied activities, Education, Health Care, social welfare and development of Rural Infrastructure is a thrust area with an object to employment generation and improve quality of life especially of the downtrodden strata of the society. The Department has given emphasis to attain the goal through special focus on the trust areas like

- Micro Finance-Financial inclusion.
- Implementation of ICDP under central sector scheme.
- Revamping of GPSS and women Multipurpose Cooperative Societies
- Organization of a state Level Consumer Marketing Federation.
- Diversification of new areas and activities like Health Care, Education, Cold Storage, Food Processing.
- Dairy and Fishery
- Rehabilitation of potentially viable weak cooperatives.
- Administrative reforms etc.

REVAMPING OF PACS:

The Gaon panchayat Samabai Samiti (GPSS) were organised in 1973 to function in the plain districts of the state. The GPSS were organised mainly for issue of Agriculture credit and distribution of essential commodities. On the other-hand, Agricultural credit in the two hill districts of the state are routed through Large Area Multipurpose Cooperative Societies (LAMPS). The Primary Agriculture Credit societies (PACS) are the backbone of the cooperative movement which measures the development of Rural India. It is felt that the PACS need to be re-oriented for dealing in fertilizer, pesticides, farm mechanization, agriculture credit through KCC. PACS are mainly operating in the village areas. There are 2044 Nos. of new GPSS have been registered in addition to the earlier existing 709 Nos. of GPSS in the state that deals in production, procurement and distribution of essential commodities. The process of creating of new PACS co-terminus with the existing Gaon panchayat of the state is likely to be completed by providing them adequate supply of infrastructure development during the 12th Five year plan period.

WOMEN COOPERATIVE SOCIETIES:

There are more than 2700 woman cooperative societies including 2486 number of Gaon panchayat level Multipurpose women cooperatives in Assam. These cooperatives are exclusively confine to women, which are organized for involvement of women in various economic activity and with a view to improving the socio-economic status of women by harnessing their talent and individual skill. But due to financial constrains, these societies could not render services to the members providing facilities and gainful employment. Considering such aspects, Govt. has been providing financial assistance to these cooperatives in a phased manner.

ADMINISTRATIVE REFORMS:

Cooperative should be free from the Government Control or in other word cooperatives are given more democracy by making law in the light of Vaidyanathan Committee's recommendation. The Assam Co-operative Societies Act 2007 is amended in the year 2013 in priority with the 97th Constitution amendment. Participation of women in the management is ensured. Provision is made for inclusion of professionals in the management of the cooperatives.

CREDIT CO-OPERATIVES:

It is an autonomous society of persons who are voluntarily associated to accomplish their basic aspiration and requirements through an organization which is jointly owned and democratically controlled. The main motive of the credit cooperative is to provide credit to local entrepreneur for undertaking various types of business activities. It works on the principle of self help through mutual Co-operation of member. The credit Co-operative are being formal to provide financial help to its member through loan at low interest rate. These credits are being carried out through three types of Co-operative banks viz 1) APEX 2) ASCARD and 3) Urban Co-operative Bank. The state government has already taken several steps to implement the scheme of revival package of short term Co-operative credit structure (STCCS) through APEX Bank and Long Term Co-operative credit structure (LTCCS) through ASCARD Bank.

HOUSING CO-OPERATIVE:

The Housing Co-operative Movement in state has been able to achieve a noticeable performance during the last couple of years. There are more than 220 numbers of primary housing Co-operative with one Apex level Society, HOUSEFED, Assam is rendering service to its members. The main business of this federation society is to provide housing loans to the primary housing Co-operative societies and individuals. HOUSEFED also construct dwelling houses and flats for sale, purchase land and sale it after development. HOUSEFED is also leasing houses on rent for office accommodation to different central and state Government offices.

CONSUMER CO-OPERATIVE:

Consumer Co-operative are enterprises owned by consumers and managed democratically, which objects are to fulfil the needs and aspirations of their members. They co-operate within the market system. Independently of the state, as a form of mutual aid, oriented towards service rather than pecuniary profit. There are 36 urban consumer store with more than 250 affiliated primary consumer store and 640 Tea Garden Consumer store in the state. These Co-operative societies extends yeoman service to the urban people and in maintaining the price line. The Wholesale Consumer Co-operative Societies (WCCS) are involved in procuring and selling of essential commodities and other products at subsidized rates. These procured essential item required scientific storage for their proper preservation for long periods.

REVIVAL OF DAIRY CO-OPERATIVES :

Primary Milk Cooperatives are village level cooperatives. There are 505 Nos. of primary Milk Dairy Co-operative societies in the State. Most of these co-operatives are the members of the Milk unions that is their Federation. Namely, WAMUL and EAMUL. These Co-operatives sold their surplus milk to their union and their Federation. Three Regional Level Milk Cooperatives unions had been organized namely, i) West Assam Milk producers Union Ltd. (WAMUL), ii) East Assam Milk Producers Cooperative Union Ltd (EAMUL) and iii) Cachar and Karimganj District Milk producer Co-operative Union Ltd. (CAMUL). And out of these CAMUL is in a defunct stage. After handing over the management of WAMUL, EAMUL and CAMUL to National Dairy Development Board (NDDB), New DELHI, WAMUL market its product under the brand PURABI, which has become a household name. It plans to double its packaged liquid milk production in the coming year. Besides, WAMUL is supplying Paneer, Curd, Ghee, Lachi and Cream to its customers, WAMUL has been continuously increasing its volume of operations and it has reached an average procurement level of 26.15 TKGPD and an average milk sale of 47.60 TLPD in the year 2016-17.

KEY ACHIEVEMENTS:

1. Transparent, quality based, consistent price round the year to the producer members.
2. Adopted 100% cashless payment system-transfer of milk amounts directly into the bank account of individual dairy farmers.
3. Pilot project on doorstep AI delivery through Mobile AI Technicians (MAITS) in Nagaon and Morigaon districts-now expanded to Jorhat and Barpeta. Introduction of Ration Balancing Programme (RSP) through MAITS.

FISHERY SECTOR:

Schedule Caste and Backward communities are direct beneficiaries of fishery sectors as most of the people of these communities are fisherman by profession and fishery is taking place as most remunerative commercial venture. For all un-employed irrespective of caste and creed. It is organised to help the poor fisherman community who are economically backward for their socio-economic development. Fishery sector has a higher growth rate than other agricultural and allied sectors and could play a pivotal role in the socio-economic development and employment generation in the State. The Apex body, FISHFED has been responsibility to take up steps for coordinated development of primary fishery cooperative societies including Production, Marketing, processing of fish and provide technical guidance etc. Presently there are more than 450 Nos. of primary fishery co-operatives in the State.

The fishery society is organized to help the poor fisherman community who are economically backward scheduled caste people for their socio-economic development. Scheduled caste and backward communities are direct beneficiaries of fishery sector. And is taking place as most remunerative commercial venture for all unemployed

irrespective of caste and creed. Fishery sector has a higher growth rate than other agricultural and allied sectors and could play a pivotal role in the socio-economic development and employment generation in the state. The Apex body, FISHFED has been responsibility to take up steps for coordinated development of primary fishery co-operative societies including production, marketing, processing of fish and provide technical guidance etc. Presently there are more than 450 Nos. of primary fishery Co-operatives in the State. FISHFED is one of the running businesses of fresh fish marketing in hygienic manners and for this purpose FISHFED has acquired four refrigerated vans. These vehicles are engaged in fresh fish marketing in different parts of Guwahati City. The State Government has sanctioned an amount of Rs.25.00 lakh as financial assistance to FISHFED during the year 2016-17.

The Board of Directors (BOD) of the FISHFED has decided to take up the business of imported sea fishes and fresh fishes. For, this purpose FISHFED has already applied for import license and is negotiating with outside sources of India.

OTHER CO-OPERATIVES :

In addition to the above mentioned cooperative societies, there is a large number of cooperatives like Poultry, Piggery, Duckery, Goatery, Pisciculture, Cane and Bamboo Industries , Brick Industries , Transport and Communication, Rickshaw Puller, Bee Keeping , Blacksmith, Carpentry, Bell Metal Utensil Manufacturing , Tourism etc in the state. The Financial assistance to theses societies will go a long way in enabling economically weaker section of the society to achieve their economic upliftment. The state Government provide financial assistance to such cooperatives societies from time to time.

INFRASTRUCTURE SUPPORT UNDER RURAL INFRASTRUCTURE DEVELOPMENT FUND(RIDF):

The state cooperative Department has initiated the boosting of Rural storage Infrastructure by construction of rural Godowns, in various (Gaon Panchayat Samabay Samiti) GPSS/Large Area Multipurpose Cooperative Societies (LAMPS)/ other Cooperative societies with the help of the National Bank for Agriculture and Rural development (NABARD) sponsored RIDF -XVIII scheme. The Government has released mobilization advance for an amount of Rs.[(233.46 Lakh + 544.74 Lakh)]= Rs.778.20 Lakhs for construction of 244 Nos. of Rural Godowns under RIDF in the year 2015-16 and 2016-17 respectively . NABARD has sanctioned a sum of Rs.1710.80 lakhs and released the fund to the Government during the year 2016-17. Moreover, proposal for the amount of Rs.123.25 lakhs as state share for construction of 224 Nos. of Godowns by GPSS/LAMS has also been submitted to Government for sanction. As on 31 December 2016, out of 244 Godowns, construction of 88 Godowns have been completed and the remaining are in progress.

PERFORMANCE OF STATE LEVEL COOPERATIVE SOCIETIES:

The performance of some of the state level credit and non credit Co-operative institutions is elaborated below:

ASSAM STATE COOPERATIVE APEX BANK LIMITED :

The Assam state Co-operative Apex Bank Limited is a pioneer Co-operative institution in channelizing credit for agricultural operation to boost up the development process of the rural economy as well as financing other urban business and industrial activities through Co-operative channel in the state. The bank, registered in the year 1948, has 68 branches in the state at present.

Generally, this Co-operative Bank lend agricultural loans to the farmers through primary agricultural credit societies (PACS). Presently the Bank is implementing the package of short term Co-operative credit structure (STCCS). On receiving of revival assistance from the Government of Indian and the state Government, the financial position of the bank has been improved and has earned profit. The bank has earned net profits of Rs.774.59 lakhs during the year 2014-15. As per guideline of the R.B.I all the branches of the Apex Bank have been computerized and it has implemented core Banking solution. Like other Nationalized and commercial Banks the Apex Bank has also operated RTGS / NEFT. The Capital to Risk weighted Assets Ratio of the Bank has achieved 10.65% which can be taken as a good Condition of assets to be compared with other state cooperative Banks in the country.

As per available information, the membership of the bank has increased from 82 thousand in 2011-12 to 94 thousand in 2016-17. The share capital has increased to 13.44 crore in 2016-17 from Rs.8.84 crore in 2011-12. The working Capital is also increased to Rs.2379.61 crore from Rs.1777.40 crore in 2011-12.

The Performance of the Assam state Co-operative Apex Bank during the last six years may be evident from the table below:

TABLE-15.2: PERFORMANCE OF THE ASSAM STATE CO-OPERATIVE APEX BANK

Particulars	Units	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Bank Branches	No	67	67	68	67	68	68
Members	'000' NO	82	91	93	94	92	94
Paid up share Capital	Rs. In Crore	8.84	9.13	9.74	10.84	11.75	13.44
Reserve	do	22.15	33.69	30.08	43.03	51.76	65.03
Deposits	do	1559.47	1500.63	1950.92	1888.50	2039.81	2870.66
Working Capital	do	1777.40	1687.60	2032.21	2079.81	1921.94	2379.61
Borrowing Outstanding	do	7.0	6.45	7.37	4.87	7.46	25.49
Investments	do	1019.56	987.10	1268.28	1028.60	1079.15	1394.78
Loan Advances	do	419.58	125.29	358.77	287.95	278.57	394.25
Loan outstanding	do	504.84	483.71	686.36	787.33	879.27	850.65
Loan Overdue	do	98.98	98.38	135.31	88.06	95.83	91.16

Source: Registrar of Co-operative Societies, Assam

ASSAM STATE COOPERATIVE AGRICULTURE AND RURAL DEVELOPMENT BANK LTD. (ASCARD):

The Assam State Cooperative Agriculture Rural Development Bank Ltd.(ASCARD) was registered during the year 1955-56. It is a land mortgage Bank. This Bank is not a Bank under the Banking Regulation Act but the Bank is regulated under the Assam

Cooperative Land Mortgage Bank Act, 1960 and the Assam Cooperative Land Mortgage Bank Rules, 1961. While the Cooperative Credit structure is mainly providing short term agriculture loans, the ASCARD bank was providing medium and long term agricultural loans. The ASCARD bank has 28 Nos. of Branches throughout the state with more than 50 thousand members. Formerly, the primary Land Mortgage Bank (PLMB) in the District level and later on the PLMB's were reformed as primary Agriculture Co-operative Bank which were finally merged with the ASCARD Bank Ltd.

At Present, these Primary Agricultural Co-operative Banks are functioning as Branches of the ASCARD Bank Ltd. Present financial position of the ASCARD Bank is precarious. Performance of the Bank is almost deplorable due to mismanagement. The Government has taken steps for revival of short term cooperative credit structure (STCCS) as per the recommendation of Vaidyanathan Committee Report –I (VCR-I). But the Government has yet to take proper steps for revival of Long Term Cooperative Credit Structure (LTCCS) as recommended by VCR-II. Yet the management of the ASCARD Bank with assistance from the Govt. has prepared a revival scheme by engaging the IIBM, Guwahati With a target amount of Rs.100.00 crore. In the light of the revival plan a development Action plan has been submitted before the Government for necessary approval. As per available information, the working capital decreased from Rs.16.41 crore in 2011-12 to Rs.13.96 crore in 2016-17. The Deposits has increased to Rs.1.50 crore in 2016-17 from Rs.0.20 crore in 2011-12. The loans and advances issued by Bank has shown improvement in the year 2016-17 and increased to 1.42 crore compared to 0.04 crore in 2011-12. The loan outstanding also increased to 9.02 crore in 2016-17 from 8.42 crore in 2015-16. The data containing important indicators of bank performance are presented in the table below:

TABLE-15.3: PERFORMANCE OF A.S.C.A.R.D. BANK

Particulars	Unit	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 (Provisional)
Bank Branches	NO	28	28	28	28	28	28
Membership	No	39106	44332	45886	46771	47610	54076
Paid up Share Capital	Rs. crore	6.33	6.33	6.36	6.36	6.37	6.48
Working Capital	do	16.41	13.22	13.07	12.41	13.31	13.96
Deposits	do	0.20	0.18	0.73	0.95	1.05	1.50
Loans and Advances	do	0.043	0.18	0.82	0.36	0.43	1.42
Loan outstanding	do	8.77	8.42	8.65	8.46	8.42	9.02

Source: Registrar of Co-operative Societies, Assam

URBAN COOPERATIVE BANK

The state has at present 8 nos. of functioning Urban Co-operative Banks (UCBS) with 25 branches. Multiplicity of command, absence of clear-cut demarcation between the functions of State Government and RBI, led to operational difficulties in

implementing regulatory and supervisory measures pertaining to UCBS. To sort out the difficulty, a Memorandum of understanding (MoU) between RBI and Government of Assam was signed in connection with regulatory control of RBI over UCBS during the year 2008 so that functioning of such banks can be improved and confidence of depositors can be restored.

As per available report, total membership of the functioning UCBS are 40 thousand in 2016-17 as against 29 thousand in 2011-12. The paid up share capital of UCBS has been increased to Rs. 15.93 Crore in 2016-17 from Rs. 13.18 Crore in 2015-16. The Working capital of the banks also increased to Rs. 773.10 Crore in 2016-17 from Rs. 574.16 Crore in 2011-12. On the other hand the loans and advances issued by banks has decreased to Rs.207.85 Crore in 2016-17 from Rs.307.38 Crore in 2011-12. The loan outstanding also decreased to 194.82 crore in 2016-17 from 236.24 crore in 2015-16. During the year 2016-17, loan overdue remains higher with Rs. 23.06 Crore compared to the previous year.

TABLE-15.4: STATISTICS RELATED TO PERFORMANCE OF URBAN COOPERATIVE BANKS

Particulars	Unit	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Bank Branches	NO	23	23	24	25	25	25
Membership	'000' No.	29	29	31	30	32	40
Paid up Capital	Rs. In Crore	5.65	6.53	6.89	7.36	13.18	15.93
Working capital	do	574.16	595.15	616.00	687.97	723.69	773.10
Deposits	do	492.28	522.49	602.92	604.89	479.48	690.29
Loans advances	do	307.38	199.59	233.04	217.71	259.87	207.85
Loan Outstanding	do	223.98	239.45	239.10	236.24	257.24	194.82
Loan overdue	do	16.80	13.89	18.07	21.00	26.76	23.06

Source: Registrar of Co-operative Societies, Assam

STATE LEVEL NON-CREDIT COOPERATIVE SOCIETIES

There are a few state level Non-credit cooperative societies functioning in the state. The performance of these societies are presented in the Table below:

Table: Statistics Related to state level Non-Credit Cooperative Societies in Assam.

Name of Societies	Year	No. of Societies	No. of Members	Rupees in Lakh		
				Paid up share Capital	Paid up working capital	Values of sales
	2012-13	1	1826	325.79	1119.86	3598.09

Assam Cooperative Jute Mill Ltd.	2013-14	1	1825	325.79	1237.92	3811.42
	2014-15	1	659	323.93	929.34	4510.55
	2015-16	1	659	323.93	942.38	4244.15
	2016-17	1	659	323.93	926.65	5244.66
FISHFED	2012-13	1	225	287.99	342.52	-
	2013-14	1	239	343.00	407.00	18.87
	2014-15	1	246	343.04	411.95	74.49
	2015-16	-	-	-	-	-
	2016-17 (Provisional)	1	285	343.10	115.66	57.50
HOUSEFED	2012-13	1	418 Member societies	1647.00	14882.00	-
	2013-14	1	418 Member Societies	1663.55	15294.24	-
	2014-15	1	418	1653.21	15050.69	-
	2015-16	1	418	1642.51	-	-
	2016-17	1	418	-	-	-
Eastern Agro Processing & Tea Warehousing Cooperative Society Ltd.	2012-13	1	492	97.98	3071.45	2128.09
	2013-14	1	493	97.98	1889.00	1655.00
	2014-15	1	504	98.08	1850.00	1611.00
	2015-16	1	503	98.13	2107.00	1384.00
	2016-17	1	504	98.15	2459.65	1314.03
Assam Polyester Cooperative Society Ltd.	2012-13	1	4618	1628.05	248.36	1886.89
	2013-14	26 Societies	4618	1628.00	89.80	1885.24
	2014-15	37	4589	1648.05	(-)175.78	1135.34
	2015-16	37	4579	1648.12	(-)395.63	1655.26
	2016-17 (Provisional)	37	4590	1648.12	-	-

Source: Registrar of Co-operative Societies, Assam

ASSAM CO-OPERATIVE JUTE MILLS LTD.

The Assam Co-operative Jute Mills Ltd. is situated on the South Bank of the River Brahmaputra at Silghat Town in the District of Nagaon. This is the only Composite Jute industry in Co-operative sector in the Country. The Assam Co-operative Jute Mills Ltd. has been marketing its major product of gunny bags through the Director General of Supply and Disposal against Jute Commissioner's requisition order and the rest products are sold directly to the local customers and outside the State. It was registered in the year 1959 under the Assam Co-operative Societies Act, 1949 and after much struggle it was commissioned in the year 1970. With the initial investment of Rs. 150 Lakhs. But the mill after running for about 14 years in rough weather has to close during March'1984 for acute financial crises and other infrastructure problems and remain closed for about 2 years. Again the mill was reopened on 1st January, 1986 under the terms of the historic Assam Accord with the financial assistance from the Central Govt. as well as the State Government. But inspite of sufficient Govt. assistance financial depression again developed due to imbalance in the income and expenditure. However, after continuous struggle and efforts, the mill has started improving its economy from the year 1992-93 and marking continuous profit. Now the mill is completely free from the loan and liabilities and achieved economically viable position. The Mill is

implementing the scheme from renovation/modernization and expansion in the form of diversification from its own resources for which capacity has increased from 20 MT to 23 MT per day and later on to 29 MT per day.

Responding with the call of the time, the Mill has achieved the Quality Management certificate ISO 9001:2008 in the year 2009. Environmental Management Certificate ISO 14001:2004 in the year 2011 and occupational Health and Safety Management system ISO 18001:2007 in the year 2014. During the year 2016-17 the gross turnover of the Mill is Rs. 52.44 Crore having the net profits earned by Rs. 4.09 lakhs. Observing the activities and performance of the Mill, the State Government has placed the Mill in 'A' category and awarded the Mill with best performing Public Enterprise providing incentive of an amount of Rs. 12.00 lakhs during the year 2016-17.

CHAPTER – XVI

PRICES AND PUBLIC DISTRIBUTION SYSEM

The economic activities as well as the purchasing power of the people of a country are greatly influenced by the changes in commodity prices. Rising prices leads to increase in income inequality and also affects the income groups of a country. It is crucial to have a continuous watch on the price behavior to regulate economic policies. Price Index is a Statistical device to measure the relative change in price level with reference to time/geographical location and other characteristics. A barometer of economic activities. The State of Assam in particular and the country as a whole is experiencing price rise in varying degree in the last few years. Consequently the country is going through high inflation. In short more money is required to buy a given amount of goods and services.

PRICE SITUATION IN ASSAM:

The increase or decrease of retail prices affects the purchasing power of people that in turn affects the living condition of the people. Retail Price is defined as the price paid by the consumer which includes all taxes and excluded discount. With a view to study the ups and downs of price level, the Directorate of Economics and Statistics, Assam collects retail prices of 28 essential commodities from 27 urban and 26 rural centres of Assam on a weekly basis.

Price Indices:

Inflation is measured by taking into account of the wholesale Price Index (WPI) based on the prices in the Wholesale markets and the Consumer Price Index(CPI) based on the Prices of the Consumer purchases from the retail trade market.

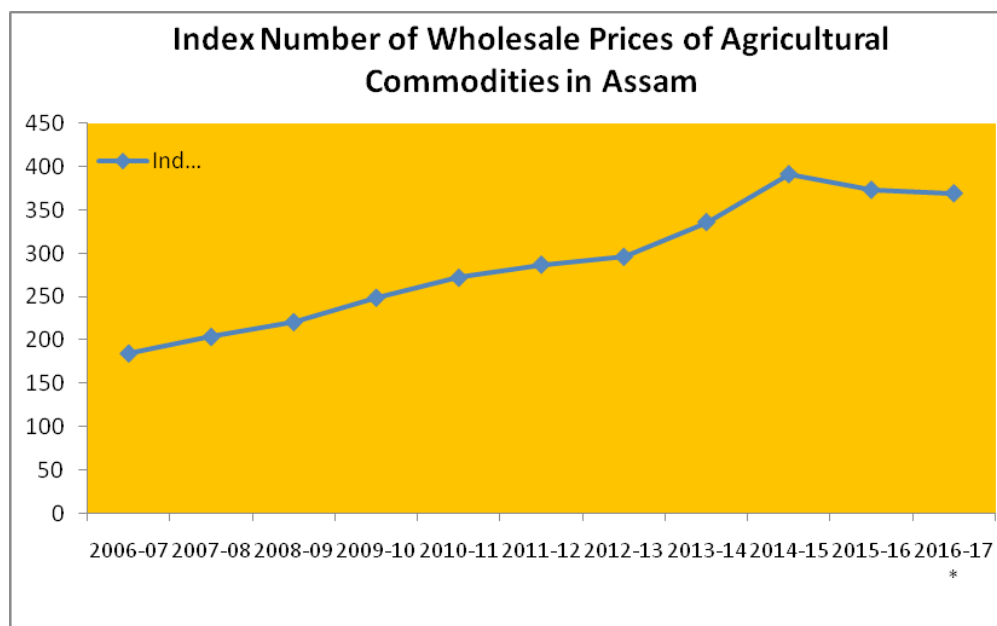
WPI of Agricultural Commodities with base 1993-94 in Assam:

The Directorate of Economics and Statistics compiles the WPI of agricultural commodities with base 1993-94=100. The table below depicts WPI of Agricultural commodities in Assam for last ten years. Index Number of Wholesale Prices of Agricultural Commodities for last ten years.

TABLE-16.1: INDEX NUMBER OF WHOLESALE PRICES OF AGRICULTURAL COMMODITIES IN ASSAM FOR LAST TEN YEARS

Year	Index	Percentage Variation
2006-07	185	5.11
2007-08	204	10.27
2008-09	221	8.33
2009-10	249	12.67
2010-11	272	9.24
2011-12	287	5.51
2012-13	296	3.14
2013-14	336	13.51
2014-15	391	16.37
2015-16	373	(-)4.60

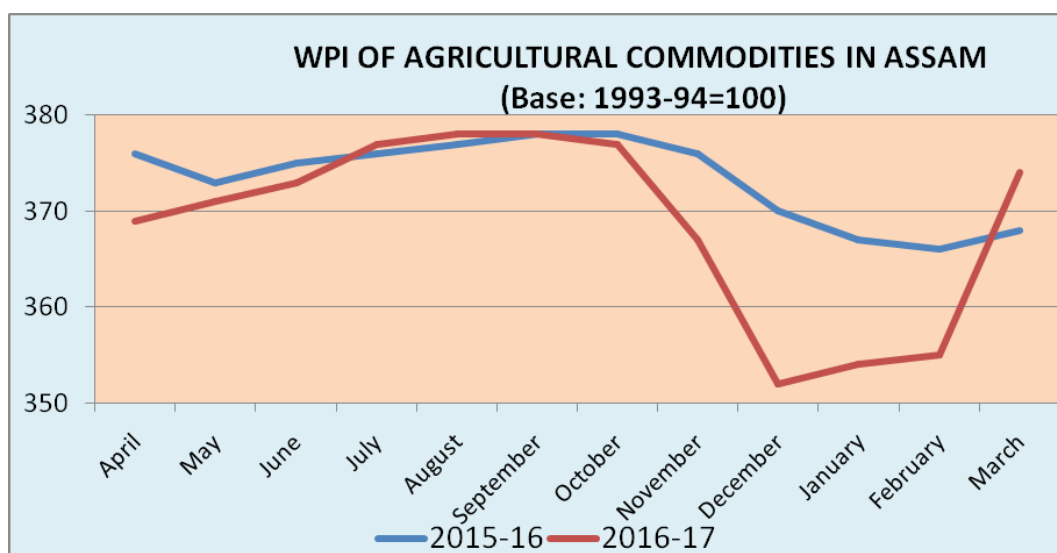
2016-17	369	(-)1.07
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In the last ten years highest increase was 16.37% in 2014-15 as 391 over 336 in 2013-14. During, 2016-17, the WPI declined by 1.07% to 369 from 373 in 2015-16. The month to month trend of WPI of agricultural commodities in Assam is depicted through the graph given below:

TABLE NO.16.2: MONTH TO MONTH TREND OF WPI OF AGRICULTURAL COMMODITIES IN ASSAM

Year 2015-16, Base 1993-94=100		Year 2016-17, Base 1993-94=100	
Month	Index	Month	Index
April '2015	376	April '2016	369
May '2015	373	May '2016	371
June '2015	375	June '2016	373
July '2015	376	July '2016	377
Aug. '2015	377	Aug. '2016	378
Sept. '2015	378	Sept. '2016	378
Oct. '2015	378	Oct. '2016	377
Nov. '2015	376	Nov. '2016	367
Dec. '2015	370	Dec. '2016	352
Jan. '2016	367	Jan. '2017	354
Feb.'2016	366	Feb.'2017	355
March'2016	368	March'2017	374



Consumer Price Index Numbers:

The Consumer Price Index numbers are intended to represent the average changes over time in the prices paid by the ultimate consumer for a fixed basket of goods and services. The analysis of different types of Consumer Price Indices are presented in the paragraph given below:

Consumer Price Index Number (General) for Rural, Urban and Combined.

The Central Statistics Office (C.S.O.), Ministry of Statistics and Programme Implementation, G.O.I. has introduced a new series of Price Indices with base year 2012 for all India and States/UTs separately for Rural, Urban and combined. The annual average consumer price Index Number (with base 2012=100) in Assam for Rural, Urban and Combined for the year 2016 is calculated as 126.98, 124.94 and 126.4 against the All India annual average indices 130.4, 126.2 and 128.4 respectively. The increase in general Indices for Rural, Urban and Combined in Assam during 2016 over 2015 are 3.25%, 3.31% and 3.3% respectively. The table below shows the month wise Consumer Price Index (General) for Rural, Urban and Combined in Assam and All India for the year 2016 with base 2012=100.

TABLE: 16.3: CONSUMER PRICE INDEX (GENERAL) FOR RURAL, URBAN AND COMBINED FOR 2016 (Base 2012=100)

Month	ASSAM			ALL INDIA		
	Rural	Urban	Combined	Rural	Urban	Combined
January	124.8	123.2	124.5	128.1	124.2	126.3
February	125.0	122.9	124.6	127.9	123.8	126.0
March	125.1	123.1	124.7	128.0	123.8	126.0
April	125.6	124.1	125.3	129.0	125.3	127.3
May	126.6	124.7	126.2	130.3	126.6	128.6
June	127.0	124.6	126.5	131.9	128.1	130.1
July	127.5	125.8	127.1	133.0	129.0	131.1
August	128.5	126.9	128.2	133.5	128.4	131.1
September	128.7	127.3	128.4	133.4	128.0	130.9
October	127.1	125.0	126.7	127.7	124.2	126.1
November	129.6	128.0	129.3	133.6	128.5	131.2
December	126.2	123.7	125.7	127.9	124.0	126.1
Annual average	126.98	124.94	126.4	130.4	126.2	128.4

Consumer price Index Number for Industrial workers (CPI-IW):

This Index is the oldest among the CPI indices as its dissemination started as early as 1946. Consumer Price Index Number for Industrial workers measure a change over time in prices of a fixed basket of goods and services consumed by industrial workers.

CPI-IW is mainly used for the determination of Dearness Allowance (DA) and Variable Dearness Allowance (VDA) being paid to millions of public sector employees besides fixation and revision of minimum wages in scheduled private sector employees respectively. It is also used for measuring inflammatory trend for policy formulation in the country. Since its inception in 1946, labour Bureau, Ministry of Labour, Govt. of India has been compiling and maintaining CPI for Industrial Workers. The 2001 index is a more representative in collecting prices for approximately 392 consumption items from 289 market of 78 centres of the country. In Assam, the CPI for Industrial workers with new base 2001=100 and in old base 1982=100 are constructed and compiled by taking weighted average of the indices for the five centres namely, Guwahati, Doomdooma(Tinsukia), Labac (Silchar), Morioni (Jorhat) and Rangaparara(Tezpur).

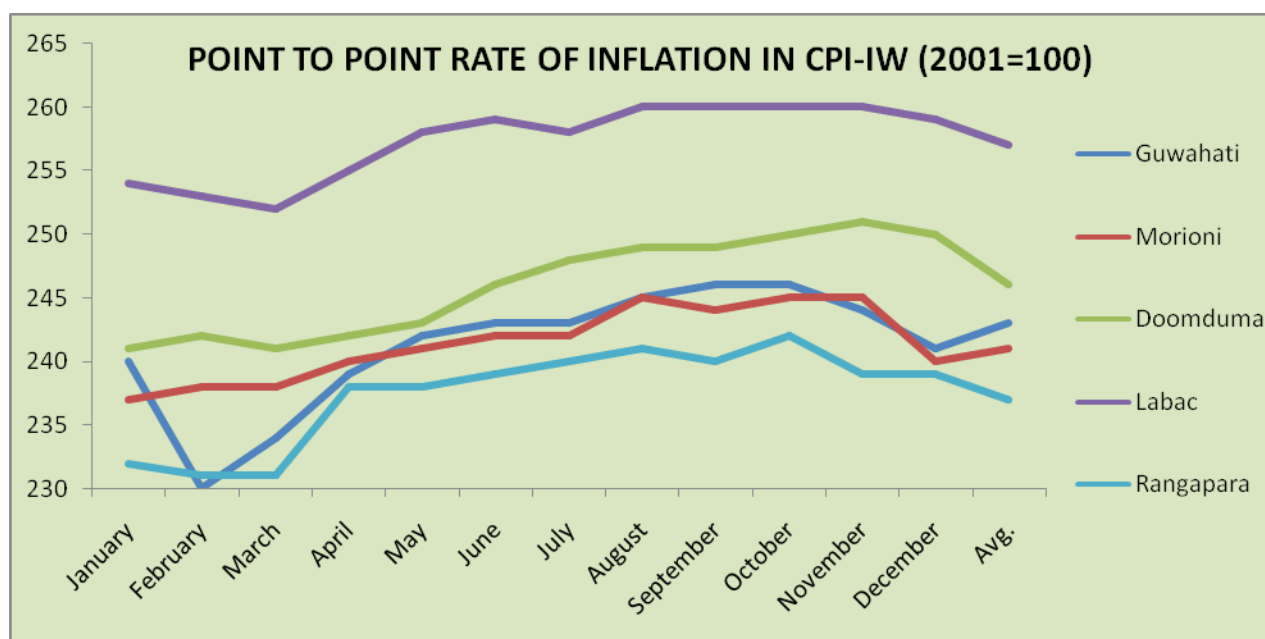
TABLE-16.4: CONSUMER PRICE INDEX NUMBER FOR INDUSTRIAL WORKERS IN ASSAM

(Base 2001 = 100)

Sl. No.	Period	Guwahati	Morioni (Jorhat)	Doomdooma (Tinsukia)	Labac (Silchar)	Rangaparara (Tezpur)
1	2	3	4	5	4	5
1	January '2016	240	237	241	254	232
2	February 2016	238	238	242	253	231
3	March '2016	234	238	241	252	231
4	April '2016	239	240	242	255	238
5	May '2016	242	241	243	258	238
6	June '2016	243	242	246	259	239
7	July '2016	243	242	248	258	240
8	August '2016	245	245	249	260	241
9	September '2016	246	244	249	260	240
10	October '2016	246	245	250	260	242
11	November '2016	244	245	251	260	239
12	December '2016	241	240	250	259	239
	Average	243	241	246	257	237

Source : Directorate of Economics and Statistics, Assam.

The point to point rate of inflation in the five centres of Assam during the year 2016 depicted in the following graph-



ANNUAL AVERAGE TREND IN CPI-IW:

The annual average CPI of five centres of Assam and All India are depicted in the following table:

TABLE: CONSUMER PRICE INDEX NUMBER FOR INDUSTRIAL WORKERS (GENERAL)
CPI-IW (General), Base 2001=100.

Sl. No.	Period	Base 2001 = 100						
		Guwahati	Morioni	Doom- Dooma	Labac	Ranga- para	Assam	All India
1	2	3	7	4	5	6	8	9
1.	2011	168	171	170	186	163	174	192
2.	2012	184	185	182	197	171	184	209
3.	2013	198	195	196	216	186	198	232
4.	2014	214	217	213	243	213	220	247
5.	2015	239	238	241	253	231	244	268
6.	2016	243	241	246	257	237	245	274
7.	2017*	245	241	257	257	239	248	279

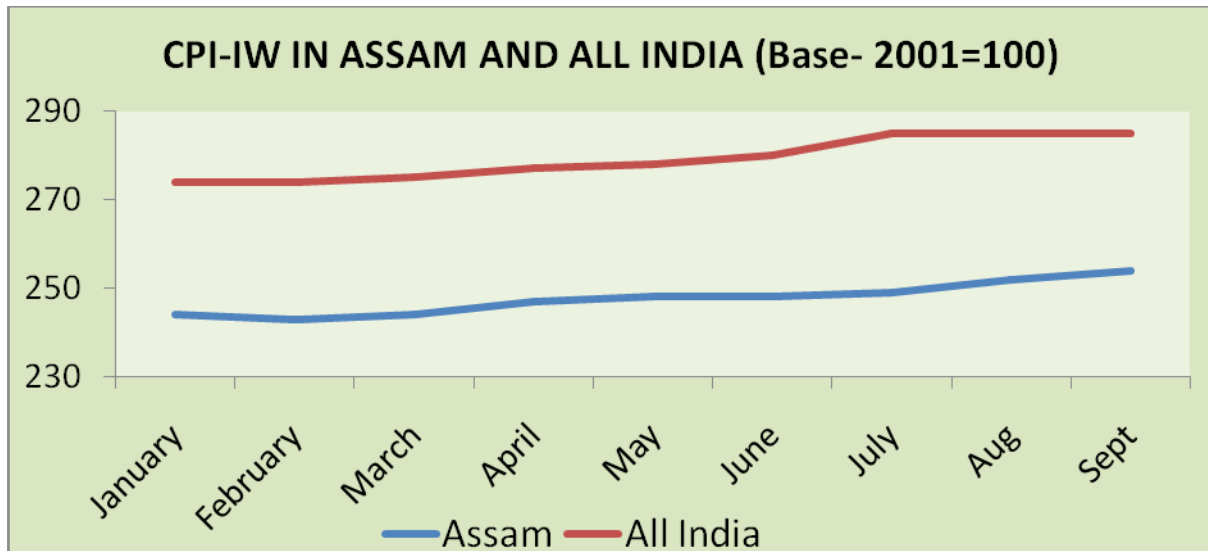
*(Average of nine months from Jan'2017 to Sept'2017)

During the year 2016, the CPI (IW) in Assam increased to 245 from 244 in 2015 i, e. an increase of 0.41 percent against 0.02 percent increase in all India CPI to 274.

The rate of increase of the index point in different centres in 2017 over the previous year was recorded highest in Doomduma by 4.47 percent whereas CPI for Morioni and Labac were remained constant in the two years.

TABLE: CPI-IW in Assam and All India.

Months	Assam	All India
January '2017	244	274
February 2017	243	274
March '2017	244	275
April '2017	247	277
May '2017	248	278
June '2017	248	280
July '2017	249	285
Aug '2017	252	285
Sept '2017	254	285



It is seen that during May'17, CPI-IW for Assam increase 1 percent to 248 from 247 in April 2017. It remains constant in June 2017. The All India CPI increase 0.36 percent to 278 in May 2017 from 277 in April 2017. Then it increased another 2 points i.e. an increase of 0.71 percent in June 2017 over May 2017.

Consumer Price Index Number for Working Class Population in Assam with base 2001=100 and in old base 1982=100.

The CPI for Working Class Population for the State is compiled by Directorate of Economics and Statistics, Assam taking into account the weighted average of the indices of the three centres viz. Guwahati, Silchar and Tinsukia.

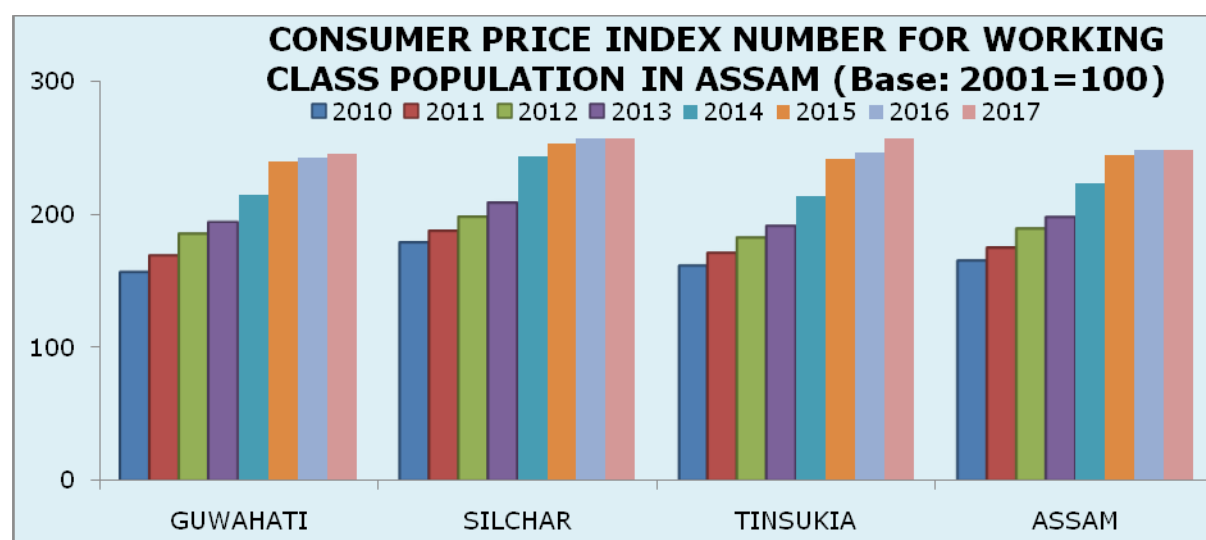
The index no. on old base 1982=100 is obtained by multiplying the index no. on new base by the linking factors provided by the Labour Bureau. Most of the private agencies use this indices for calculation of Variable Dearness Allowance (VDA) while computing the minimum

rate of wages. The following table depicts the CPI for working class population with base 2001=100 from 2010 to 2017.

**TABLE: CONSUMER PRICE INDEX NUMBER FOR WORKING CLASS POPULATION IN ASSAM
(Base 2001 = 100)**

Sl. No.	Period	Guwahati	Silchar	Tinsukia	Assam
1	2	3	4	5	6
3	2010	156	178	160	164
4	2011	168(7.69)	186(4.49)	170(6.25)	174(6.10)
5	2012	184(9.52)	197(5.91)	182(7.06)	188(8.05)
6	2013	193(4.89)	208(5.58)	190(4.40)	197(4.79)
7	2014	214(10.88)	243(16.83)	213(12.11)	223(13.20)
8	2015	239(11.68)	253(4.12)	241(13.15)	244(9.42)
9	2016	242(1.26)	257(1.58)	246(2.07)	248(1.64)
10	2017 (Average of 9 months from Jan'17 to Sept.'17)	245(1.24)	257(0.00)	257(4.47)	248(0.00)

Source : Directorate of Economics and Statistics, Assam.



The annual average consumer Price Index Number for Working Class population with base 2001=100 in Assam is remained constant as 248 during the year 2016 and 2017 against an increase of 1.64 percent in 2016 over 2015.

Among 3 centres of working class population Doodooma (Tinsukia) centre recorded highest increase by 11 points i, e. an increase of 4.47 percent in the year 2017 over 2016.

PUBLIC DISTRIBUTION SYSTEM:

Public Distribution System is a major instrument of the Government's economic policy for ensuring availability of food grains at affordable prices as well as to provide food security to the poor. It is an important component for poverty eradication and is intended to serve the poor who are nutritionally at risk. Public Distribution System in India is perhaps the largest distribution system of its type in the world. Public Distribution System is operated under the joint responsibility of the Central and the State governments. The Central Government has taken the responsibility for procurement, storage, transportation and bulk allocation of food grains etc. The responsibility of distribution food articles to the consumers through the network of fair price shop rests with the State governments. In Assam, the Food and Civil Supplies Department looks after the allocation and distribution of food grains, identification of families below poverty line, issue of ration cards and supervision and monitoring of stock position and distribution of food articles etc. by the fair price shops. The department is also entrusted with the responsibility of procurement of paddy and rice under 'Minimum Support Price' scheme under the 'The Food Management Policy' of the Ministry of Food and Public Distribution of Govt. of India to ensure remunerative price to the producers for their agricultural produce and to provide the procured food grains to the consumers fairly at reasonable and affordable price.

NATIONAL FOOD SECURITY ACT 2013 (NFSA'13):

The Government of Assam has implemented the NFSA'13 in the state from December 2015. Under NFSA, 2.52 crore people covering 84.17 percent of rural areas and 60.35 percent of urban areas of the state are being covered for distribution of food grains at highly subsidized rate. The AAY beneficiaries of the previous TPDS have been included as AAY categories of beneficiaries under NFSA'13. The eligible families from the earlier BPL, APL, Mukhya Mantrir Anna Suraksha Yojana (MMASY) card holders have been included as Priority Household families under NFSA'13. The selected AAY families are getting 35 kg of rice per Ration Card per month while the selected Priority Household families are getting 5 kg of rice per member of the family per month.

AAMAR DUKAN:

At present 5623 numbers of AAMAR DUKAN shops are functioning in the State that provides 23 essential commodities at much lesser price than the printed MRP. Out of the 23 items, 22 are non-PDS items and one is PDS item i.e. iodized salt.

CREATION OF ASSAM FOOD AND CIVIL SUPPLIES CORPORATION LTD.:

To streamline the Public Distribution System, effective computerization of PDS network, conduct of effective procurement of paddy and restoration of the distribution sugar under PDS, the State Govt. has created the "Assam Food and Civil Supplies Corporation Ltd." Under Company Act, 2013. The company has been registered with the Registrar of Co-operative Societies and has started functioning.

CONSUMER COURTS:

Under the provisions of Consumer Protection Act 1986, the Food and Civil Supplies Department being the State Nodal Centre has one State level Consumer Redressal Forum at Guwahati and 23 District level Consumer Redressal Forums. To create consumer awareness among the masses, the department has undertaken various activities such as advertisements through the print and electronic media, distribution of pamphlets, leaflets, organizing painting and essay competition among children and observance of National Consumers Day on 24th December and World Consumer Day on 15th March.

Under Confonet scheme, internet connectivity to the 23 District Consumer Forum and State Level Consumer Forum has been provided for easy access of case tests, judgements and to know the status of the cases.

TPDS COMPUTERIZATION:

Data of all the selected beneficiaries and GPSS/ Fair Price Shop have been digitized as a part of end to end computerization of supply chain management under NFSA, 2013. Internet connectivity is being provided up to GPSS level as part of Component-1 of the end to end computerization of TPDS. The State Transparency Portal www.fcs.assam.gov.in has been developed for the purpose.

ONLINE GRIEVANCE REDRESSAL SYSTEM:

For redressing the grievances of common consumers, online Grievance Redressal System headed by an Additional Deputy Commissioner in each district of the State is being set up for speedy redressal of the grievances of the public.

MEASURES TAKEN UP TO CHECK PRICE RISE OF ESSENTIAL COMMODITIES:

The State Administration along with District and Sub-Division holds regular meetings with trading community and also holds monthly coordination meetings with the FCI, Railways, IOC, trade and public bodies to have information on availability of stock and price. The price of essential commodities is monitored on daily basis by reviewing the daily price bulletins. Steps are also taken to ensure home delivery of LPG cylinders and to reduce the margin of Wholesale and the retail prices of commodities by monitoring the prices of essential commodities collected from the major Indian Cities. To check price rise Vigilance and Monitoring Committees has been constituted at the District, Sub-Divisions and District Council level.

CHAPTER – XVII

LABOUR, EMPLOYMENT AND WAGES

The objective of economic policy planning in India is to achieve high rates of growth of economy and sustained improvement in the standards of living of people. To achieve the objective, it is essential to absorb the growing labour force to generate productive and gainful employment, on a sufficient scale.

The State Government besides implementing various national employment programmes has initiated various programmes to lessen the burden of unemployment by creating and utilizing the potential employment avenues available in the state. The population censuses, different quinquennial rounds of National sample Survey on employment data, Employment and Unemployment Surveys conducted by the Labour Bureau and Economic Census provides data on employment structure and workforce as well as involvement of human resources in economic activity, employment etc. On the other hand, the data available from the Employment Exchanges does not give a clear picture on unemployment as a large number of unemployed people either did not register their names with Employment Exchanges or those who secure employment through other channels do not delete their names from the records of Employment Exchanges.

EMPLOYMENT SCENARIO

The Census of India defines all persons engaged in ‘work’ as participation in any economically productive activity with or without compensation, wages or profits are workers. The year preceding the date of enumeration is taken as the reference period for determining a person as worker or non-worker. The Census of India collects information on economic activity of an individual and classifies workers into two groups namely, Main workers who had worked for the major part of the reference period i.e. 6 months or more and Marginal workers who had worked less than six months. The table below shows the trend of Main workers, Marginal workers and Non-workers in Assam as per the last three censuses.

TABLE 17.1: DISTRIBUTION OF TOTAL WORKERS, MAIN WORKERS, MARGINAL WORKERS AND NON-WORKERS IN ASSAM

Year	Population	Total Workers	Main Workers				Marginal Workers	Non-Workers	
			Total	Cultivators	Agricultural Labours	Household Industry Workers			Other Workers
1991	22414322	8088935	6992056	3559117	844964	61455	2526520	1096879	14325387
2001	26655528	9538591	7114097	2680092	636351	178082	3619572	2424494	17116937
2011	31205576	11969690	8687123	3138554	903294	242071	4403204	3282567	19235886

The Figure in the next page shows that proportion of main workers to total population in Assam has decreased from 31 percent in 1991 to 28 percent in 2011 although the figures in absolute

number has increased by 24 percent between the period 1991 to 2011. On the other hand, the proportion of marginal workers shows an increasing trend both in percentage share and absolute number during the period. The proportion of non-workers to total population although remained more or less at the same level (about 64 percent) in 1991 and 2001, it showed a slight decline in 2011.

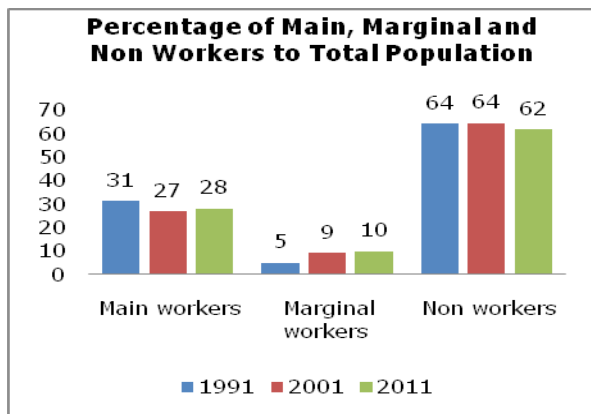


Fig. I

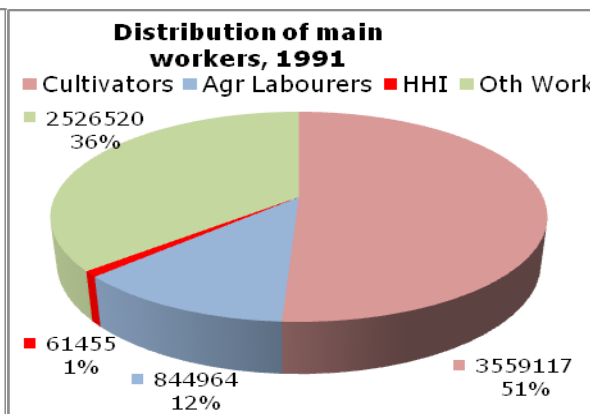


Fig. II

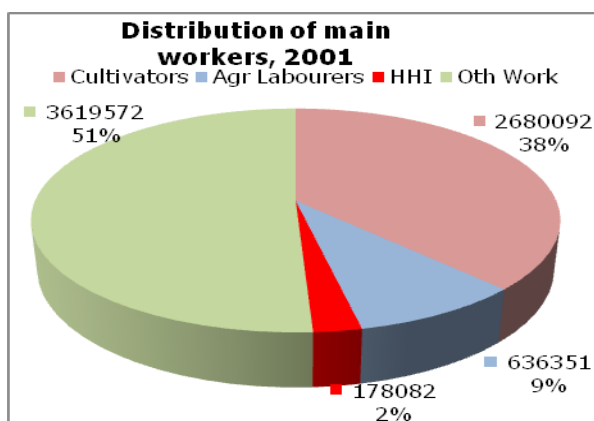


Fig. III

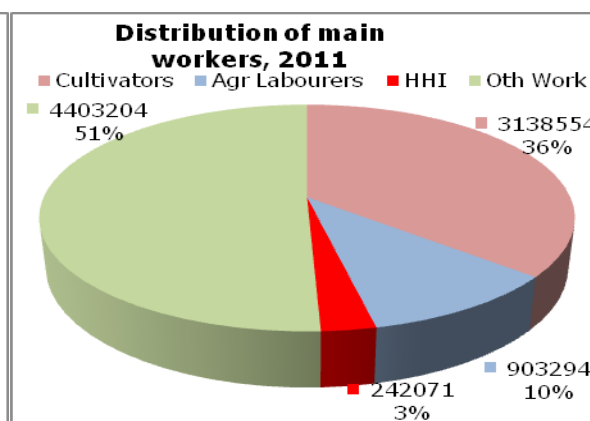
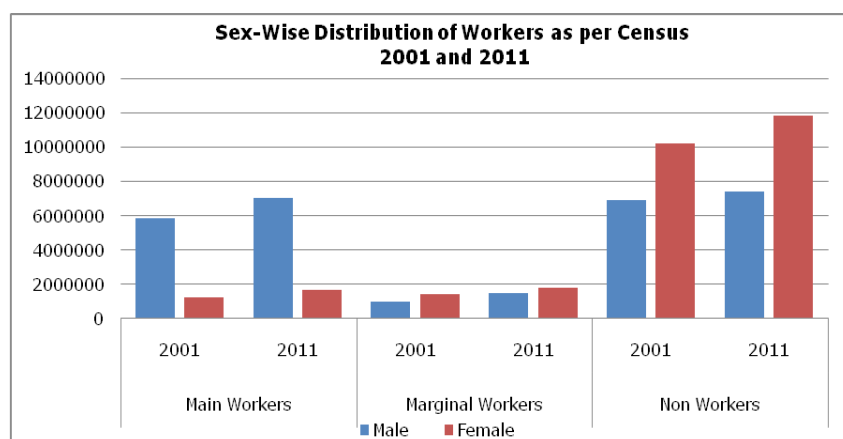


Fig. II

The Fig.II, Fig.III and Fig.IV, shows that there is a shift in the composition of total main workers from agricultural sector to non-agricultural sector. During 2001 and 2011, of the total main workers, proportion of workers in agricultural sector was 46 percent as against 62 percent in 1991. On the other hand, the proportion of other workers to total main workers depicts an increasing trend from 36 percent in 1991 to 51 percent in 2011 and proportion of workforce engaged in household industry increased from 1 percent in 1991 to 3 percent in 2011. The sex-wise distribution of main workers, marginal workers and non-workers is depicted in the figures given below:



The percentage share of male and female main workers is 44 percent and 11 percent respectively as per Census 2011 shows a slight increase over the composition of male (42%) and female (10%) main workers as per Census 2001.

RESULTS OF FIFTH ANNUAL EMPLOYMENT-UNEMPLOYMENT SURVEY, 2015-16

The Ministry of Labour and Employment, Govt. of India has entrusted the task of conducting Employment and Unemployment surveys on regular basis to the Labour Bureau, Govt, of India. The Fifth annual Employment and Unemployment survey was conducted throughout the country during the period April, 2015 to December, 2015. A brief analysis on the estimates of some labour parameters in the context of Assam State is discussed in the paragraphs below.

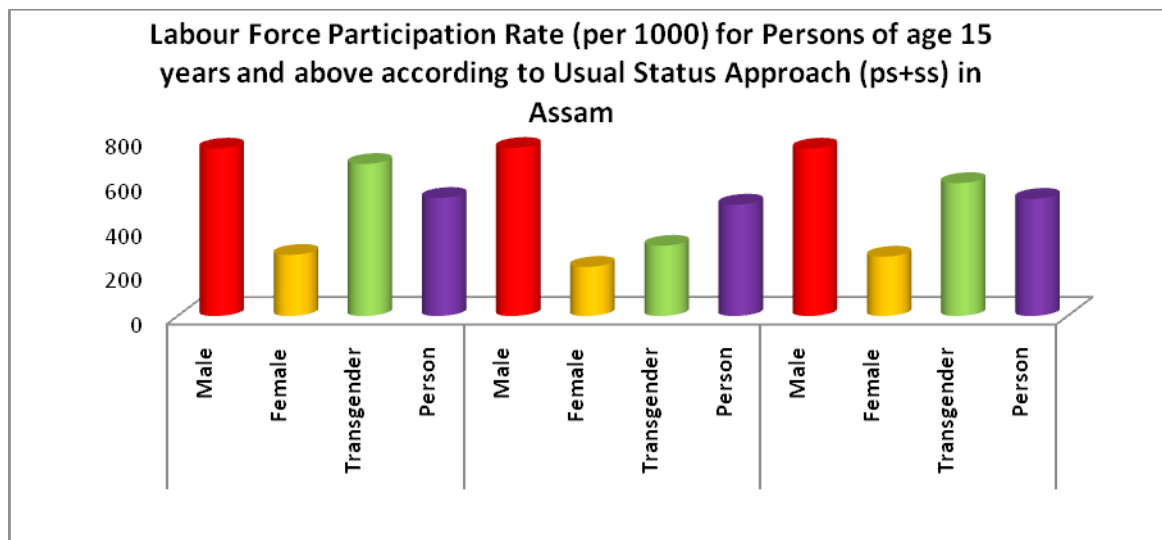
The study reveals that out of the employed persons aged 15 years and above according to Usual Principal and Subsidiary status approach (ps+ss) 52.9 percent are self employed, 19.4 percent are wage or salaried employee, 1.7 percent are contract workers and 25.9 percent are casual workers in the State as against 47.2 percent, 16.2 percent, 3.5 percent and 33.1 percent respectively at the All India level. This breakup in the rural areas of the State are 53.5 percent self employed, 17.0 percent wage or salaried employee, 1.4 percent contract workers and 28.2 percent casual labour against 49.1 percent, 10.7 percent, 2.9 percent and 37.4 percent respectively at the National level. The urban breakup at the State level is 49.0 percent, 36.1 percent, 3.8 percent and 11.1 percent as against 41.2 percent, 34.3 percent, 5.7 percent and 18.7 percent respectively at all India level.

The report further shows that out of the total male employed persons in the State, 54.9 percent are self employed, 19.6 percent are wage or salaried employee, 1.5 percent are contract workers and 24.0 percent are casual workers. The distribution of female employed persons in the State is 45.9 percent self employed, 19.0 percent wage or salaried employee, 2.1 percent contract workers and 32.9 percent casual workers.

LABOUR FORCE PARTICIPATION RATE

The result of the Fifth Annual Employment Unemployment Survey, 2015-16 conducted by the Labour Bureau reveals that the Labour Force Participation rate in respect of the age-group 15 years and above according to usual status approach for both principal status (ps) and subsidiary status (ss) in Assam is 53 percent in rural areas, 50 percent in urban areas and 53 percent taking urban and

rural areas as a whole against the all India rate of 56 percent, 44 percent and 52 percent respectively. The figure given below shows the Labour Force Participation Rate (per 1000) for persons aged 15 years and above in the State.

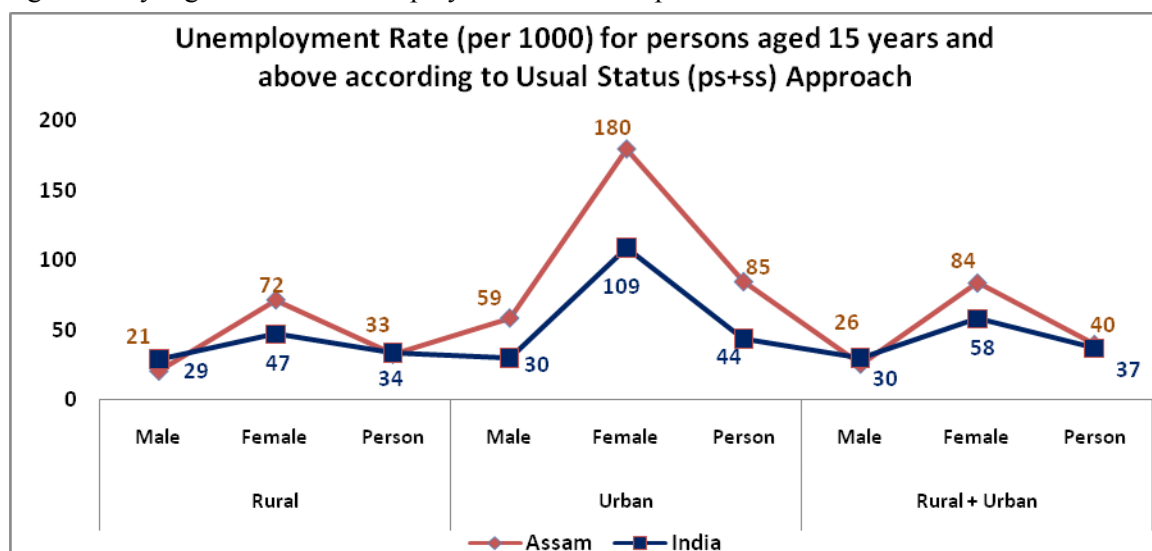


Source: 5th Employment Unemployment Report, 2015-16, Labour Bureau, Govt. of India.

UNEMPLOYMENT RATE

The Unemployment Rate is estimated to be 4.0 percent in the State under the usual principal and subsidiary status or about 4 percent of the persons aged 15 years and above who were available for work could not get work during the reference period. In rural areas the unemployment rate is 3.3 percent whereas in urban areas the unemployment rate is 8.5 percent under the same approach. The unemployment rate at all India level under the same approach is 3.7 percent in both rural and urban, 3.4 percent in rural areas and 4.4 percent in urban areas. In the State, the female unemployment rate is 8.4 percent which is almost 6 percent higher than the male rate of 2.6 percent.

The study reveals that the female unemployment rate in urban areas of the State under the usual principal and subsidiary status approach during the reference period is 18 percent which is significantly higher than the unemployment rate of 7.2 percent in rural areas.



Source: 5th Employment Unemployment Report-Vol.I, 2015-16, Labour Bureau, Govt. of India

DISTRIBUTION OF WORKERS ACCORDING TO ACTIVITY

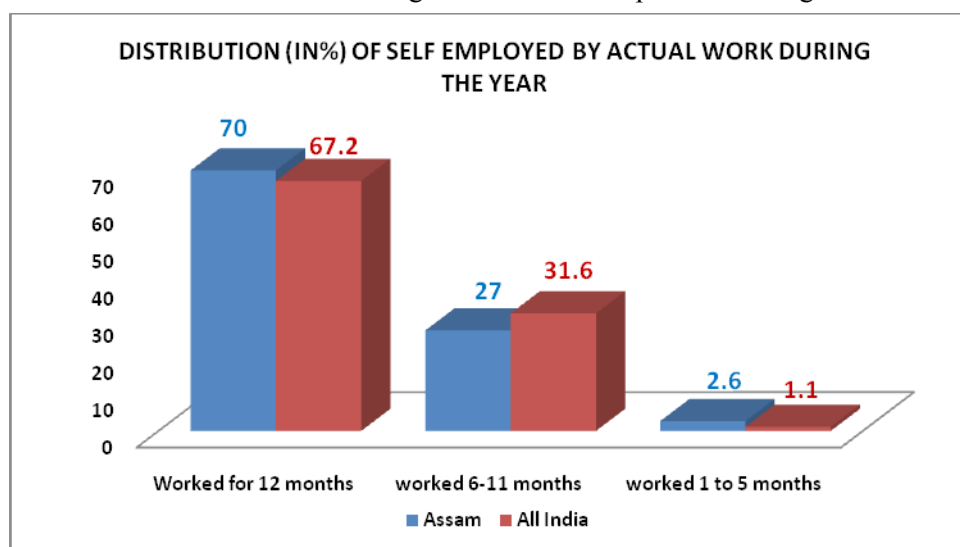
The table given below shows per 1000 distribution of workers aged 15 years and above by broad activity according to Usual Principal and Subsidiary status approach for Assam and All India.

TABLE-17.2

Category of Employee		Self Employed	Wage/Salaried Employee	Contract Worker	Casual Labour	
Assam	Rural	535	170	14	282	
	Urban	490	361	38	111	
	Total	Male	549	196	15	240
		Female	459	190	21	329
All India	Rural	491	107	29	374	
	Urban	412	343	57	187	
	Total	Male	486	174	38	302
		Female	429	125	27	419

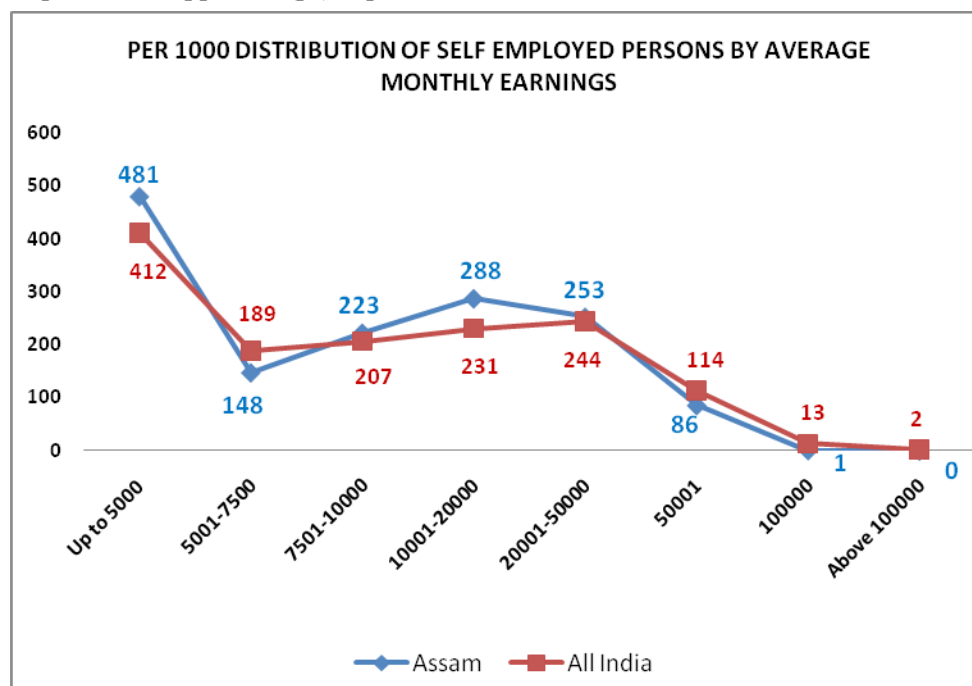
It is seen that 55 percent males and 46 percent females are self employed in the State compared to 49 percent males and 43 percent females respectively at the All India level. Further, the report reveals that regarding wage/ salaried persons, the gender gap is much less in the State compared to a high difference at the All India level. The number of self employed in the rural areas of the State is 54 percent which is higher by 5 percent than that of urban areas whereas in case of wage or salaried persons it is much higher in urban areas by 19 percent than that of rural areas.

The report also published information about self employed persons who were available for 12 months but actually worked during the year. The graph below shows the distribution of self employed aged 15 years and above available for 12 months but actually worked according to Usual Principal and Subsidiary Status approach (ps+ss). The graph shows that in Assam more self employed persons worked for 12 months than that of All India level. However percentage of self employed persons who actually worked between 1 to 5 months is higher in Assam compared to the figure at all India level.



SELF EMPLOYED PERSONS BY AVERAGE MONTHLY EARNINGS

The report also published information on Average Monthly Households Earnings of self-employed persons. The report reveals that in Assam there are 481 self employed persons per 1000 persons in the labour force against 412 at all-India level. The distribution of these numbers of self employed persons in the State and at All India level by their average monthly earnings according to Usual Principal Status Approach (ps) is presented below.



EMPLOYMENT IN SHOPS AND COMMERCIAL ESTABLISHMENTS

The Labour Bureau, Ministry of Labour and Employment, Govt. of India publishes report on employment in shops and commercial establishments covered by the various Central and State Acts on the basis of returns or reports submitted by the States and Union Territories. The report on Shops and establishment in Assam is prepared on the areas covered under the Assam Shops and Establishment Act, 1971. The report published by the Labour Bureau shows that the total number of establishments in Assam covered under the Act and persons employed therein during 2013 were 84 thousand and 1.16 lakh respectively. Out of these 84 thousand establishment, 68 thousand (81 percent) were shops, 12 thousand (14 percent) were commercial establishments and 4 thousand (5 percent) were Cinemas, theatres, Hotels and Restaurants that employed 56 thousand (48 percent), 43 thousand (37 percent) and 16 thousand (14 percent) persons respectively. A comparison of number of shops and establishment in Assam during 2008, 2009, 2010, 2011, 2012 and 2013 is shown in Table 17.3.

TABLE – 17.3: EMPLOYMENT IN SHOPS AND COMMERCIAL ESTABLISHMENTS IN ASSAM

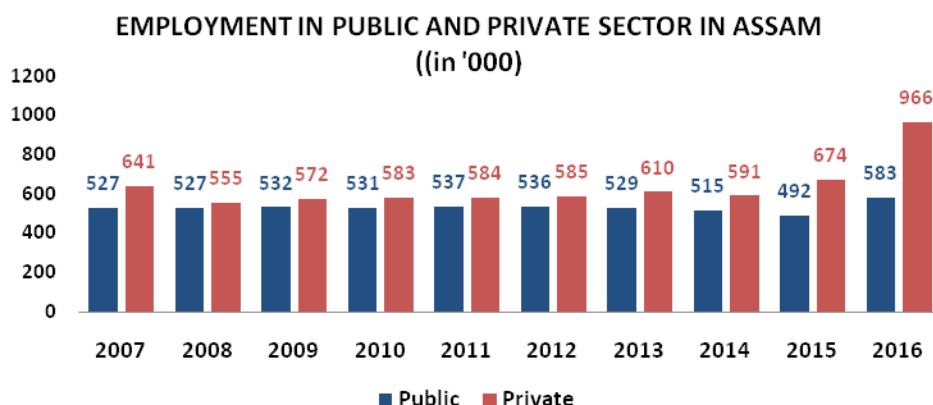
('000 number)

Year	Shops		Commercial Establishment		Restaurants, Theatres etc.		All Establishment	
	Number	Workers	Number	Workers	Number	Workers	Number	Workers
2008	61	55	10	29	5	14	76	98
2009	57	53	10	30	4	13	71	96
2010	61	57	10	32	4	14	75	102
2011	56	57	11	33	4	14	71	104
2012	70	65	13	39	5	17	88	120
2013	68	56	12	43	4	16	84	116

Source: Statistical Year Book, 2016, MOSPI, Govt. of India

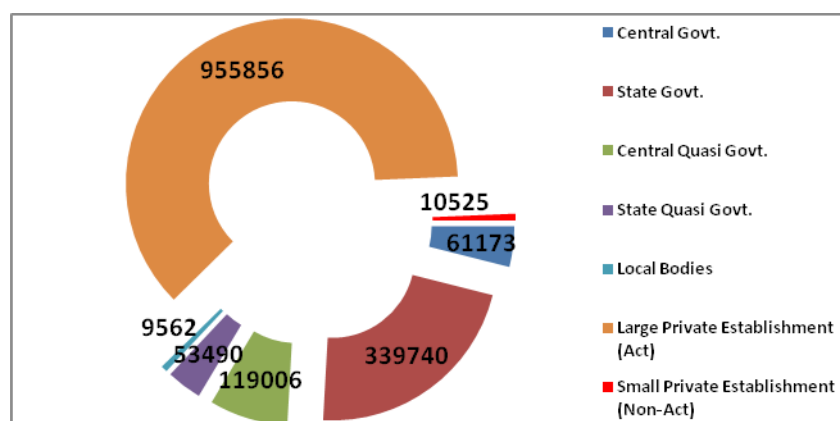
EMPLOYMENT MARKET INFORMATION (EMI) PROGRAMME

EMI programme gives information about the level of employment in the organised sector of the economy, which covers all establishments in the public sector and non-agricultural establishments employing 10 or more persons in the private sector. Collection of data under the EMI programme is reported through an 'Establishment Reporting System'. The trend of employment in public and private sector from 2007 to 2016 as per data collected through Employment Market Information Programme is shown below.



The total employment in the public and private sector establishments under EMI programme in 2016 was 15.49 lakh (in public sector 5.83 lakh and in private sector 9.66 lakh) compared to 11.66 lakh (in public sector 4.92 lakh and in private sector 6.74 lakh) in 2015 and thus increased by 33 percent in 2016 over 2015. During 2016, female employment was 26 percent of the total employment against 34 percent in 2015. Out of the total 5.83 lakh employment in public sector, share of local bodies was 1.64 percent and share of State Quasi Government was 9.18 percent during the year. The pie, given below shows the composition of public and private sector employment in Assam during 2016.

Employment in Public and Private Sectors in Assam, 2016



WOMEN EMPLOYMENT IN ORGANIZED SECTOR

The employment of women in organized sector of the State was 410 thousand during 2016 which is 26.5 percent of the total employment. During the same year, percentage share of women employees in public sector and private sector to the total employment was 5.9 percent and 20.6 percent respectively.

TABLE – 17.4: EMPLOYMENT OF WOMEN IN ORGANIZED SECTOR

(In thousand nos.)

Year	Public Sector		Private Sector		Public and Private Sector		Percentage Share of Women in Organised sector
	Women	Total	Women	Total	Women	Total	
2004	77.3	525.1	255.6	572.0	332.9	1097.2	30.0
2005	81.5	524.5	268.4	605.2	350.0	1140.0	30.7
2006	81.8	519.7	299.0	599.7	380.7	1119.4	34.0
2007	84.9	527.0	310.8	640.5	395.7	1167.5	33.9
2008	85.6	527.3	266.5	554.6	352.1	1081.9	32.5
2009	87.3	531.7	273.0	571.7	360.3	1103.4	32.7
2010	87.0	531.1	279.7	583.0	366.7	1114.1	32.9
2011	89.0	537.0	279.9	583.5	369.0	1120.6	32.9
2012	90.1	535.7	280.5	584.8	371.0	1120.5	33.1
2013	90.5	529.3	294.9	609.5	385.4	1138.8	33.8
2014	94.4	515.2	288.8	590.8	383.2	1106.0	34.6
2015	89.7	492.4	304.1	673.7	393.8	1166.2	33.8
2016	91.0	583.0	319.0	966.4	410.0	1549.4	26.5

Source: Directorate of Employment and Craftsmen Training, Assam

UN-EMPLOYMENT SCENARIO IN THE STATE

The State has 53 employment exchanges comprising of 49 general, 1(one) special and 3 Employment Information and Guidance Bureau. Moreover, there are 28 Employment Information and Assistance Bureau to guide the unemployed youths for employment. Two Districts of BTAD, Baksa

and Chirang have no Employment exchange. The table below shows that the number of unemployed as per Live Register increased by 4.94 percent in 2016 over 2015. During 2016, total placement was 27 percent against the number of notified vacancies through Employment Exchanges.

TABLE – 17.5: Employment through Employment Exchanges

YEAR	No. in Live Register	Percentage increase in Live register	No. of Vacancies Notified	No. of Placement Against Vacancies
2006	1827149	3.61	3170	551
2007	1921563	5.17	2023	540
2008	2006389	4.41	2383	628
2009	2079558	3.65	2506	501
2010	1911431	(-)0.08	2606	455
2011	1729029	(-)9.54	1401	436
2012	1622729	(-)6.15	2632	394
2013	1677192	3.36	4204	745
2014	1746520	4.13	2829	1099
2015	1915886	9.70	2672	1028
2016	2010603	4.94	2147	582

Source: Directorate of Employment and Craftsmen training, Assam

The size of the educated job seekers is considerably high, which is a challenge before the growing economy of the State. From the records of the live register of Employment Exchanges, the registered educated job seekers stood at 1642718 during 2016 against 1523531 during 2015 thereby showing an increase of 7.82 percent during 2016. The percentage of educated job seekers constitutes about 82 percent of the total job-seekers. The overall registration of educated job seekers as per record of Employment Exchanges has increased by 9 percent in 2016 over the previous year. A noticeable development has been observed in registration at all levels of education during 2016. Unlike in the previous year's, number of educated job seekers has increased at all level of education in 2016 over 2015. The year, 2016 depicts an increase in registration of Engineering Graduates (59%), Medical Graduates (107%), Agriculture Graduates (90%), Veterinary Graduates (100%), ITI passed (2.5%), Post Graduates (3.7%), Diploma holders(255%) and Others (166%). The detail distributions of the educated job seekers are shown in the table below.

TABLE – 17.6: DISTRIBUTION OF EDUCATED JOB-SEEKERS

Level of Education	Registration		Percentage Increase/ Decrease in Registration	Placement		Numbers in live register	
	2015	2016		2015	2016	2015	2016
Engineering Graduate	681	1081	58.74	32	28	7909	8181
Medical Graduate	30	62	107	15	9	340	454
Agriculture Graduate	10	19	90	0	0	267	286
Veterinary Graduate	14	28	100	0	1	222	250
Passed out Trainees (ITI)	10921	11190	2.5	7	29	19066	28744
Post Graduates	1878	1948	3.7	83	72	27808	29544
Graduates	19249	21212	10.2	63	109	247741	262172
H.S.S.L.C.	51684	53105	2.7	114	93	611302	660296
H.S.L.C.	36585	39121	6.9	132	153	576634	612943
Diploma Holders(Eng.)	812	2885	255	4	16	9500	12073
Others	1455	3870	166.0	20	72	22742	27775
Total	123319	134521	9.1	470	582	1523531	1642718

Source: Directorate of Employment and Craftsmen Training, Assam

ASSAM GOVT. EMPLOYEES CENSUS

The Assam Govt. Employees Census is conducted quinquennially by the Directorate of Economics and Statistics, Assam. The last census was conducted with reference year 2009 and the report has been published. The table below shows the trend of sex-wise distribution of Assam Govt. Employees as per the last four consecutive censuses.

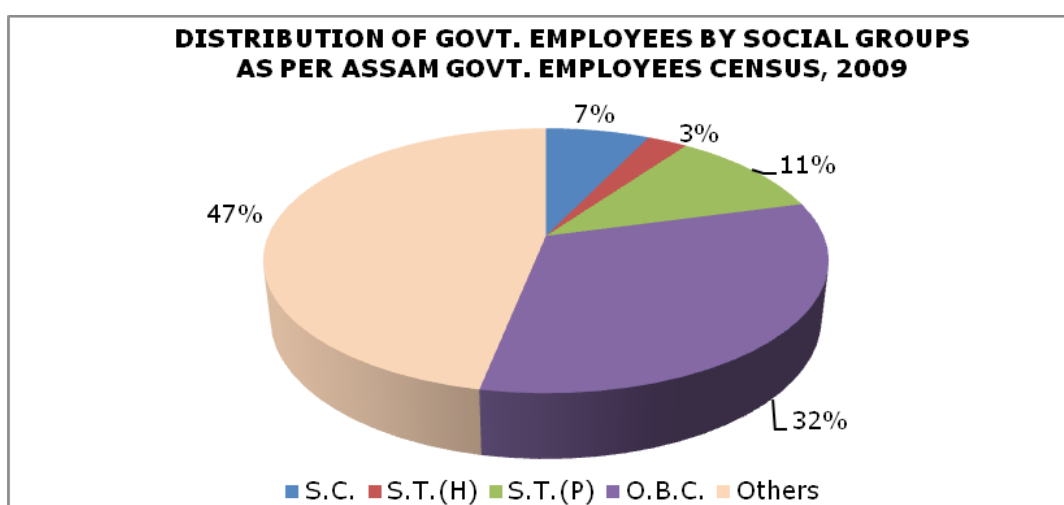
TABLE-17.7: SEX-WISE DISTRIBUTION OF ASSAM GOVT. EMPLOYEES

Year	Male	Female	Total
1989	239117	31822	270939
1994	259141	45694	304835
1999	269555	56516	326071
2004	264924	59254	324178
2009	318457	74508	392965

Source: Assam Govt. Employees Census, 2009, Directorate of Economics and Statistics, Assam

The Assam Govt. Employees Census, 2009 report reveals that the total Govt. employees has increased by 21.22 percent over the census figure of 2004 wherein number of male employees have increased by 20.21 percent and number of female employees have increased by 25.74 percent compared to a decrease of total employees by 0.58 percent in 2004 where number of male employees have decreased by 1.72 percent whereas number of female employees increased by 4.84 percent over the census figure of 1999. The census report shows that the total number of Govt. employees in 2009 comprises of 18.96 percent female employees and 81.04 percent male employees. The male and female Govt. employees as per Census, 1989 was 88.25 percent and 11.75 percent respectively.

The distribution of Assam Govt. employees as per Census, 2009 shows that there are 4.28 percent Class-I employees, 2.15 percent Class-II employees, 69.43 percent Class-III employees, 19.69 percent Class-IV employees and 4.45 percent are employees with fixed or consolidated pay. The graph below depicts the composition of social group wise number of Govt. employees in the State.



AVERAGE DAILY WAGE RATE IN RURAL AREAS

As per data collected by the Directorate of Economics and Statistics, Assam, the Average Daily Wage Rate of skilled, unskilled and other agricultural labours shows a more or less steady upward trend. The wage rate in rural areas shows that under un-skilled labour, wage rate of male ploughman increased by 7 percent and male Reaper and Harvester increased by 7 percent. During 2016-17, the female wage rate for Reaper and Harvester increased by 7 percent over the previous year. The wage rate (other agricultural labour) for male and female increased by 5 percent and 7 percent respectively during 2016-17 over the previous year.

TABLE – 17.8: AVERAGE DAILY WAGE RATE IN RURAL AREAS IN ASSAM (in Rs.)

Year	Skilled Labour Wage		Un-skilled Labour Wage				Other Agricultural Labour	
	Carpenter	Black-smith	Ploughman	Herdsman	Reaper and Harvester		Man	Women
	Man	Man	Man	Man	Man	Women		
2004-05	109	88	62	55	64	49	59	49
2005-06	114	95	64	63	65	49	61	48
2006-07	121	101	71	63	68	53	65	54
2007-08	124	97	76	72	74	60	72	58
2008-09	134	105	85	83	83	67	83	67
2009-10	147	121	93	92	93	74	103	87
2010-11	150	131	120	117	112	87	137	92
2011-12	155	133	125	120	119	93	137	98
2012-13	196	189	18	164	164	135	169	126
2013-14	220	217	220	172	204	173	206	174
2014-15	305	249	244	196	225	189	234	188
2015-16	325	283	260	203	241	198	239	196
2016-17-	-	-	277	-	257	212	252	209

Source: Directorate of Economics and Statistics, Assam.

EMPLOYMENT GENERATION PROGRAMME

Our economy is developing at a fast pace but still a major part of the population who are poverty ridden, illiterate and lack of skill needs support to earn. Keeping this in mind the Central Government and the State Government has initiated and implemented many programmes for self and wage employment generation as well as for creation of production of assets through various organisations like, the Panchayat and Rural Development Department, Directorate of Industries and Commerce, Agriculture Department, etc. The achievements of some of these programmes are briefly discussed as follows:

SAROTHI-THE START-UP ASSAM

The entrepreneurs of the State, more particularly the 1st generation entrepreneurs had to step back before converting their ideas into reality due to lack of adequate resources such as equity, loan, etc. Moreover, Banks in the State deter to provide assistance considering it to be risk for them. To remove this hurdle of equity/fund crunch, the State Government has come up with an innovative scheme Chief Minister's Start-up Fund-“Sarothi” with an initial amount of Rs.10 crore during 2016-17. The fund will be managed by the Industries and Commerce Department and will be for a period of five years.

The basic objective of the scheme is to provide financial assistance in the form of loan with interest subvention through a designated Bank covering whole Assam. The loan so availed by the beneficiaries will be supported by the State Govt. through Interest Subvention at the rate of 5 percent per annum.

BONEEJ

“Boneej” is a special scheme to provide special grant to rural industrial enterprises in traditional and micro sector in Assam. The scheme will cover all the districts except the sixth schedule districts. The beneficiaries will be provided with a grant of Rs. 25,000.00 where the annual turnover is less than Rs. 5 lakh. The amount of grant shall be utilised by the units for procurement of machinery/raw materials as the case may be. Physical target for 2016-17 was 3,160 to be covered with a financial target of Rs. 7.90 lakh.

NATIONAL RURAL LIVELIHOOD MISSION

The Ministry of Rural Development, Govt. of India has launched National Rural Livelihood Mission (NRLM) by restructuring the SGSY scheme and started its effective implementation in the State since 1st April, 2013. One of the important components of NRLM is interest subvention to the women SHGs. NRLM is a flagship program of Govt. of India for promoting poverty reduction through building strong institutions of the poor, particularly women, and enabling these institutions to access a range of financial services and livelihood services. During 2016-17, number of women SHG formed was 14307 against the target of 16997 SHGs and 12440 SHGs received revolving fund during the year against the target of 9750. During 2015-16, 8540 women SHGs were formed and 6330 SHGs were provided with revolving fund. Number of village organizations formed during 2016-17 is 655 against 420 village organizations formed during 2015-16. During 2016-17, 5039 village organizations received community investment fund against the target of 2750.

National Rural Livelihood Project (NRLP) under National Rural Livelihood Mission (NRLM) is an intensive strategy with investment support from the World Bank. Under the project, 5142 numbers of women SHGs were formed during 2015-16 against 5340 numbers in 2014-15. During 2015-16, number of SHGs provided with revolving fund was 6968 against 9345 in 2014-15. Under NRLP, 338 village organizations were formed during 2016-17 and 3983 numbers received community investment fund during the same year.

MAHATMA GANDHI NATIONAL EMPLOYMENT GUARANTEE ACT (MGNREGA)

The Mahatma Gandhi National Employment Guarantee Programme was introduced during the 11th five year Plan for giving wage employment opportunities to the rural poor during the lean agricultural season when they require wage employment for boosting their purchasing power to supplement their income requirement for livelihood. The other objective of the Act is to create durable community assets for development of rural infrastructure for upliftment of quality of the rural people.

During the year 2016-17, a total of 467.44 lakh mandays were generated against 486 lakh mandays in 2015-16 and 210.10 lakh mandays in 2014-15. Since inception up to March 2017, more than 46.74 lakh numbers of rural households have been provided with job card as compared to the cumulative total of 42.15 lakh during 2015-16 and 42.02 lakh in 2014-15. Out of the total, 36.45 percent of jobs were provided to women during 2016-17 against 36 percent during 2015-16 and 2014-15 against 32 percent.

PRIME MINISTER EMPLOYMENT GENERATION PROGRAMME (PMEGP)

The Prime Minister Employment Generation Program (PMEGP) has been introduced by merging the PMRY and REGP with the objective of providing employment to the educated unemployed youth. The scheme facilitates self-employment through setting up of industries/service and business ventures with a limited amount of Bank loan with subsidy on the recommendation of Task Force Committees constituted for the purpose. The KVIC is the nodal agency for implementing the PMEGP scheme at the national level and at the State level the scheme is implemented by the state KVIC Directorate, State KVIB and the District Industries and Commerce Centers and Banks. The Government subsidy under the scheme is being routed through the KVIC to the identified Banks. The target and achievement under PMEGP from 2009-10 to 2016-17 is reflected in the table below.

TABLE – 17.9: TARGET AND ACHIEVEMENT OF PMEGP DURING THE YEAR 2008-09 TO 2015-16

Year	Physical target (In nos.)	Financial Target (margin Money) (Rs. in Lakh)	Total Cases sanctioned (In nos.)	Physical achievement (In no.)	Financial achievement (Rs. in lakh.)	P.C. of Physical achievement
2009-10	1292	1550.00	2440	2440	1899.71	189
2010-11	3193	4469.66	4756	4756	4801.10	149
2011-12	5047	7065.80	5280	5280	5544.99	105
2012-13	4644	6500.20	7336	7336	5801.15	158
2013-14	4588	6210.97	8049	8049	7219.90	175
2014-15	5101	7238.82	5584	5584	5042.41	109
2015-16	1913	-	3382	3382	2793.39	177
2016-17	3776	7552.08	3773	3773	3499.4	100

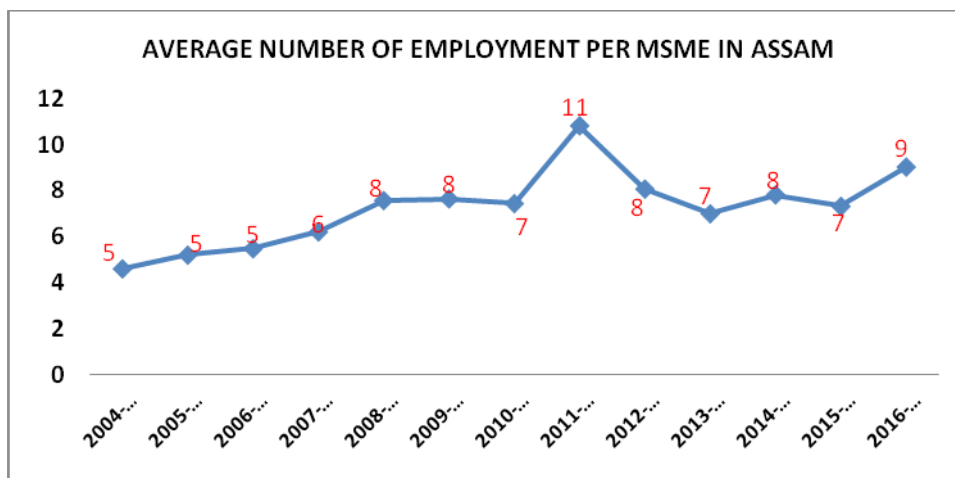
Source: Directorate of Industries and Commerce, Assam

SMALL SCALE INDUSTRIES/MICRO, SMALL AND MEDIUM ENTERPRISE (MSME)

TABLE-17.10

The small scale industries sectors have a major contribution towards creating employment in the State. Presently the small-scale industries have been sub-divided into Micro, Small and Medium Enterprise under the Micro, Small and Medium Enterprises Development (MSMED) Act 2006. There are 45509 numbers of SSI/ MSME units in Assam providing employment to 268500 numbers of persons till the end of 2016-17 compared to 43332 units giving employment to 249145 persons in 2015-16. The graph below depicts the average number of employment per SSI/MSME unit.

NO. OF SSI & MSME UNIT AND EMPLOYMENT		
Year	No. of SSI/MSME Unit	Employment
2009-10	1678	12787
2010-11	1214	9002
2011-12	1287	13886
2012-13	1451	11671
2013-14	1860	12971
2014-15	2629	20496
2015-16	1898	13848
2016-17	2177	19355



Source: Directorate of Industries and Commerce, Assam

FACTORY EMPLOYMENT

During 2015, there were 5799 number of factories (registered under Factory Act, 1948) employing 219903 number of persons in the State showing an increase of 5 percent in the number of factories employing 5 percent more than that of 2014. The maximum number of workers were engaged in manufacturing of food products (34%) followed by manufacturing of other non-metallic mineral products (32%), manufacturing of coke and refined petroleum products (5%) and the rest distributed amongst of factories as per NIC-2008.

CHAPTER-XVIII

PANCHAYAT AND RURAL DEVELOPMENT

The responsibility of the *Panchayat* and Rural Development Department includes alleviation of rural poverty, enhancement of rural livelihoods by providing self-employment to the people living below poverty line as defined by the Planning Commission from time to time through implementing variety of programmes and to strengthen the *Panchayati Raj* Institution (PRI). The Department is concerned to empower PRIs increase the capability of poor through self employment programme and by developing the critical infrastructures in the rural areas. At present, there are 21 *Zila Parisads*, 189 *Anchalik Panchayat* and 2200 *Gram Panchayats* in the State under three tier PRI systems in 21 plain districts excluding the 6th Scheduled districts viz., 3 Hill districts - Karbi-Anglong East, Karbi-Anglong West, Dima-Hasao and 4 BTAD districts under BTC where PRI system is not in existence. Moreover, there are District Rural Development Agency one in each district and 219 Community Development Blocks to look after the implementation of the programmes/schemes of the Department.

SCHEMES IMPLEMENTED BY THE PANCHAYAT AND RURAL DEVELOPMENT DEPARTMENT:

Department is implementing MGNREGA, Indira Awas Yojana (IAY) and restructured as Pradhan Mantri Awas Yojana- Gramin (PMAY-G), National Social Assistance Programme (NSAP), 14th Finance Commission Grant, 5th State Finance Commission Grant etc.

MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE ACT:

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) has been implemented since 2nd February, 2006. This programme were covered to all Districts from 2008-09. MGNREGA is a Primary Flagship Programme of Ministry of Rural Development. The Primary objectives of the programme is to provide at least 100 days employment Guarantee to the job Card Holders demanding for work and creation of permanent assets. The programme provides employment to the adult members of a family having a job card volunteer. The other objective of the act to create durable community assets for development of rural infrastructure for upliftment of quality of life of the rural people. In Assam, MGNREGA has been empowered millions of lives in Assam penetrating even in inaccessible and difficult areas. The enhanced income help the rural poor to come out from the vicious cycle of poverty and able to afford better education and health care for their children and families.

Over 467.52 lakh mandays have been generated during 2016-17 as against 486.33 lakh mandays of the previous year 2015-16. More than 42.08 lakh (Cumulative) nos. of rural households have been provided job cards as against 46.28 lakh. It is reduced due to cancellation of job cards at the time of conducting verifications on the ground of dead or migration to other places by the job cards holders. Similarly, during the year 201516 and 2016-17, about 3738 and 5549 nos. of disabled persons from BPL households have been provided employment. 11501 nos. of rural households have completed 100 days during 2016-17 against 42233 nos. in 2015-16 under this

programme, out of the job provided, 38.40 percent have gone to women during 2016-17 as against 33.59 percent of the previous year. 3271 nos. of schemes have been completed against 49495 schemes taken up during 2016-17 as against completion of 14369 nos. against 55505 nos. of schemes taken up in 2015-16. An amount of Rs. 149989.77lakh has been utilised in 2016-17 as against Rs.62065.35 lakh of the previous year as far as financial achievement is concerned. Year-wise physical and financial achievement of MGNREGA are reflected below.

TABLE- 18.1

Programme	Year	Unit	Physical		Financial (Rs. in lakh)	
			Target	Achievement	Fund Received	Utilised
MGNREGA	2014-15	Persons days (in lakh)	401.01	314.24	60326.84	49748.40
	2015-16	-do-	432.74	486.33	103393.1 2	62065.44
	2016-17	-do-	408.00	467.52	168885.4 4	149989.63

At present, the convergence of MGNREGA work has been taken up with the line Departments like Water Resources, PWD, Irrigation, Sericulture, Handloom and Textile, Agriculture etc. in Assam. Further, the department has started implementation of few schemes like Dr. Bhupen Hazarika Open stage and Garden, Pt. Jawaharlal Neheru Gramin Sports Complex, Indira Gandhi Adarsha Gramin Paki Path, Sishu Seuj Prakalpa under CM's Dream Project in MGNREGA. During the current year, five number of focus areas have been indentified i. e. plantation, construction of Anganwadi Centres, Fishponds, Vermi Compost and individual household latrines. Emphasis is being given to create durable assets.

INDIRA AWAS YOJANA/PRADHAN MATRI AWAAS YOJANA-GRAMIN (IAY/PMAY-G):

The programme is basically implemented for providing dwelling houses to the houseless and shelter less people living below the poverty line in the rural areas.

The erstwhile Indira Awaas Yojana (IAY) programme has now been restructured as Pradhan Matri Awaas Yojana (Gramin). About 102877 nos. of houses sanctioned and started each construction against the annual target of 219695 nos. during the financial year 2016-17 while more than 176335 nos. of incomplete IAY houses of the previous years have been completed during the same year. The Department completed construction of more than 74097 nos. of IAY houses during 2015-16 against the annual target of 123193 nos. Provisions of sanitary toilets and also these to each sanctioned IAY houses has been made mandatory to enhanced the quality of live beneficiary. Similarly, simple beneficiary bank account has been there for each and every section beneficiary where funds are released directly accordingly.

During the year 2014-15 under IAY Scheme 145283 nos. of houses constructed against the target of 178022 while in 2015-16 was 74099 nos. of houses constructed

against the target of 123193. But, in the year 2016-17 no physical achievement has been seen as the PMAY- G launched. In this point of view under PMAY-G scheme during the year 2016-17 only 325 nos. of houses constructed against the target of 219695.

During the year 2014-15 Rs.90160.35 lakh has been utilised against the fund received Rs.93744.86 lakh under IAY Scheme while in the year 2015-16 Rs. 82455.91 lakh has been utilised against the receipt of fund Rs.11, 0413.03 lakh. In the year 2016-17 under IAY scheme, Rs.50, 890.09 lakh has been utilised against the fund received Rs.27, 245.79 lakh. Under PMAY-G scheme Rs.11383.84 lakh has been utilised against the fund received Rs.11, 029.54 lakh.

NATIONAL SOCIAL ASSISTANCE PROGRAMME (NSAP):

Article 41 of the constitution of India directs the states to provide public assistance to all citizens. National Social Assistance Programme (NSAP) is a social welfare programme for BPL people. Economic assistance is given to socially disadvantaged people of BPL families. It consists of five sub components viz. IGNOAPS (Indira Gandhi National Old Age Pension Scheme), IGWPS (Indira Gandhi National Widow Pension Scheme), IGNDPS (Indira Gandhi National Disabled Pension Scheme), NFBS (National Family Benefit Scheme) and *Annapurna*. In case of unemployment, old age, sickness and disablement and in other cases of undeserved want within the limit of its economic capability and development. It is in accordance with these noble principles that the GOI on 15th Aug., 1995 included the National Social assistance programme in the Central Budget from 1995-96, which was implemented by the state Social Welfare Department and from 2003-04 implemented by the State Panchayat and Rural Development Department. It comprises of five components- Indira Gandhi National Old Age Pension (IGNOAPS), Indira Gandhi National Widows Pension Scheme (IGWPS), Indira Gandhi National Disable Pension Scheme (IGNDPS), National Family Benefit Scheme (NFBS) and Annapurna. These Components were meant for providing social assistance benefit to the aged, the BPL households in the case of death of the primary bread earner and for maternity.

- i) Indira Gandhi National Old Age Pension Scheme (IGNOAPS): The objective of the scheme is to provide economic assistance to the rural people living below the poverty line who have attained the age of 60 to 79 years and 80 & 80 years above. During the year 2016-17; 77,1052 nos. of beneficiaries of both the categories have been assisted under the scheme as against 77,8480 during the previous year. The monthly pension amount is @Rs.250/- for the age given 60-79 years while it is @Rs.550/- for 80 years and above age group.
- ii) Indira Gandhi National Widow Pension scheme (IGWPS): It aims to provide financial assistance @Rs.300/- per month to all the identified pensioners who are widows at the age 40-79 years of age and @Rs.500/- to the beneficiaries who are above 80 years and above age. The coverage is universal and there shall not be any quota at any level. During the year 2016-17; 111477 nos. of beneficiaries have been benefited against 111477 nos. of beneficiaries of the previous year under the scheme.
- iii) Indira Gandhi National Disabled Pension Scheme (IGNDPS): This scheme is implemented to give financial assistance of @300 per month in the age group of 18-79 years and @Rs.500/- per month to the beneficiaries who are at the age group of

80 years and above. During the year under reference 38,808 nos. out of 42,577 nos. have been assisted while it was 41363 nos. out of 42577 nos. during 2015-16 under these scheme.

- iv) National Family Benefit Scheme (NFBS) : The scheme is implemented with the objectives of providing one time financial assistance @Rs.20,000/- at the death of the bread earner BPL family. During the year 2016-17 the nos. of beneficiaries benefited was 3726 out of 8524. Similarly, out of 8524 selected beneficiaries, 5156 nos. of beneficiary were assisted during 2015-16 accordingly.
- v) Annapurna: The objective of this scheme is to provide at least 10 Kg of food grains (Wheat or Rice) free of cost to a family for month that have remained uncovered under the IGNOAPS and leave below poverty line. During the year 2015-16 and 2016-17 allotment has not been received as the Ministry of Consumer Affairs, Food and Public Distribution, Department of Food and Pubic Distribution had not allotted Annapurna Rice to the States.

NATIONAL RURAL LIVELIHOOD MISSION (NRLM):

The Swarnjayanti Gram Swarozgar Yojana- a holistic self employment programme for the rural poor is now being restructured and renamed as National Rural Livelihoods Mission(NRLM).The restructured programme is being implemented in a mission mode approach with a time bound and outcome based approach. The Poverty is multi-dimensional thus a multi pronged approach is required to tackle this issue. NRLM has been addressing the needs of rural poor by adopting a multi pronged strategy for poverty eradication through building and nurturing organizations of the poor.

NRLM's core belief is that poor extremely capable, they want to come out of poverty and enjoy a decent quality of life. Their capabilities are suppressed by a variety of obstacles psychological, economic, social, religious and political. Their intrinsic capabilities are unleashed only when they are organized into institutions that they truly own.

- **Rural Self Employment Training Institutes (RSETIs):**

In order to ensure institutional arrangement for skill development for self employment and wage employment, dedicated training institute for rural BPL youth i.e Rural Self Employment Training Institutes(RSETIs) are being set up with the aim of having at least one such district of the country

In Assam during 2016-17 the nos. of Women Self-Help group formed is 19582 against the target of 24014. While 2015-16 the achievement was 13682 against the target of 11305. The number of Women SHGs provided with Revolving Fund (RF) during 216-17 was 21174 against the target of 16750 while in 2015-16 it was 13298 against 13985 number of SHGs. The number of Village Organisation (VO) formed during 2016-17 was 993 against the target of 1534 and the number of VOs provided with Community Investment Fund (CIF) is 9022 against the target of 5250 while during 2015-16 the number of VOs formed was 865 against the target of 2045 and the number of VOs provided CIF was 8620 against the target of 7569. Therefore, more effort is needed to fulfill the target of roll of SHGs and VOs.

A wide range of developmental activities have been initiated under the national rural livelihood mission. It will promote 70000 Women SHGs to cover 10 lakh

household under NRLM and each group will be provided with a revolving fund of Rs.10,000-15000 each.

FOURTEENTH FINANCE COMMISSION GRANT (FFCG):

It was constituted by the president on 2nd January 2013 to give recommendations on specified aspects of Central-State fiscal relation during 2015- 20. The FFC was, inter alia mandated to recommend measures needed to augment the consolidated funds of the States to supplement the regions of the Panchayats and Municipalities based on the recommendations of the respective State Finance Commission (SFC).

Grant Components: It has recommended Grants-in Aid to duly constituted panchayats (Rural Local Bodies) and municipalities urban local bodies. In two parts, namely- 1. Basic grant and 2. A Performance Grant. In case of Gram Panchayat, 90 percent of the Grant will be the basic grant and 10 percent will be the performance Grant. In case of municipalities between basic and performance grant will be on 80:20 basis. Grants to General and special areas, is recommended by the GOI and fund is also provided by the GOI and after receiving the fund, the State Finance Department released it directly to the respective Panchayats of the District. The fund is utilised for the category of grant such as General Basic Grant and General Performance Grant.

Under the General basic Grants, funds are utilised for Primary Health Care, Primary Education, Safe Drinking Water, Street Light, Rural Sanitation and Drainage and Sanitary etc. Under the General Performance Grant Maintenance of Burial / Cremation Ground and creation of Community Assets like Market Sheds, Community Hall etc. in Rural areas. Under this programme, an amount of Rs.3919.43 lakh was made available to the district during 2016-17 out of which Rs.3355.94 lakh has been utilised by the district, where more than 2714 schemes have been completed against 6049 schemes taken up under General Basic Grant and Performance grant. Similarly almost 12000 schemes were completed against 16882 schemes taken up during 2015-16 by utilising Rs.17691.59 lakh out of Rs.31578.33 lakh released.

During the year 2014-15 no physical achievement has been seen. In the year 2015-16 achievement is 11847 against the target of 16882 while in 2016-17 achievement is 2714 against the target of 6049. During the year 2014-15 no fund has been received. In the year 2015-16 Rs.17691.59 lakh has been utilised against the receipt of fund Rs.31578.33 lakh while in 2016-17 Rs.335.94 lakh has been utilised as against Rs.391943 lakh against receipt of fund. It needs to mention that the plan period is 2015-16 to 2019-20.

FIFTH STATE FINANCE COMMISSION GRANT (FSFCG):

Article 243 (I) and 243 (V) of the constitution required the state Finance Commission be appointed at expiration of every 5th year interim of the 73rd and 74th Constitutional Amendments to review the financial position of the Panchayats and Municipality and to make recommendations as to measures need in interest of sound

Farmers of the Panchayat and the Municipalities of the state. The Commission Grant covers the five year plan period from 2015-16 to 2019-20. An important features of the 5th SFC of Assam had been that for the first time it has been made co-turminous with the 14th Central Finance Commission. Under this Grant, Zilla Parishad/ AP / GP office building, multipurpose hall, residential quarter of field functionaries are constructed. Moreover, visible schemes like construction of roads, drains, Parks etc. are also implemented out of the available fund under this Grant. Accordingly, an amount of Rs.5396.08 lakh has been made available to the Districts under evolution of Grant to PRI out of which Rs.2382.57 lakh has been utilised during 2016-17.

SKILL DEVELOPMENT TRAINING/STRENGTHENING OF EXTENSION TRAINING CENTRES PROGRAMME UNDER SIRD:

The State Institute of Rural Development (SIRD), Assam has been organising skill development training programmes on different activities for providing self employment avenues for unemployed youths, farmers, weavers, artisans, entrepreneurs etc., as well as given thrust for upgrading the skill of traditional activities for income generation and livelihood promotion. The Government of India has been providing 100 percent grant for strengthening the infrastructure of SIRD and the State Government also borne its share of 10 percent of total recurring grant. Moreover, the Government of Assam has set up the Resource Centre in IT and Skill Development at Kahikuchi with a view to transfer the benefit of technology development directly to the communities at the grass root level to uplift life and livelihood of rural poor.

Since 2001-2013, the Extension Centre has provided managerial and skill development training to 1.6 lakh persons comprising youths, women, farmers, weavers, artisans etc., for livelihood. During 2015-16 about 4700 persons have to be assisted skill development training on various activities. The total nos. of training programme conducted by the State Institute of Panchayat and Rural Development, Assam for the year 2014-15 were 2383 which showed as decline to 2133 during 2015-16. During the same period the nos. of participants also decreased to 134215 in 2015-16 from 134985 in 2014-15.

The nos. of training programme conducted for Elected Represented of PRIs by the State Institute of Panchayat and Rural Development, Assam for the year 2014-15 were 506 and 740 during 2015-16 and the nos. of participants for the corresponding years were 16968 and 26376 respectively. The State Institute of Rural Development, Assam (SIRD) had implemented a few Employment Generation Programmes whose financial achievements from 2014-15 to 2016-17 is reflected in the Table below.

TABLE NO.18.2

(Rs. In Crore)

Sl. No.	Financial Year	Target		Achievement	
		No. of Persons to be Assisted	Amount of Credit with 50% Govt. Subsidy to be mobilised	No. of Persons Assisted	Amount of Credit with 50% Govt. Subsidy Mobilised
1	2	3	4	5	6
1	2014-15	20000	123.00	18611	91.16
2	2015-16	18450	74.78	16140	63.34
3	2016-17	15000	2.00	15495	26.15
Total		53450	199.78	50246	180.65

APPENDIX 18.1

DISTRICT WISE PHYSICAL ACHIEVEMENT UNDER MGNREGA IN ASSAM 2016-17

Sl. No.	Name of District	EMPLOYMENT GENERATED (Mandays in nos.)				
		SCs	STs	OTHERS	TOTAL	WOMEN
1	2	3	4	5	6	7
1	Kokrajhar	46204	1392382	2213697	3652283	1546141
2	Dhubri	19271	1060	1635249	1655580	631654
3	Goalpara	27548	241475	980931	1249954	454638
4	Barpeta	41228	14761	1332682	1388671	564614
5	Morigaon	135379	208507	1313132	1657018	619595
6	Nagaon	263893	110411	4640543	5014847	1660332
7	Sonitpur	119496	217973	1694578	2032047	768596
8	Lakhimpur	102897	539268	1447776	2089941	859558
9	Dhemaji	66980	1151671	1209883	2428534	1084979
10	Tinsukia	14272	73888	1058309	1146469	408288
11	Dibrugarh	44301	151168	1038959	1234428	497429
12	Sivasagar	27180	36496	918075	981751	363418
13	Jorhat	90536	227131	919854	1237521	459925
14	Golaghat	64655	237371	1359328	1661354	550374
15	Kari-Anglong	12479	545862	108625	666966	257750
16	Dima Hasao	6847	290801	23567	321215	133733
17	Cachar	185084	22538	3012004	3219626	714166
18	Karimganj	221170	10130	1226589	1457889	287074
19	Hailakandi	64848	19353	1220970	1305171	283986
20	Bongaigaon	32358	7028	573809	613195	233957
21	Chirang	143815	1064634	1107983	2316432	980479
22	Kamrup	123797	122338	1322299	1568434	550359
23	Kamrup (M)	11046	14356	28303	53705	26987
24	Nalbari	19279	13730	620527	653536	154846
25	Baska	174635	1197202	1415804	2787641	1226682
26	Darrang	23373	4947	1288923	1317243	517702
27	Udalguri	112114	1379692	1541337	3033143	1205023
ASSAM		2194685	9296173	35253736	46744594	17042285

Source: Office of the Commissioner of Panchayat and Rural Development, Assam

APPENDIX-18.2

DISTRICT-WISE JOB CARDS ISSUED AND EMPLOYMENT PROVIDED IN ASSAM IN 2016-17

Sl. No.	District	Total no. of Job Cards Issued	No. of Households demanded Employment	No. of Households provided Employment	No. of Households provided 100 days employment	No. of Disabled persons provided employment
1	2	3	4	5	6	7
1	Kokrajhar	158970	94197	84669	1802	466
2	Dhubri	202088	45735	40915	497	196
3	Goalpara	127500	47618	42774	178	95
4	Barpeta	259005	46511	35575	308	1946
5	Morigaon	146951	77583	68860	61	58
6	Nagaon	265602	164814	146721	1116	472
7	Sonitpur	269731	118313	103218	5	631
8	Lakhimpur	168266	65203	60008	2193	301
9	Dhemaji	92105	82315	72090	375	108
10	Tinsukia	135203	49671	45413	234	75
11	Dibrugarh	157253	64904	59147	449	132
12	Sivasagar	148438	53064	49339	221	191
13	Jorhat	159625	67080	56888	125	45
14	Golaghat	146966	81325	73697	182	76
15	Karbi-Anglong	159895	57114	53305	20	30
16	Dima-Hasao	29431	11646	11304	79	7
17	Cachar	209378	111536	87039	648	55
18	Karimganj	188206	54934	49434	211	43
19	Hailakandi	117261	59530	52527	10	43
20	Bongaigaon	105315	28400	22883	184	84
21	Chirang	102783	64710	59698	882	46
22	Kamrup	226595	66299	54274	268	98
23	Kamrup (M)	42067	4103	3829	0	3
24	Nalbari	106113	33511	27533	90	14
25	Baksa	202597	107301	100206	204	240
26	Darrang	144489	43217	34663	770	52
27	Udalguri	143348	84574	76418	389	42
ASSAM		4215181	1785208	1572427	11501	5549

Source: Office of the Commissioner of Panchayat and Rural Development, Assam

APPENDIX-18.3
DISTRICTWISE TARGET AND PHYSICAL ACHIEVEMENT UNDER PMAY-G
IN ASSAM, 2016-17

District		Annual Target (Nos. of Houses) (PMAY-G)	House Completed against Target(PMAY-G)	Under Construction (Sanctioned before 2016-17) (IAY)	Percentage of achievement against target (PMAY-G)
1		2	3	4	5
1	Kokrajhar	7082	3	646	0.04
2	Dhubri	13228	0	1011	0
3	Goalpara	9902	35	553	0.35
4	Barpeta	12071	7	857	0.06
5	Morigaon	8814	93	90	1.05
6	Nagaon	18979	27	5708	0.14
7	Sonitpur	9810	183	1271	1.87
8	Lakhimpur	11909	0	185	0
9	Dhemaji	13773	8	415	0.06
10	Tinsukia	4866	228	648	4.69
11	Dibrugarh	3472	3	1858	0.09
12	Sivasagar	2486	378	13	15.21
13	Jorhat	3789	37	915	0.98
14	Golaghat	5027	82	1827	1.63
15	Kari-Anglong	11386	0	4385	0
16	Dima Hasao	5599	0	29	0
17	Cachar	15710	54	3373	0.34
18	Karimganj	10651	0	2150	0
19	Hailakandi	7504	1	1863	0.01
20	Bongaigaon	3471	2	371	0.06
21	Chirang	3961	21	554	0.53
22	Kamrup	10265	18	6	0.18
23	Kamrup (M)	1952	8	57	0.41
24	Nalbari	3334	35	1165	1.05
25	Baksa	10518	0	3793	0
26	Darrang	5590	2	206	0.04
27	Udalguri	4546	12	1938	0.26
Assam		219695	1237	35887	0.56

Source: Office of the Commissioner of Panchayat and Rural Development, Assam

APPENDIX-18.4
DISTRICT WISE TARGET AND PHYSICAL ACHIEVEMENT UNDER NATIONAL
SOCIAL ASSISTANCE PROGRAMME IN ASSAM, 2016-17

(In Nos.)

Sl. No.	Indira Gandhi National Old Age Pension Scheme				
	Age Group of 60-79 Years			80 Years and above	
	District	Target	Achievement	Target	Achievement
1	2	3	4	5	6
1.	Kokrajhar	25748	25748	2406	2406
2.	Dhubri	30294	32691	5268	2738
3.	Goalpara	20098	20089	3210	2498
4.	Barpeta	18450	19222	4680	3415
5.	Morigaon	25692	25692	3184	3184
6.	Nagaon	62785	75695	24044	3682
7.	Sonitpur	50026	52016	5427	2580
8.	Lakhimpur	24432	23284	3583	3494
9.	Dhemaji	13239	17941	4763	1328
10.	Tinsukia	22588	22588	3617	3617
1.	Dibrugarh	20760	22559	3204	1277
12.	Sivasagar	29939	29939	2831	2831
13.	Jorhat	35540	40330	5756	1282
14.	Golaghat	18529	22057	5016	1339
15.	Karbi-Anglong	12196	7396	1026	585
16.	Dima-Hasao	8153	5489	326	124
17.	Cachar	25832	29263	5974	2463
18.	Karimganj	16368	13075	6695	4876
19.	Hailakandi	17776	17776	2638	1773
20.	Bongaigaon	14031	14119	1225	1057
21.	Chirang	6832	7500	1026	806
22.	Kamrup	49679	56930	12844	1911
23.	Kamrup (M)	12363	6651	1926	115
24.	Nalbari	31529	32489	2608	2608
25.	Baksa	25332	26118	3101	1577
26.	Darrang	16802	18490	3107	1340
27.	Udalguri	15147	14704	1407	1345
	ASSAM	650160	679851	120892	56251

Source: Office of the Commissioner of Panchayat and Rural Development, Assam

APPENDIX-18.5**DISTRICT-WISE TARGET AND PHYSICAL CHEIVEMENT UNDER NATIONAL SOCIAL ASSISTANCE PROGRAMME IN ASSAM, 2016-17**

District		Indira Gandhi National Widow Pension Scheme		National Family benefit Scheme	
		Target	Achievement	Target	Achievement
1		2	3	4	5
1	Kokrajhar	4122	4122	116	161
2	Dhubri	10010	9018	184	184
3	Goalpara	4788	4788	146	50
4	Barpeta	6572	5840	135	76
5	Morigaon	4129	28876	126	126
6	Nagaon	10472	9580	268	135
7	Sonitpur	6714	6722	204	312
8	Lakhimpur	4203	4010	116	247
9	Dhemaji	2697	2567	101	221
10	Tinsukia	4629	4629	126	88
11	Dibrugarh	3704	3716	149	149
12	Sivasagar	6334	6334	175	152
13	Jorhat	2386	2502	190	287
14	Golaghat	3472	3472	136	61
15	Kari-Anglong	2904	2085	73	52
16	Dima Hasao	408	457	30	150
17	Cachar	6381	6389	169	180
18	Karimganj	6722	4979	109	237
19	Hailakandi	2614	2380	111	131
20	Bongaigaon	2742	2742	130	100
21	Chirang	1980	2083	76	123
22	Kamrup	4771	4767	219	180
23	Kamrup (M)	719	719	79	85
24	Nalbari	2668	3489	136	210
25	Baksa	4075	4091	134	134
26	Darrang	3476	3477	146	146
27	Udalguri	5001	4552	126	136
Assam		118693	138386	3710	4113

Source: Office of the Commissioner of Panchayat and Rural Development, Assam

APPENDIX-18.6
DISTRICT WISE TARGET AND PHYSICAL ACHIEVEMENT UNDER NATIONAL ASSISTANCE PROGRAMME IN ASSAM, 2015-16

(Rs.in lakh)

Sl. No.	District	Annapurna		Indira Gandhi National Disability Pension	
		Target	Achievement	Target	Achievement
1	2	3	4	5	6
1	Kokrajhar	841	0	1411	1562
2	Dhubri	1205	0	2261	1004
3	Goalpara	666	0	805	765
4	Barpeta	1445	0	2439	2440
5	Morigaon	711	0	608	650
6	Nagaon	1007	0	1331	1328
7	Sonitpur	569	0	1074	885
8	Lakhimpur	1716	0	2836	2887
9	Dhemaji	1506	0	209	232
10	Tinsukia	794	0	142	113
11	Dibrugarh	984	0	1410	1410
12	Sivasagar	533	0	1266	1326
13	Jorhat	1038	0	813	800
14	Golaghat	1390	0	848	897
15	Karbi-Anglong	328	0	886	911
16	Dima-Hasao	1115	0	105	107
17	Cachar	669	0	758	500
18	Karimganj	1028	0	2198	1639
19	Hailakandi	760	0	1574	1574
20	Bongaigaon	1718	0	1611	1469
21	Chirang	436	0	1553	1553
22	Kamrup	1213	0	4060	3353
23	Kamrup (M)	1698	0	848	848
24	Nalbari	1276	0	2025	2025
25	Baksa	662	0	2518	2521
26	Darrang	1053	0	1739	1739
27	Udalguri	279	0	1480	1328
ASSAM		26640	0	38808	35866

Source: Office of the Commissioner of Panchayat and Rural Development, Assam

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CHAPTER – XIX

SOCIAL SECTOR

During recent decades the focus of development has shifted from economic growth to human development. The development of social sector plays a crucial role for improving human development and attainment of Sustainable Development Goals (SDG). In Assam, social sector development bears the essence of overall economic development and human development in the State. This sector includes education, health and family welfare, safe drinking water, sanitation, welfare programme for women/ children/ SC & ST development of marginalized groups and backward areas/Char areas, etc. Development in these sectors has build up strong edifice of a stimulating economy in terms of rising income and employment opportunities, productivity, technology advancement and finally has enhanced the quality of life in the State. The Government has given emphasis for development of these sectors for overall development of the State.

EDUCATION:

Education is the mirror which reflects the social and economic status of a State. It strengthens the fabric of all-round development, economic, social, technical, environmental and scientific areas in the State. It is a distinctive investment that will ensure better access to a progressive future generation. It will help in creating an environment for improvement of the quality of life.

Education is the key development input, a fundamental requirement for human resource development, not only for an individual in particular, but for the society, nation, as a whole. Education not only removes ignorance, it helps in boosting the moral values of individuals by enhancing their skills, efficiency, productivity and overall quality of life. It provides the skill to become more self-reliance, ability to be better informed, be more responsible, have better ability to exercise wide choices in activities of day to day lives, thereby being more productive and also have better standards of living. Education is very important and has been accepted as one of the most crucial inputs required for nation building. Keeping in view the goal of nation building, India has and is committed for the provision of free and compulsory elementary education to all children. To achieve the goals, Indian Parliament has enacted a legislation making education free and compulsory for every child in the age group 6 to 14 years of age, which has come in force from 1st April 2010. Rashtriya Madhyamik Siksha Abhiyan has been launched, as a step to universalise secondary education. Simultaneously, efforts are also being made for the creation of a strong and vast system of higher and technical education.

LITERACY RATE IN ASSAM:

Literacy has both economic and social motives of an individual wellbeing. It improves self esteem, enhances social status, decision making and thereby enhances the confidence level of an individual in the society. It impacts human development outcomes, both as an input and output creating lasting benefits.

The literacy rates in Assam has grown encouragingly as per Table-19.1 shown below as per censuses.

TABLE- 19.1 :LITERACY RATES, ASSAM AND INDIA

State	1991			2001			2011		
	Person	Male	Female	Person	Male	Female	Person	Male	Female
Assam	52.89	61.87	43.03	63.25	71.28	54.61	72.19	77.85	66.27
India	52.21	64.13	39.28	64.83	75.26	53.67	72.99	80.89	64.64

Source : Registrar General of India

As per Census 2011, the literacy rate of Assam is 72.19, with male literacy rate 77.85, which is behind the national average of 72.99 and male literacy rate of 80.89 respectively. The female literacy rate with 66.27, stood above the national rate of 64.64. The literacy rates for rural and urban areas were calculated at 69.34 percent and 88.47 percent respectively. For the achievement of the goal of Universal Elementary Education, educational programmes of Sarva Siksha Abhijan (SSA) have been implemented along with various innovative schemes by the State Government. The State Government also equally gives emphasis in providing qualitative technical education to build technical skills to cater to the needs of the economy. In view of the importance of education and its impact on socio-economic development, the state government has also been implementing various educational programmes from time to time.

ELEMENTARY EDUCATION

Universalisation of primary education addresses two major groups, the out of school children during the primary school going age and the children who were forced to drop out even before completion of primary grade classes due to social and economic impediments. As per the provision of free and compulsory education to all children upto the age of 14 years the state Government is implementing the 'Right to Education Act 2009' as "Assam Right of Children to Free and Compulsory Education Rules, 2011". The Directorate of Elementary Education (DEE), Assam is functioning under the act to achieve the goal of universalisation of elementary education in the State to provide useful and relevant elementary education to all children in the age group of 6-14 years of age. It aims in bridging all gender and social category gaps at primary stage with focus on elementary education of satisfactory quality. All schemes for elementary education are implemented through Sarba Shiksha Abhijan (SSA). The table shows below the number of Government / provisionised schools functioning under DEE.

Table - 19.2

Items	Lower Primary	Upper Primary	Upper Primary with high schools
Schools	40465	11741	1853
Teachers	109558	76210	13013

Source: DISE, 2016-17

The State Government in order to provide and promote quality education, to attract children of all social groups, and also see to the implementation of various Central Government schemes and programmes, the following facilities are provided through DEE-

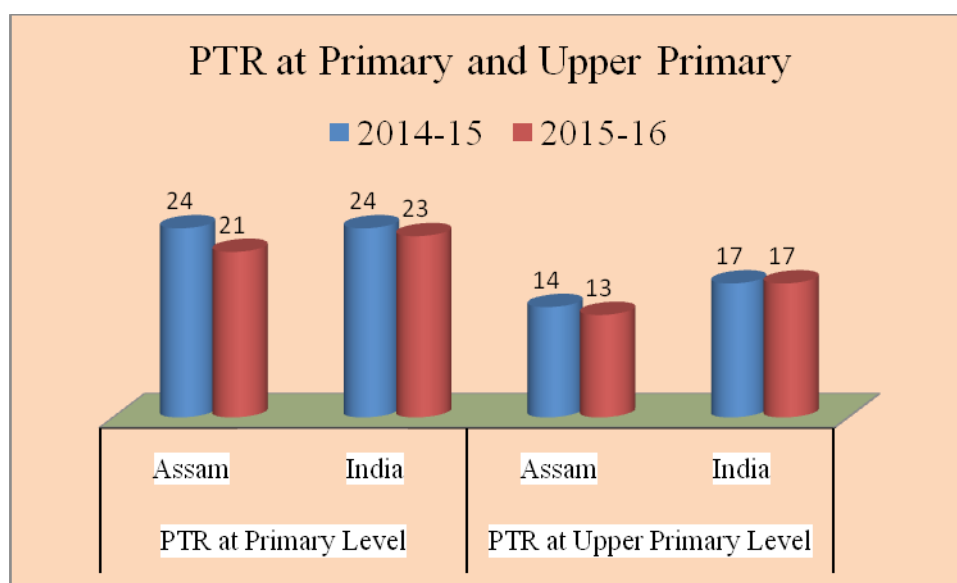
- Mid-day Meal for students of primary and upper primary schools.
- Teaching Learning materials (TLM) to Government and Provisional Schools.
- Provision of free text books up to Class VIII to all categories of schools including institutions not receiving financial assistance.
- Provisions of scholarship to SC, ST, disabled children and meritorious students.
- Provision of uniform to students up to Class VIII level

DROP-OUT RATES

The average annual drop-out rate at Primary level in the State during 2016-17 as per DISE, was 5.7 against the all India drop-out rates of 6.7. At the Upper Primary level the average drop out rate in the State during 2016-17 is 3.00 against the all India rate of 9.8. Among the district Hailakandi registered highest dropout rate of 10.1 while Kamrup (M) has lowest in Lower Primary level.

PUPIL-TEACHER RATIO (PTR)

The Pupil-Teacher Ratio (PTR) or Student- Teacher Ratio is the number of students who attend a school or university the number of teachers in the institutions. The Pupil-Teacher Ratio(PTR) in the Primary level of the State during the year 2014-15 was 24 and which was 21 in 2015-16 against all India level of 24 and 23 respectively. While in Upper Primary(UP), during 2014-15 and 2015-16, the PTR of the state was 14 and 13 as against 17 and 17 at all India level respectively. During 2016-17 PTR in Primary is 26 and UP it is 18 in the state The graph below is the PTR of Primary and Upper Primary in the State and at All State level during 2014-15 and 2015-16 as per Flash Statistics.



GROSS ENROLLMENT RATIO (GER)

Gross Enrollment Ratio (GER) or Gross Enrollment Index is the statistical measure used in the educational sector and by the UN in its Education Index to determine the number of students enrolled in school at several different grade levels (like elementary, middle school and high school), and use it to show the ratio. The GER at Primary Level during 2014-15 and 2015-16 in Assam is 114.96 and 106.11 against 100.08 and 99.21 respectively for all States. GER at Upper Primary Level during 2014-15 and 2015-16 in Assam was 95.86 and 93.05 compared to 91.24 and 92.81 for all States respectively as per u-DISE-2015-16.

MID DAY MEAL (MDM)

Mid Day Meal, a Centrally Sponsored Scheme programme has been started in Assam with effect from January 2005 and the State is providing cooked meal to the students of class I to Class VIII since 2005-06 to achieve the objectives like increasing enrolment and regularity of attendance, reducing dropouts and sustaining retention and improving level of learning and self esteem impact on nutrition of students. The total plan fund allocation for the programme in 2015-16 is Rs. 596.83 crore which includes central share and the mandatory state share of 10 percent. The state share for Mid Day Meal for the year 2015-16 is Rs.59.68 crore.

SECONDARY EDUCATION

The secondary education is at a crucial stage after passing out the stage of elementary education to prepare the student with higher level of knowledge and skills for higher education. In Assam, Secondary Education covers Class IX to Class X for the age group of 14 years to 16 years and Higher Secondary stage covers Class XI to Class XII for the age group 17 years to 18 years. However, amalgamated Secondary Schools are imparting education from Class VI onwards. During 2016-17, there were 4314 numbers of Secondary Schools and 829 numbers of Higher Secondary Schools and 247 numbers are Junior Colleges as per report received from Rastriya Madhyamik Shiksha Abhijan (RMSA).

As per *Flash Statistics, U-DISE, 2015-16*, prepared by National University of Educational Planning and Administration (NUEPA) reveals that the percentage of enrolment of Girls in Secondary Schools is 51.79% which is higher than All India level of 47.51% like wise in case of higher secondary also the percentage of enrolment of Girls in Assam is slightly higher (47.71%) than India (47.44%).

TABLE-19.3
ENROLMENT IN SECONDARY SCHOOLS IN ASSAM and INDIA
2015-16

Assam/India	Secondary		Higher Secondary	
	Total in Nos.	Girls (in %)	Total in Nos.	Girls (in %)
Assam	965640	51.79	428793	47.71
India	39145052	47.51	24735397	47.44

Source: Flash Statistics, U-DISE, 2015-16, NEUPA

RASHTRIYA MADHYAMIK SHIKSHA ABHIYAN (RMSA)

The Rashtriya Madhyamik Shiksha Abhiyan (RMSA), Assam is a comprehensive and integrated flagship programme of Government of India implemented in the state of Assam for providing quality and meaningful education to all the children in the age group 14-16 years of age for secondary schools and 16-18 years for Higher Secondary Schools in Assam. RMSA Assam has taken up various activities such as infrastructure development, teacher's recruitment, establishment of model schools, establishment of girls' hostel and teachers in service training to uplift Secondary Education in Assam. All the scheme of RMSA is centrally sponsored and the State has to provide only 10 percent matching share to the RMSA.

RMSA has taken up establishment of 24 model schools and will implement the National Vocational Education Qualification Frame Work with 10 percent State share in the State.

MADRASSA EDUCATION

A separate Directorate of Madrassa Education was created in 2005; earlier it was a part of Directorate of Secondary Education. At present, there are as many as 249 pre-senior Madrassas of which 14392 are boys and 13754 are girls, 133 Senior Madrassas of which 12844 are boys and 12328 are girls. Likewise, 4 Arabic Colleges enrolled with 749 boys and 552 girls and 14 Title Madrassas with 1381 boys and 526 girls continuing Madrassa education in the State in 2016-17.

ADULT EDUCATION

Adult Education programme was started all over the nation in the year 1978-79. Subsequently after constitution of National Literacy Mission (NLM) in 1988, the total literacy campaign came into being. During the year 2009 the **Sakshar Bharat Mission** was launched by the Government of India to achieve 80 percent literacy level by 2012 at national level, by focusing on adult women literacy to reduce the gap between male and female literacy. The mission has four broader objectives, viz. imparting functional system and numeracy to non-literates; acquiring equivalency to formal educational system; imparting relevant skill development programme and promote a leaning society

by providing opportunities for continuing education. The Adult Literacy Programme is implemented to eradicate illiteracy of the age group 15 years and above in the population.

The strategic primary focus of the programme is on women, Scheduled Castes, Scheduled Tribes, Backward Communities, Char Areas, Hill Areas and Tea Tribes to achieve 80 percent literacy.

HIGHER EDUCATION

The Directorate of Higher Education and Directorate of Secondary Education is established to give primary focus on expansion and promotion of Higher Education by granting financial assistance to the needy educational institutions besides implementing various programmes for development of general education and assisting for infrastructure development in general with special focus to rural and backward areas.

The numbers of Higher Educational institutions in Assam is given in Table-19.7 below:

TABLE- 19.4

NUMBER OF HIGHER EDUCATIONAL INSTITUTIONS IN ASSAM AS ON 2016-17

Institutions	Numbers
Universities(including private and Deemed University)	14
Government Colleges	5
Provincialised Colleges	300
Non-Govt. Colleges	43
Provincialised Sanskrit & Pali Tools	97
Literary & Voluntary Organization	19
Govt. Law College	1
Non-Govt. Law Colleges	19

Source : Higher Education, Assam, Kahilipara, Guwahati-19

During the Twelfth Five year Plan (2012-17) an amount of Rs.1031.00 crore is proposed for the development of Higher education.

MEDICAL EDUCATION

The Directorate of Medical Education, Assam is entrusted with the task of generating human resources like Doctors, Nurses, Technicians, Physiotherapists, Pharmacists and other Health personnel to meet the growing needs of not only the State but the entire North Eastern region.

The Directorate has a host of institutes under its control that is Assam Medical College & Hospital, Gauhati Medical College & Hospital, Guwahati, Silchar Medical College & Hospital, Silchar, Jorhat Medical College & Hospital, Jorhat, Regional Dental College, Guwahati; Regional Nursing College, Guwahati; Govt. Ayurvedic College, Guwahati; S.J.N. Homeopathic Medical College, Guwahati; Dr. J.K. Saikia Homeopathic Medical

College, Jorhat; Assam Homeopathic Medical College, Nagaon, three pharmacist institutes associated with AMC, GMC and SMC, Medical Institute at Jorhat and three Institute of Paramedical Sciences at Guwahati, Dibrugarh and Silchar. The Srimanta Sankaradeva University of Health Services, Assam has started functioning from 2009-10.

Besides the above institutes, the State has added three more medical college's viz. Fakaruddin Ali Ahmed Medical College, Barpeta; Tezpur Medical College Tezpur; Assam Hills Medical College and Research Institute, Diphu. Steps have also been taken to establish three more medical colleges at Lakhimpur, Kokrajhar and Dhubri.

SECTORAL PLAN ALLOCATION

The new Government has taken various innovative measures for improvement of Medical and Health in the State. In the Annual Plan of 2016-17 an amount of Rs. 30000.00 lakh was allocated to Health and Family Welfare Department (excluding Rs. 14549.09 lakh of salary and wages).

ACHIEVEMENTS ON STUDENTS AND EDUCATION

1. Implementation of Gunotsav programme, the biggest quality enhancement programme of the state govt. has undertaken so far. (Third phase completed).Govt. has allocated a sum of Rs.10 crores for implementating the programme.
2. Providing infrastructure development of all Elementary Schools with Desk-Bench,Table, Chair for teaches, office almira,Green board with teachers photograph in all schools. For this a sum of Rs. 60 crore and Rs. 40 crore for Chief Ministers Scholarship Scheme has been allocated in the budget.
3. Govt. has regularised 7000 TET passed teachers on merit basis so far and another 11000 such teachers will be regularised before 31st March 2017.
4. Govt. of India has accorded approval for the establishment of DIETs at Baska, Udalguri, Chirang and Kamrup(M). along with three new colleges of Teachers Education in the districts of Bongaigaon, Karbi-Anglong and Majuli.
5. "AAROHAN" a govt. programme to improve the quality of Secondary education for identification of talented students from remote, rural and poor families and a web portal on Aarohan has been developed and launched.
6. Govt. has been providing free text books to the students of Class-IX & X. This schemes will be extended for the next year too, with the provision of Free Textbooks for the students of Class XI & XII, studing in Govt./Provisionalised Higher Secondary Schools/Junior Colleges and Colleges in five core subjects. A fund for Rs.45 crores is being earmarked for this purpose in the budget of 2017-18.
7. Under the "Anundoram Borooah" Cash or Laptop Award Scheme", a lapto and cash award will be provided to students who secure 'Star marks' in the HSLC and High Madrassa Examinations.
8. The construction 21 Polytechnics in the state is progress. Out of these, 11are at an advanced stage with procurement of laboratory equipment and recruitment of faculty etc. The remaining Polytechnics shall be ready to start class and impart technical education by July,2018.
9. The works for three new Engineering Colleges at Karimganj,Golaghat and Dhemaji are process. Adequate budgetary provision has been made for fully functional of

Karimganj, Golaghat and Dhemaji Engineering Colleges. Under Rastriya Uccharat Siksha Abhiyan (RUSA), three more Engineering Colleges have been proposed.

10 Three colleges one each from Barpeta, North Lakhimpur and Hojai districts will be upgraded to the University level. For infrastructure development of provincialised colleges, the govt. has allocated grants of Rs. 1 crore each to 33 colleges in the FY 2017-18. This will continue during 2017-18 for another 40 colleges.

HEALTH AND FAMILY WELFARE

Health care performance in Assam exhibits sustained improvements over the years. These improvements are the outcomes of concentrated and continued efforts of the Government towards establishing an efficient system of health care and family welfare through effective planning, financing, human, resources management, and infrastructure and supply chain management. The State Government has taken initiatives to reduce prevailing regional disparities and gaps in the access to safe drinking water, sanitation facilities, public and private health care infrastructure, rural infrastructure, access to preventive and medical care, public hygiene, information system on health care and nutrition, skilled manpower etc.

GENERAL HEALTH

Quality and adequate health care services has lead to better learning ability, nutritional retention, capability enhancement and standard of living of people. It has also helped in limiting family size, improving basic amenities and reducing poverty significantly.

The State health services has always aimed at providing reliable, affordable, accountable and effective primary health care to the people of Assam, with special care provisions from women and children. For the achievement of this goal, the State has been implementing various Central Government schemes, along with its own schemes and programmes for continuously increasing allocation of funds to the Health sector in successive State Plans.

Essentially three categories of health indicators like Infant Mortality Rate (IMR), process (institutional delivery) and input (infrastructure), public expenditure, National Health Mission (NHM) etc. describe the progress of the health sector in the State. Along with these, important indicators are Infant. Mortality Rate (IMR), Maternal Mortality Rate (MMR), Crude Birth Rate (CBR) and Crude Death Rate (CDR) etc.

Status of Health Infrastructure in the State.

The status of Health infrastructure in the State is improving over the years.

- At present there are 25 Civil Hospitals, 14 Sub-Divisional Civil Hospitals, 1014 PHCs, 62 FRUs, 162 CHCs and 4621 Sub Centres with 18886 numbers of total beds in the State at the end of 2016.
- The number of Medical and Paramedical staff in the state is 5004 including Ayurvedic and Homeopathic doctors in 2016.

the last few years compared to the all India rate and this is due to the initiatives taken by the State Health Service for maternal and child health. The table below shows a comparison of some health indicators of Assam and India.

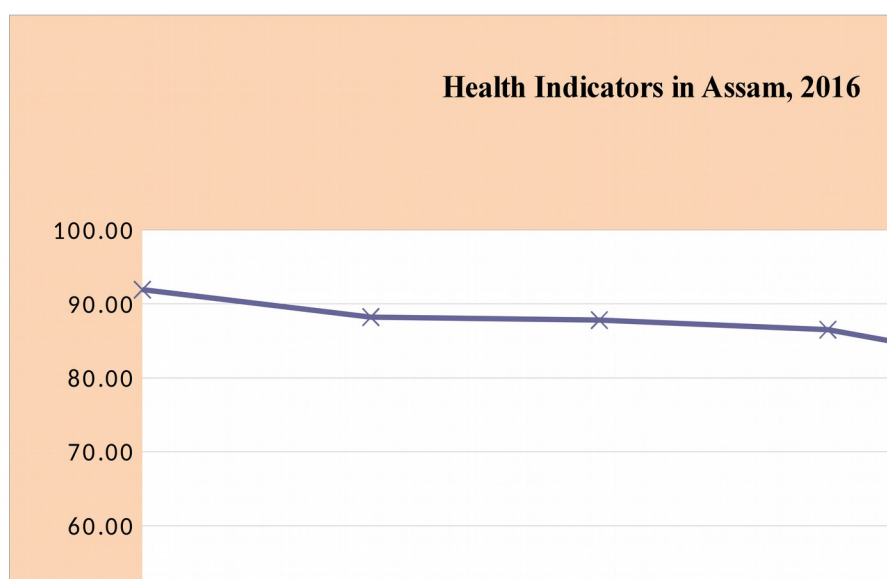
Table – 19.5

TRENDS IN SELECTED HEALTH INDICATORS: 2016

Activity	Total		Rural		Urban	
	Assam	India	Assam	India	Assam	India
Crude Birth Rate (CBR)	21.7	20.4	22.8	22.1	15.0	17.3
Crude Death Rate (CDR)	7.1	6.5	7.4	7.1	5.1	5.4
Infant Mortality Rate. (IMR)	44	34	46	38	22	23
Neo-Natal mortality rate	24	25	21	29	11	15
Under 5 (Five) mortality rate	39	43	43	48	25	28

Source: SRS Bulletin, 2017 and NITI AAYOG

The graph below shows the trend of Crude Birth Rate (CBR), Crude Death Rate (CDR), Infant Mortality Rate (IMR) and Total Fertility Rate (TFR) in Assam since 2010 to 2016. The CBR, CDR, IMR and TFR which was 24.6, 8.7, 67 and 2.7 respectively in 2006 has declined to 21.7, 7.1, 44 and 2.2 respectively in 2016.



LIFE EXPECTANCY

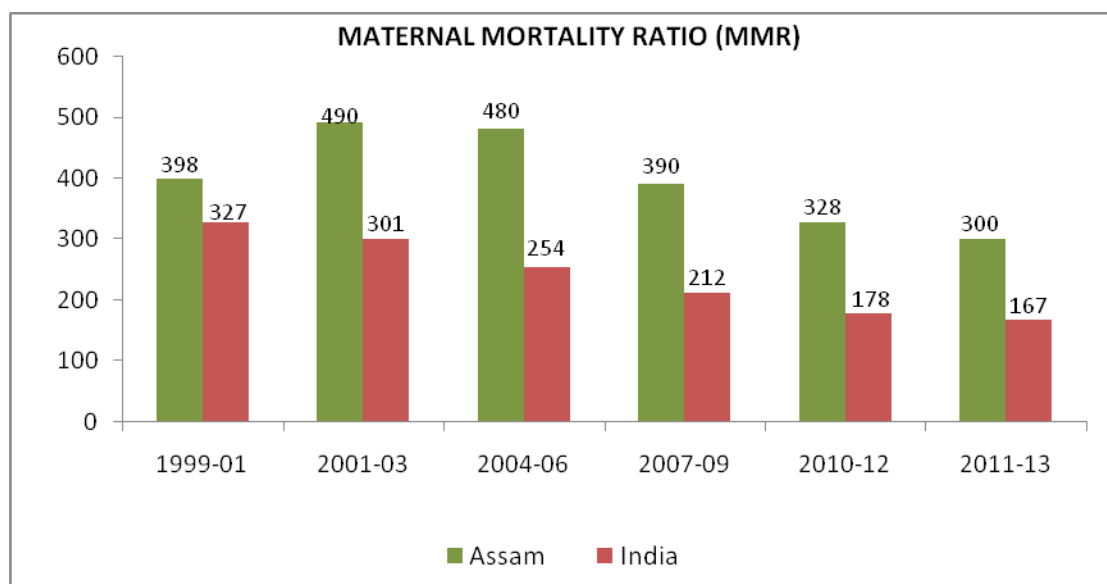
The World Health Organisation (WHO) defined life expectancy as the average number of years that a person expects to live in full health. Life Expectancy of a person or population group depends on several variables such as their life style, access to health

care, diet, economical status and the relevant mortality and morbidity data. However, as life expectancy is calculated based on averages, a person may live for many years more or less than expected.

The data available from Sample Registration Survey (SRS), 2010-14 that Kerala has the highest life expectancy at birth (74.9) in India while Assam has the lowest (63.9). As a whole life expectancy at birth in India is 67.9. Among the countries the world life expectancy Manaco ranked first with 89.42 years followed by Japan with 85.26 years.

MATERNAL MORTALITY RATIO (MMR)

Maternal Mortality Ratio (MMR) is the average number of female death per 100,000 live birth from any cause related to or aggravated by pregnancy or its management. MMR of Assam and India from 1999 to 2013 is presented through the graph given below.



Source: SRS Bulletin, Registrar General of India.

The above graph depicts that there is an overall decline of the MMR during the period 1999 to 2013. Although the rate is still very high in Assam in comparison to All India rate due to some improvement made and taken up for maternal health at birth in the state, the gap between the relative figures in the State and the Country shows a decline during the period 1999-2013, which has been minimised. Various measures have been taken up for improving MMR for safe delivery under National Health Mission (NHM) in the state. During the period 2011–2013 MMR, of Assam has come down to 300 from 328 while in India it is 167 which has come down from 178. Among the state Kerala has lowest MMR of 61 followed by Maharashtra 68. Significant development in the field of Medical Science and other Health sector has brought down the MMR of the State.

The State is implementing Health Sector Schemes both in the urban and rural areas to provide health care facilities at free or at an affordable cost. Some of the schemes being implemented in the State are as follows.

- ❖ Primary health care both in rural and urban areas.
- ❖ Secondary health care
- ❖ Ayush
- ❖ Control of communicable diseases
- ❖ Non communicable diseases
- ❖ Schemes for food safety measures
- ❖ Public health education
- ❖ School health services
- ❖ Assam Bikash Yojana
- ❖ National Fluorosis Control Programme
- ❖ Pilot project for prevention of burn injuries
- ❖ Indradhanush
- ❖ Atal Amrit Abhiyan- Health Insurance Scheme.

INNOVATIVE SCHEMES TO IMPROVE ACCESS AND QUALITY OF SERVICE

1. ATAL AMRIT ABHIYAN: In order to improve the quality of health service government has implemented the Health Assurance scheme named "Atal Amrit Abhiyan" which covers select, high cost, critical care procedures in six disease groups :cardiac, kidney, cancer, neurological conditions, neo natal disease and burn covering individuals in BPL and APL families upto an annual income of Rs.5 lakhs. This is a cashless programme covering upto 90% of population. An amount of Rs.100 crores has been allocated in the budget for this project in Assam.

2. HEALTHCARE INITIATIVE FOR TEA GARDEN WORKERS: Out of 758 surveyed Tea gardens in the state, 428 (57%) only have functional Hospital in their premises and 247 (38%) Tea gardens do not even have Medical Officers. Considering the pathetic situation of health services delivery and health outcomes in garden areas, the health and Family Welfare Deptt. are in the process to start 80 Mobile Medical Units (MMU) for garden areas. These MMUs shall have Doctors, GNMs, Pharmacists, Lab Technician. Moreover, the number of reserve seats for medical profession from Tea garden is proposed to 18 from 2017.

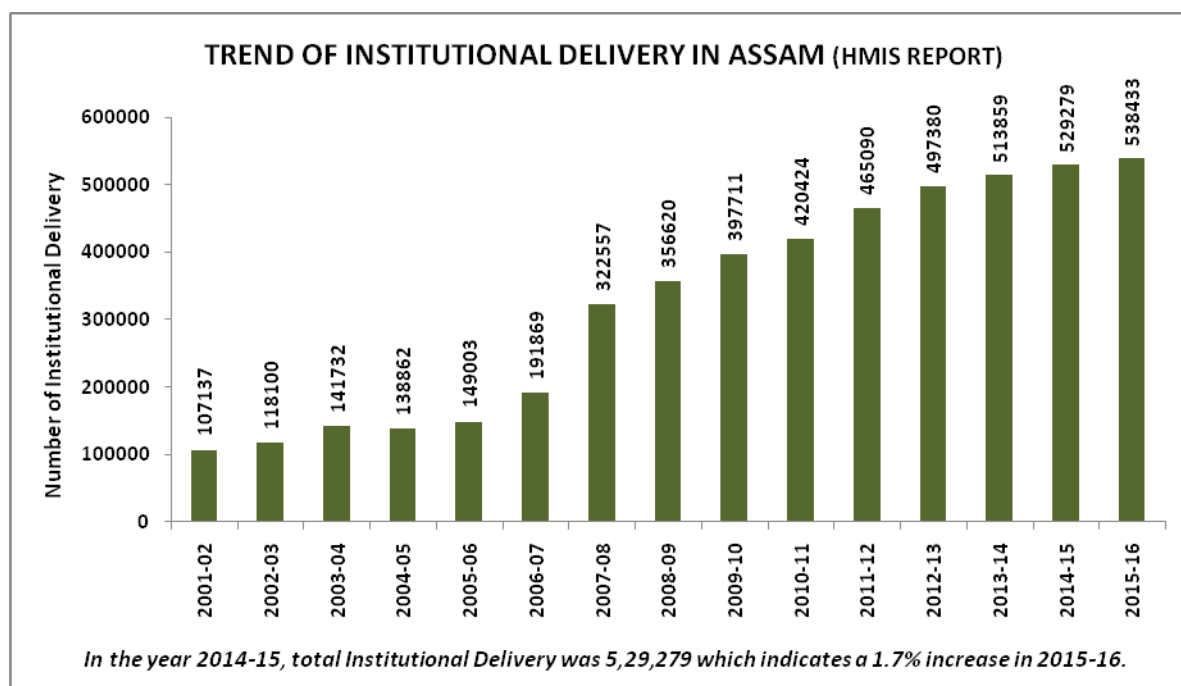
3. UP- GRADATION OF HEALTH INFRASTRUCTURE : Work has been started for 5 (five) Sub Divisional Civil Hospital to District Hospital at Biswanath Chariali, Sonari, Hatingimari, Hamren, Garumur (Majuli) and one new District Hospital at Hojai has been approved during 2017-18. Further, a total of 116 Model Hospitals have been approved to be set up across the state; out of these, construction of 79 has been completed. Besides, altogether 62 Model Hospitals have been made functional with OPD, Delivery and Laboratory facilities. To make the medicines available at affordable costs "AMRIT" a pharmacy at GMCH, Guwahati is opened and it will come all medical colleges and the district hospitals of the state phase wise.

NATIONAL HEALTH MISSION

Govt. of India launched the National Health Mission (NHM) to carry out necessary architectural correction in the basic health care, delivery system. The Mission's approach is relating health to determinants of good health viz. segments of nutrition, sanitation, hygiene and safe drinking water. It also aims at mainstreaming the Indian systems of medicine to facilitate health care. Various measures taken by National Health Mission (NHM) for child and mothers health.

INSTITUTIONAL DELIVERY

The Govt. under NHM has taken various initiatives to increase institutional delivery in Assam. Institutional delivery in Assam till 2006-07 was not so encouraging. During 2007-08 number of institutional delivery in Assam increased by 68 percent and is on an increasing trend resulting in decline of MMR. In the year 2014-15 total Institutional Delivery was 529279 while during 2015-16 the number Institutional delivery increased to 5,38,433 registering a growth of 1.7 percent. The graph below shows the trend of Institutional delivery in the State since 2001-02.



Source: HMIS Report.

JANANI SURAKSHA YOJANA

Janani Suraksha Yojana (JSY) is a safe motherhood intervention under the National Rural Health Mission (NRHM) being implemented with the objective of reducing maternal and neo-natal mortality by promoting institutional delivery among the poor pregnant women. The Yojana, launched on 12 th April, 2005, by the Hon'ble Prime Minister, is being implemented in all states and UTs with special focus on low performing states.

JSY is a 100% centrally sponsored scheme and it integrates cash assistance with delivery and post delivery care. The success of the scheme would be determined by the increase in institutional delivery among the poor families.

The Yojana has identified ASHA, the accredited social health activist as an effective link between the Government and the poor pregnant women in 10 low performing states, namely the 8 EAG states and Assam and J & K and the remaining NE States. In other eligible states and UTs, wherever, AWW and TBAs or ASHA like activist has been engaged in this purpose, she can be associated with this Yojana for providing the services.

1) Benefit to mother for delivery in Govt. and Accredited Hospitals

- Rs. 1400/- is for women from Rural Area
- Rs. 1000/- is for women from Urban Area

2) Rs. 500/- for Home Delivery for BPL Women (Benefit to mother)

3) Benefit to ASHA

- Rs. 600/- for delivery in Govt. and Accredited Hospitals.

Under the scheme 427557 lakh women have got benefitted in the State till 2015-16.

Snehasparsh : Sneha Sparsha, literally meaning the 'touch of love', is the recent unique Health Care Initiative for Children below 12 years of age launched by the Department of Health & Family Welfare, Government of Assam. The scheme, being implemented by NHM, Assam, was flagged off on 15 th April 2013, the first day of Assamese New Year, with an allotted fund of Rs 5 Crore for the Fiscal Year 2012-13.

Sneha Sparsha is a striving public health initiative that aims at bearing expenditure of very high-end specialized treatment such as Thalassemia requiring Bone Marrow Transplant, Liver and Kidney transplant, and Cochlear Implant.

Eligibility: Families with annual income less than Rs. 2.50 Lakh shall be eligible for availing benefits under the scheme, while priority shall be given to BPL families.

The beneficiary or guardians shall have to submit an Income Certificate issued by competent authority such as the Deputy Commissioner, Sub-Divisional Circle Officer, Circle Officer, Block Development Officer or any other authority notified by Govt from time to time to be eligible for financial assistance.

Mothers' Absolute Affection (MAA)

An intensified programme with an attempt to bring undiluted focus on promotion of breastfeeding, in addition to ongoing efforts through the health systems. This is called 'MAA' (Mothers' Absolute Affection) Programme. The Programme was launched at the national level on 5th August 2016.

Goals: To revitalize efforts towards promotion, protection and support of breastfeeding practices through health systems to achieve higher breastfeeding rates.

Objectives:

- Build an enabling environment for breastfeeding through awareness generation activities, targeting pregnant and lactating mothers, family members and society in order to promote optimal breastfeeding practices. Breastfeeding to be positioned as an important intervention for child survival and development.
- Reinforce lactation support services at public health facilities through trained healthcare providers and through skilled community health workers.

- To incentivize and recognize those health facilities that show high rates of breast-feeding along with processes in place for lactation management.

Rashtriya Bal Swasthya Karyakram : From “Survival to Healthy Survival” , the National Health Mission has made significant progress in Child Mortality rate. Whereas there is an advance in reducing child mortality there is a dire need to improving survival outcome.

Rashtriya Bal Swasthya Karyakram (RBSK) is an important initiative aiming at early identification and early intervention for children from birth to 18 years to cover 4 'D's viz. **Defects at birth, Deficiencies, Diseases, Development delays including disability**. This aim to improve survival outcomes by decreasing morbidity and improving the quality of life of our children. This programme will reach infants born at public health facilities and at home, covering a significant proportion of the annual birth cohort. In addition, children enrolled under Anganwadi centers and Government schools & Government aided schools are being reached systematically through Mobile Health Teams under RBSK. Thus, early identification of various health condition under RBSK, assured linkage to care, support and early treatment introduces equitable child health care approach which will, in the long run, reduce out of pocket expenditures, reduce the burden of disease, improve awareness and promote health & development among children.

National Iron Plus Initiative (NIPI) :

National Iron Plus Initiative (6 – 59 Months): This programme is for infants & preschool children (6- 59 months) in urban and rural areas. The programme implemented through the platform of AWCs. Bi weekly IFA syrup supplementation is done in AWCs.

Objectives: To ensure administration of IFA syrup twice per week from 6 months and Albendazole twice a year for de-worming after 9months of age.

National Iron Plus Initiative (5 – 10 Years): This programme is for school going boys and girls (5-10 years) and out of school girls (5-10 years) in urban and rural areas. The programme implemented through the platform of Government/Government aided/ municipal schools and AWCs. The strategy involves a “fixed day – Monday” approach for IFA distribution. Teachers and AWWs will supervise the ingestion of the IFA tablet by the beneficiaries.

Goal: To institute a school and anganwari based weekly IFA supplementation programme for control of anaemia among adolescent boys and girls, age between 5-10 years.

Objectives:

- To ensure administration of IFA tablet once per week and Albendazole twice a year for de-worming.
- To inform adolescent boys and girls of the correct dietary practices for increasing iron intake.
- To disseminate information on preventing worm infestation among adolescences and encourage adoption of correct hygiene practices, including use of footwear to prevent worm infestation.

Strategy.

National Deworming Day (NDD): Soil Transmitted Helminths (STH) is significant public health concern for Assam. Around 68% children of 1-14 years of age are estimated to be at risk of parasitic intestinal worm infestation. As per National Centre for Disease Control (2016) the prevalence of STH in Assam is 50%. Evidence has shown detrimental impact of STH infestation on physical growth-anaemia, under nutrition and cognitive development as well as school attendance. Periodic deworming can reduce the transmission of STH infections. Ministry of Health & Family Welfare, Government of India, in collaboration with Ministry of Women & Child Development, Department of School Education & Literacy (under Ministry of Human Resource Development), Ministry of Drinking Water and Sanitation and Ministry of Panchayati Raj has decided to conduct annual mass deworming day observing National Deworming Day (NDD). From the year 2015, mass deworming is conducted across 27 districts of Assam as a fixed day strategy to reduce the harm caused by STH on millions of children in a cost effective, simple and safe manner.

Objective: The objective of NDD is to deworm all preschool and school-age children between the ages of 1-19 years through the platform of schools and anganwadi centers in order to improve their overall health, nutritional status, access to education and quality of life.

Nutrition Rehabilitation Centre (NRC): Severely malnourished children are often dying because of lack of specialized treatment practices that are not similar for most children, but suitable for severely malnourished (SAM) children. Nutrition Rehabilitation Centers (NRC) are established in Health Facilities to provide appropriate and facility based case management to children with SAM for all under 5 children.

Goal: The lives of many children with SAM can be saved, and case fatality rates can be reduced.

Objective:

- To provide facility based management to children with SAM
- To reduce under 5 mortality due to Severe Acute Malnutrition

PUBLIC HEALTH (SANITATION & DRINKING WATER):

The Rural Water Supply and Sanitation Project for Low Income States (RWSSP-LIS) renamed as Neer Nirmal Pariyojana is being implemented in the four states i.e. Assam, Bihar, Jharkhand, and Uttar Pradesh. In Assam, Rural Water Supply & Sanitation Project for Low Income States has been taken in Seven Districts of Assam in two batches during the period 2013-2020.

Batch-I: Large Multi village Schemes one each in Hailakandi, Jorhat and Kamrup(M) district are being implemented with a total project cost of Rs. 676.03 Crore.

Coverage: Population: 5, 89,283, Gaon Panchayat: 63 nos., Development Blocks: 7 nos.

Batch-II: 4 nos. of LMVS project in Morigaon, Bongaigaon, Sonitpur & Sivasagar district will be taken up with tentative estimated cost is Rs. 822.67 Crore.

Coverage: Population: 8, 43,481, Gaon Panchayat: 99 nos., Development Blocks: 9 nos.

The objective of the project is to 'Provide improved piped water supply and sanitation services for selected rural communities in the target states through decentralized service delivery systems.

The following Table -19.6 shows the number of habitants covered under Rural Drinking Water Supply in various districts of the state as on February, 2018:.

The **SWACHH BHARAT MISSION** has aimed at to provide IHHL facility to every household in Assam. The total individual households (2286224) in rural areas have been covered under SBM-G in the state is 41.67 per cent till February'2018.

Table – 19.6
IHHL COVERED UNDER SWACHH BHARAT MISSION (GRAMIN) AS ON
FEBRUARY'2018

(In. Nos.)

Sl. No	District Name	Total HH (With & Without Toilet)	Without Toilet Families as per BLS 2012-13			Total IHHL Coverage			% of total IHHL facility over total HH
			Total	APL	BPL	Total	APL	BPL	
1	2	3	4	5	6	7	8	9	10
1	BAKSA	211283	134625	129617	5008	132432	127653	4779	62.68
2	BARPETA	348509	226086	217469	8617	108702	104248	4454	31.19
3	BISWANATH	144857	96209	90045	6164	48773	47180	1593	33.67
4	BONGAIGAON	108128	94180	35868	58312	89036	33898	55138	82.34
5	CACHAR	272057	174073	134437	39636	92160	67685	24475	33.88
6	CHARAIDEO	74093	39509	35774	3735	39529	35793	3736	53.35
7	CHIRANG	108888	74638	60965	13673	74638	60965	13673	68.55
8	DARRANG	177945	138150	114982	23168	87853	75211	12642	49.37
9	DHEMAJI	139997	77611	74783	2828	49335	48678	657	35.24
10	DHUBRI	289823	184616	131362	53254	121774	84046	37728	42.02
11	DIBRUGARH	213546	135301	135234	67	94813	94746	67	44.40
12	DIMA HASAO	27261	26608	8400	18208	17538	5952	11586	64.33
13	GOALPARA	192490	114365	95266	19099	110624	91525	19099	57.47
14	GOLAGHAT	203896	94724	80636	14088	48526	43252	5274	23.80
15	HAILAKANDI	142823	84786	72018	12768	72126	61111	11015	50.50
16	HOJAI	139849	89755	73080	16675	34273	27068	7205	24.51
17	IORHAT	165885	91661	87236	4425	57624	54008	3616	34.74
18	KAMRUP	292233	167428	113331	54097	133998	88470	45528	45.85
19	KAMRUP METROPOLITAN	48709	26026	17716	8310	26026	17716	8310	53.43
20	KARBI ANGLONG	91494	84751	28031	56720	33064	12209	20855	36.14
21	KARIMGANI	212804	121228	101085	20143	60791	55448	5343	28.57
22	KOKRAIHAR	197563	112255	97057	15198	89437	76205	13232	45.27
23	LAKHIMPUR	198499	126242	112455	13787	68104	61563	6541	34.31
24	MAIULI	31786	16429	16197	232	14555	14544	11	45.79
25	MORIGAON	161517	95628	63066	32562	69032	44240	24792	42.74
26	NAGAON	314388	182135	143739	38396	88461	67090	21371	28.14
27	NALBARI	159419	78636	73077	5559	78636	73077	5559	49.33
28	SIVASAGAR	129718	64556	59053	5503	64555	59053	5502	49.77
29	SONITPUR	201866	121329	110836	10493	89226	83314	5912	44.20
30	SOUTH SALMARA MANCACHAR	77713	43443	35458	7985	26453	22078	4375	34.04
31	TINSUKIA	200966	151364	125549	25815	73539	60471	13068	36.59
32	UDALGURI	166412	115713	114041	1672	76590	75597	993	46.02
33	WEST KARBI ANGLONG	40160	36133	10295	25838	14001	3471	10530	34.86
Total		5486577	3420193	2798158	622035	2286224	1877565	408659	41.67

Source : Office of the Chief Engineer, PHE (Sanitation).

During 2016-17, an Opening Balance of Rs.5551.23 crore was total availability of fund against which fund release during the period was Rs.67841.19 crore as central sector and Rs. 20002.059cr as state sector in Public Health Engineering Department by the Government.

CLEAN WATER-CLEAN ASSAM

1. Govt. of Assam set the goal for Open Defecation Free(ODF) and Clean State under Swachh Bharat Mission (Gramin). A special drive has been launched to expedite the construction of Individual Household Latrines (IHHL) in the state. Till January ,2017

around 5.6 lakhs IHHLs has been constructed .Around 17.58 lakh families have been targeted for providing Low Cost Sanitary toilets during 2017-18.

- 2.** Under the Neer Nirmal Pariyojana, works have been started in 63 Gram Panchayats in the 3 districts of Hailakandi, Jorhat and Kamrup (M) with a target to complete by 2018 at a total project cost Rs.676.03 crores. Second batch of the project will cover 98 Gram Panchayats more in the 3 districts of Sivasagar, Bongaigaon and Morigaon at an estimated cost of Rs.822.67crores.
- 3.** To provide portable drinking water in tea garden areas, Rs.5000 lakh has been proposed in the current budget.
- 4.** During the 2018-19, 191 Community Sanitary Complexes and 93 nos. of Solid & Liquid Waste management Project shall be taken up.
- 5.** Altogether 3442 nos. of habitations been brought under the category of Arsenic affected habitations. More villages will be cover under new National Sub-Mission of Govt. of India which aims to cover all Arsenic & Fluoride affected habitations by 31st march 2020.

□□□

CHAPTER - XX

Assessing Assam's Sustainable Development Goals (SDG) performance: A disaggregated picture for districts

1. Introduction

The 2017 Assam Economic Survey (AES) had discussed the 59 core indicators that the state has adopted to assess progress on the SDGs. The 2017 AES chapter set up baselines and targets for all these 59 indicators to assess progress on the SDGs at the state level. In order to better understand how the state is faring on the SDGs, however, the statewide averages need to be disaggregated to provide a clearer and more detailed picture to aid policy making. The most critical ways of disaggregation for the state include disaggregation by districts, gender, ethnic characteristics and geographically fragile areas such as *char* areas and hills. This exercise requires considerable work at data generation for these geographical groups and is a work in progress.

Some work, however, has already been done on district level data generation and this chapter presents the comparative picture of districts on some critical SDG indicators where district level data is available viz. poverty, hunger, health and wellbeing, education, gender equality, water and sanitation and hygiene, affordable and clean energy, inequalities, life on land, and peace and justice covering the SDG Goals 1, 2, 3, 4, 5, 6, 7, 8, 10, and 16 respectively. The data has been sourced both from primary and secondary sources for this analysis.

Section 2 presents the comparative district-wise data for these indicators. Section 3 develops a composite index combining the indicators into a single composite index to enable an overall ranking of districts on their current SDG performance. Section 4 provides conclusions.

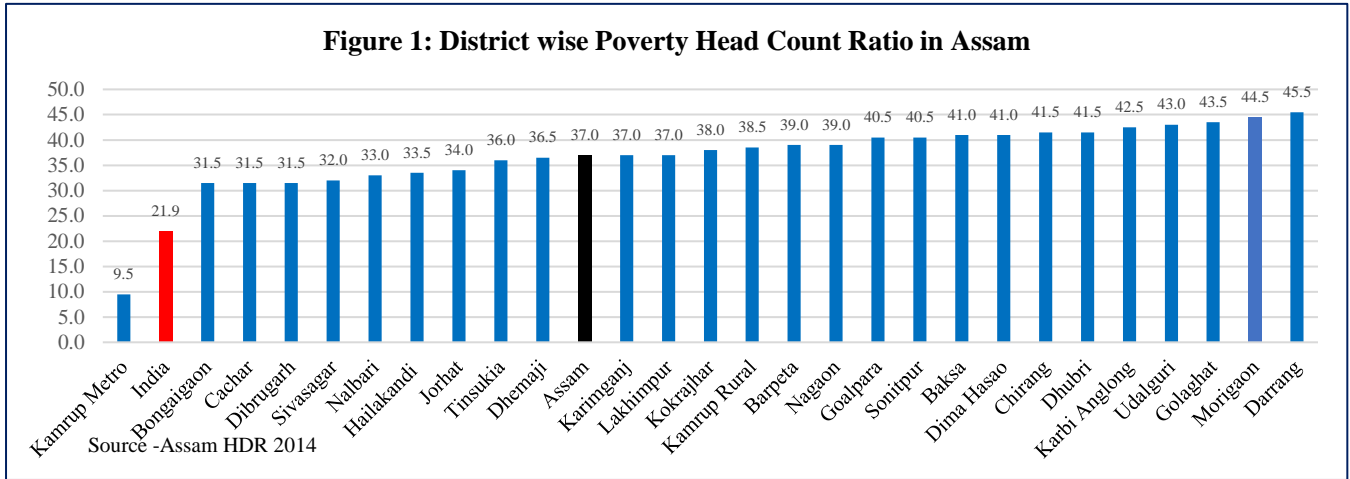
2. Inter-district comparisons of SDGs

The analysis presented in this chapter contains data for 27 districts for which data was available, but not for all the current 33 districts of Assam as six new districts created recently have yet no data separately. It presents information on the districts for 10 Goals.

For each Goal, a ranking of districts is presented for each of the indicators used (see the list of indicators in Appendix 1 Table 1) which also shows the all-India value (in red) and the Assam average value (in black) of the indicator for ease of comparison.

In addition, the indicators –where more than one indicator is available for a particular Goal–are combined into a Composite Index for the Goal using the methodology described in Appendix 1. This composite index is used to categorise the districts on each Goal and for all the Goals together in terms of performance and appropriately colour coded as explained in Appendix 1.

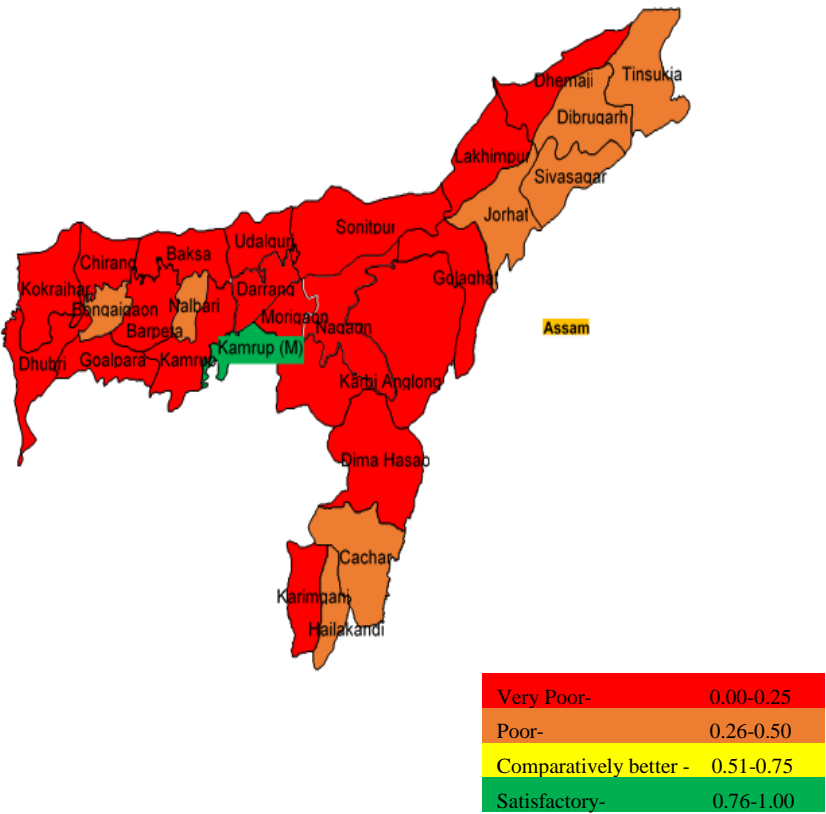
Goal 1: No Poverty



Map 1. Poverty

Table 1: Indicator values for Poverty

District	Index Score
Darrang	0.00
Morigaon	0.03
Golaghat	0.06
Udalguri	0.07
Karbi Anglong	0.08
Chirang	0.11
Dhubri	0.11
Baksa	0.13
Dima Hasao	0.13
Goalpara	0.14
Sonitpur	0.14
Barpeta	0.18
Nagaon	0.18
Kamrup Rural	0.19
Kokrajhar	0.21
Karimganj	0.24
Lakhimpur	0.24
Dhemaji	0.25
Tinsukia	0.26
Jorhat	0.32
Hailakandi	0.33
Nalbari	0.35
Sivasagar	0.38
Bongaigaon	0.39
Cachar	0.39
Dibrugarh	0.39
Kamrup Metro	1.00



As shown in Table 1, the poverty head count ratio of Assam as a whole is very high (37.0) compared to the all-India average of 21.9. Most districts in Assam fare much worse than the all-India average excepting Kamrup Metro. The five major districts which are in very poor position are Darrang (45.5), Morigaon (44.5), Golaghat (43.5), Udalguri (43.0) and Karbi Anglong (42.5).

Map 1 above ranks the districts based on their individual Goal scores. The map clearly reflects the status of Assam regarding poverty which shows most districts in the “very poor” category. The district coded green is the best performing district with Kamrup Metro (1.00) in the sole “satisfactory” position. The districts coded yellow would indicate districts which are relatively better performing, but there are no such districts in the yellow zone. Bongaigaon (0.39), Cachar (0.39), Dibrugarh (0.39) etc. are the poor performing districts in the orange zone. The districts coded red are in the lowest “very poor” performing category.

Goal 2: No Hunger

Figure 2. District wise poportion of children under the age five stunted

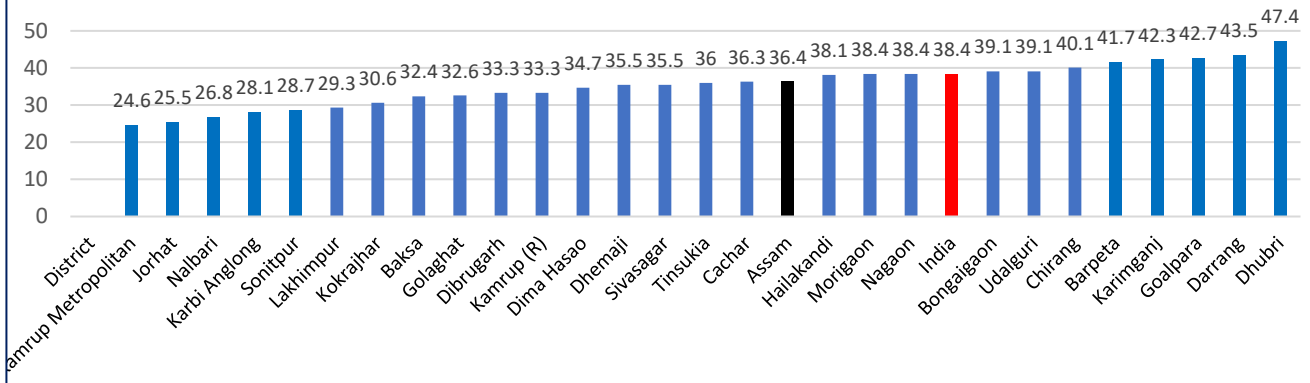


Figure 3. District wise proportion of children under the age of 5 who are underweight

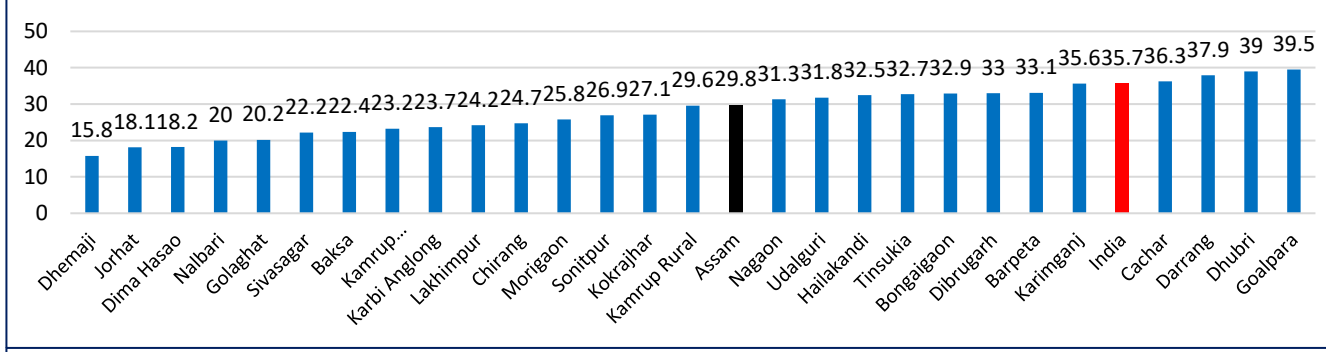


Figure 4. District wise proportion of non-pregnant women age 15-49 who are anemic

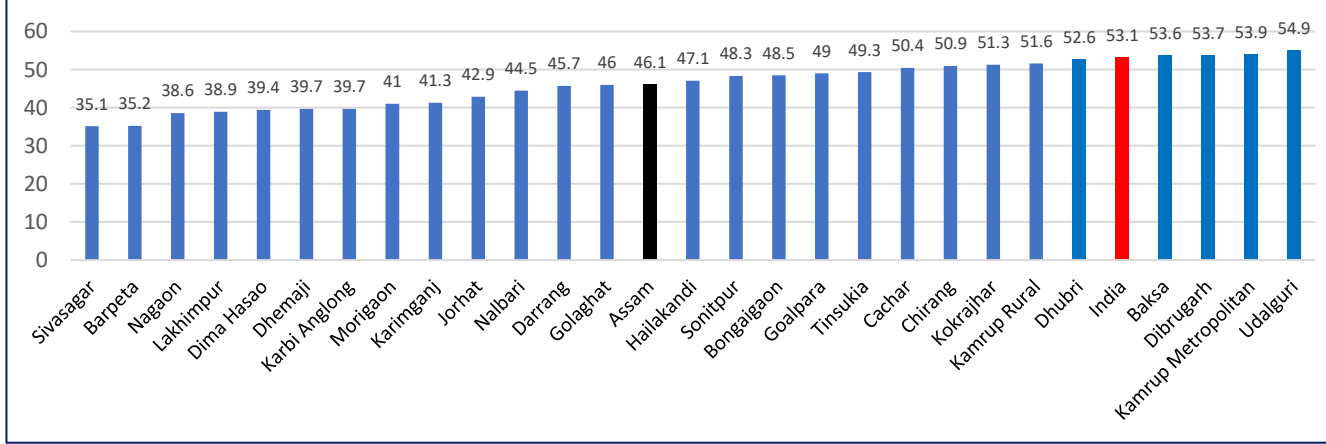
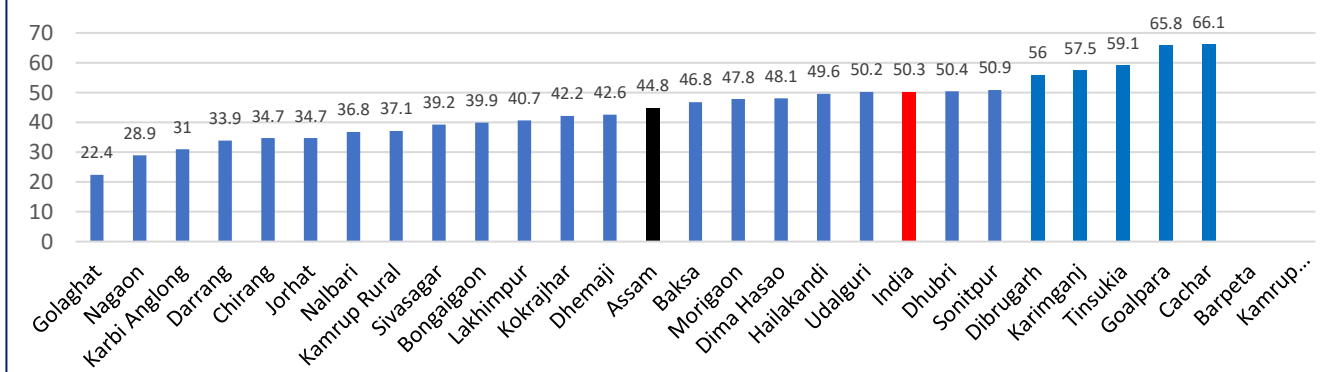


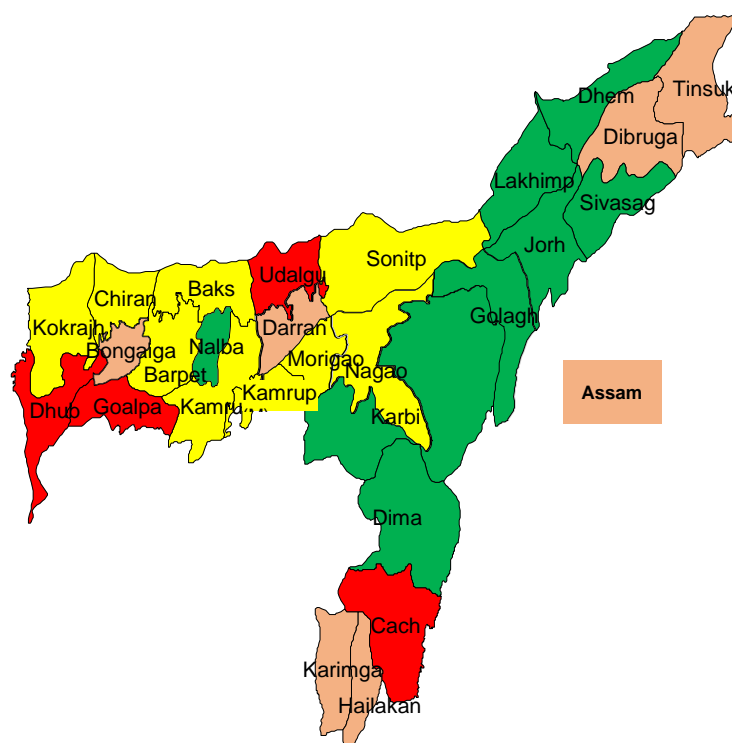
Figure 5. District wise proportion of pregnant women within the age 15-49 who are anemic



Source: NFHS 4 (2015-16)

Table 2: Composite Indicator for Hunger and Nutrition

Districts	Index
Dhubri	0.13
Goalpara	0.13
Cachar	0.21
Udalguri	0.26
Dibrugarh	0.30
Tinsukia	0.31
Karimganj	0.32
Darrang	0.36
Hailakandi	0.37
Bongaigaon	0.39
Kamrup Rural	0.47
Chirang	0.47
Baksa	0.47
Kokrajhar	0.50
Sonitpur	0.51
Barpeta*	0.51
Morigaon	0.52
Kamrup Metro*	0.58
Nagaon	0.60
Dima Hasao	0.66
Dhemaji	0.71
Lakhimpur	0.71
Sivasagar	0.72
Golaghat	0.73
Nalbari	0.73
Karbi Anglong	0.77
Jorhat	0.80

Map 2. Hunger

*Note. For Barpeta and Kamrup (Metro), the composite index is arrived at by averaging over three and not four indicators as done for other districts as data on anemia for pregnant women was not available for these two districts.

Very Poor-	0.13-0.29
Poor-	0.30-0.46
Comparatively better-	0.46-0.63
Satisfactory-	0.64-0.80

Children who do not receive proper nutrition may be stunted or underweight which are important indicators of child malnutrition. In Assam, 36.4 percent of children under 5 years of age suffer from stunting and 29.6 percent are underweight. However, in terms of child undernourishment, Assam shows a better picture than India as a whole as shown in Figures 2 and 3 which also present the district-wise disaggregated data. Those districts which are above the India average are particularly worrisome.

In the case of anemic women too, the NFHS-4 data for the period 2014-15 shown in Figures 4 and 5, indicates Assam having lower proportions of anemic women (46.1 and 44.8 percent for non-pregnant and pregnant women in the age group 15-45 respectively) than India (53.1 and 50.3). Again those districts with higher than India averages need special attention.

The map presents the comparative composite picture for nutrition in the districts by developing a composite index for these five nutrition indicators as presented Table 2. Generally the hill districts and most upper Assam districts are faring better (except Dibrugarh and Tinsukia) than lower Assam and Barak valley.

Goal 3. Good health and well being

Figure 6. District wise MMR (deaths per 100,000 live births average April 2016-Mar 2017)

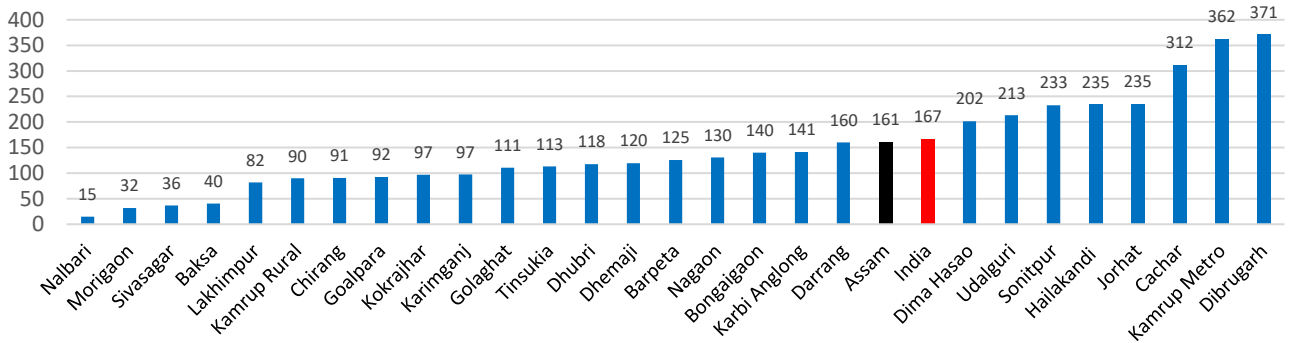


Figure 7. District wise IMR (deaths per 1000 live births average Apr 2016-Mar2017)

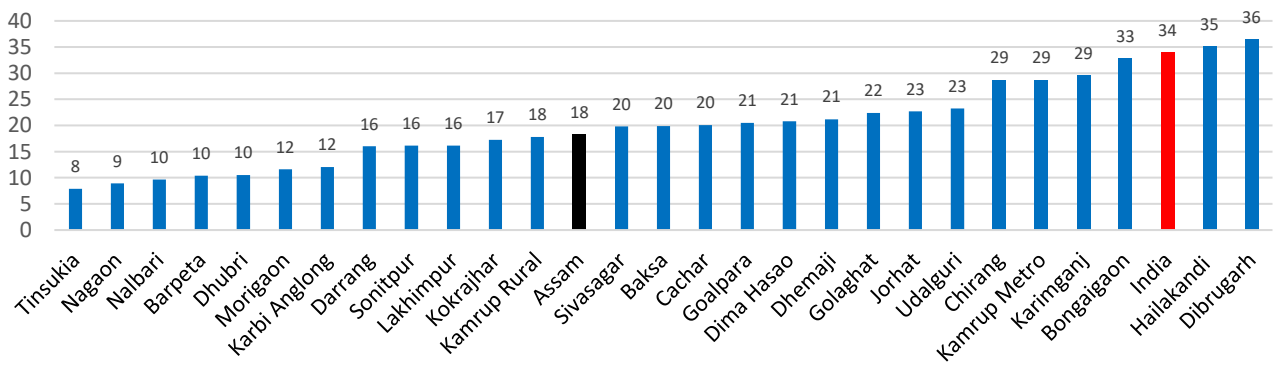


Figure 8. District wise Under-5 Mortality Rates (deaths per 1000 live births average April 2016-March 2017)

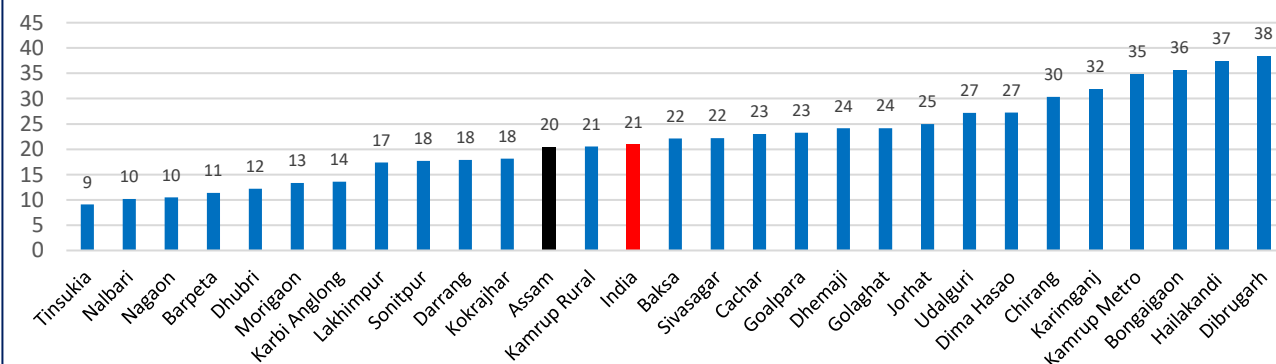
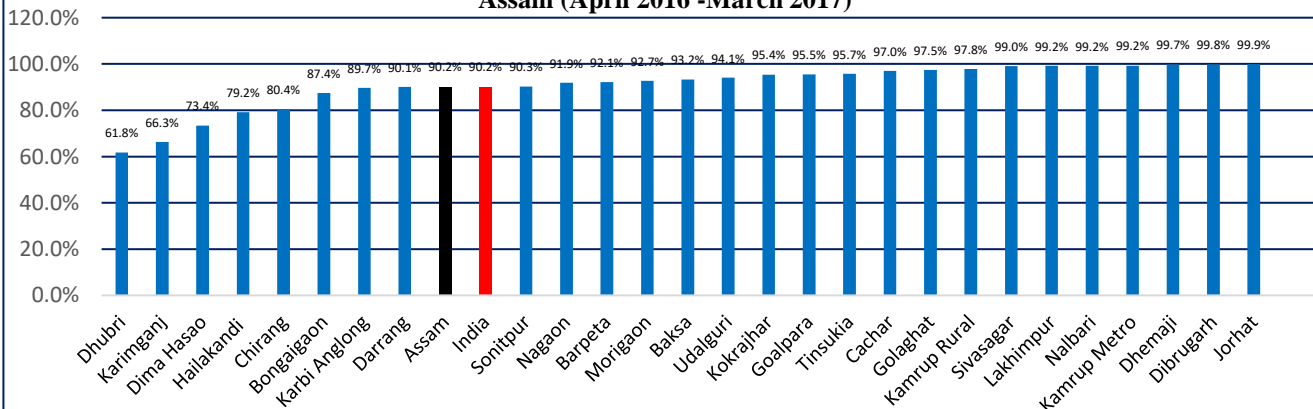
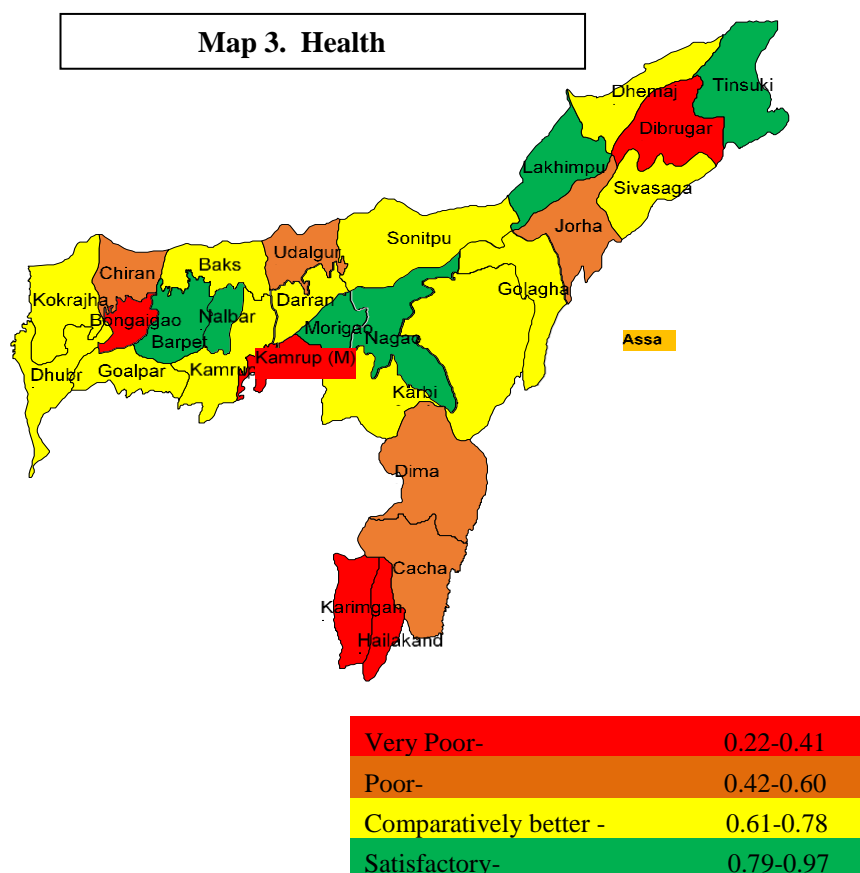


Figure 9. District wise percentage of births attended by trained medical personnel in Assam (April 2016 -March 2017)

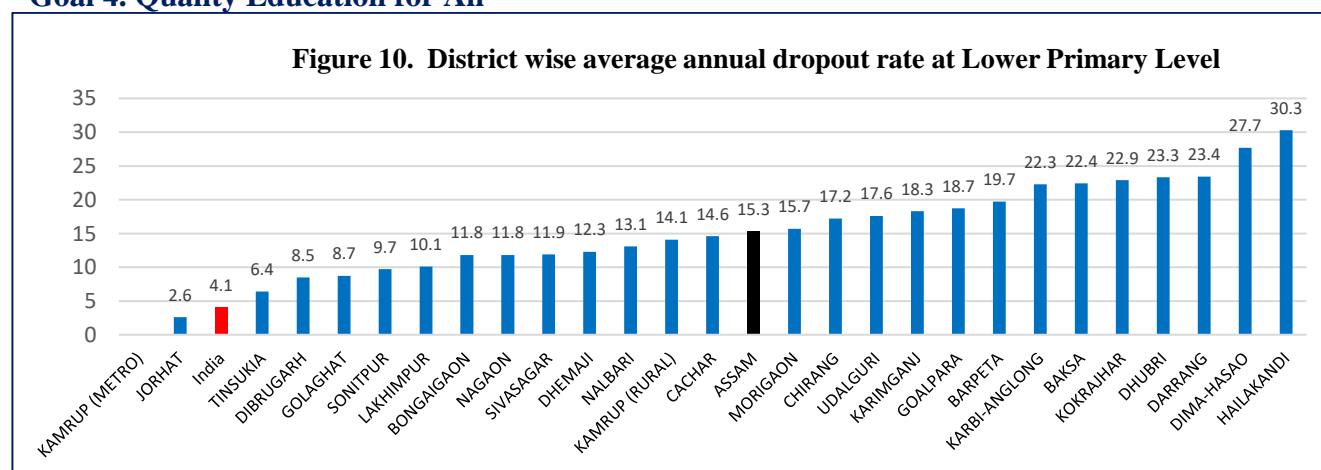


Districts	Goal index
Hailakandi	0.22
Dibrugarh	0.24
Karimganj	0.33
Kamrup Metro	0.34
Bongaigaon	0.38
Dima Hasao	0.42
Chirang	0.45
Udalguri	0.53
Cachar	0.54
Jorhat	0.58
Dhubri	0.63
Sonitpur	0.64
Golaghat	0.66
Dhemaji	0.68
Goalpara	0.68
Darrang	0.69
Baksa	0.72
Kamrup Rural	0.75
Kokrajhar	0.75
Sivasagar	0.76
Karbi Anglong	0.77
Lakhimpur	0.80
Barpeta	0.83
Nagaon	0.85
Morigaon	0.87
Tinsukia	0.90
Nalbari	0.97



The data presented in Figures 6,7,8 and 9 in this section is from the period April 2016 to March 2017 as reported in the Health Management Information System (HMIS) of the National Health Mission (NHM). The data reveals that Assam is faring better than India as a whole with respect to maternal and child health; although Assam is slightly behind India regarding attendance of skilled medical personnel at birth.¹ The map corresponding to the composite index for Goal 3 indicators presented in Table 3 indicates a somewhat mixed picture for Brahmaputra valley and the hill district of Karbi Anglong; but Dima Hasao and the Barak valley districts remain behind in the “poor” and “very poor” categories.

Goal 4. Quality Education for All



¹ The India data for all the Health indicators are taken from different sources such as- MMR(SRS2013), IMR(SRS2016-17), U5MR (SRS2015) and proportion of birth attended trained medical personnel (NFHS-4)

Figure 11. District wise average annual dropout rate at Upper Primary level

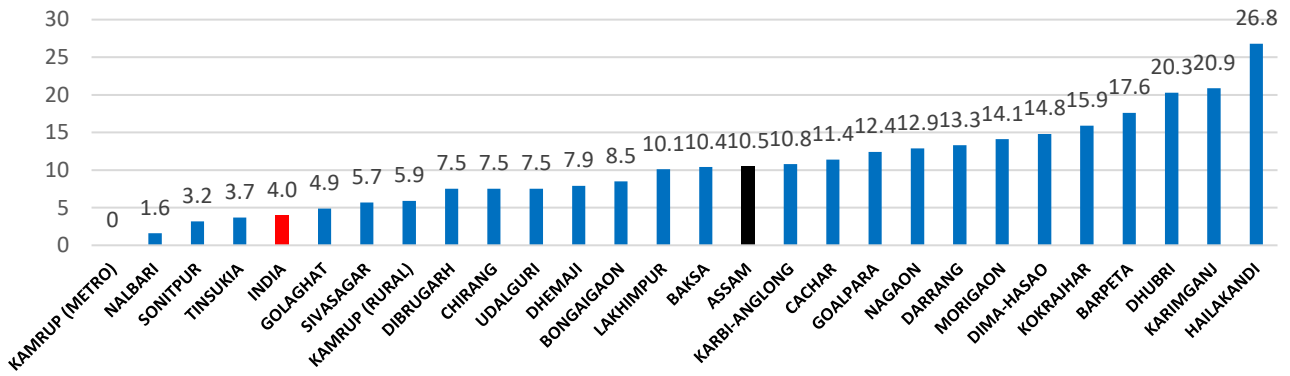


Figure 12. District wise NER at Upper Primary level

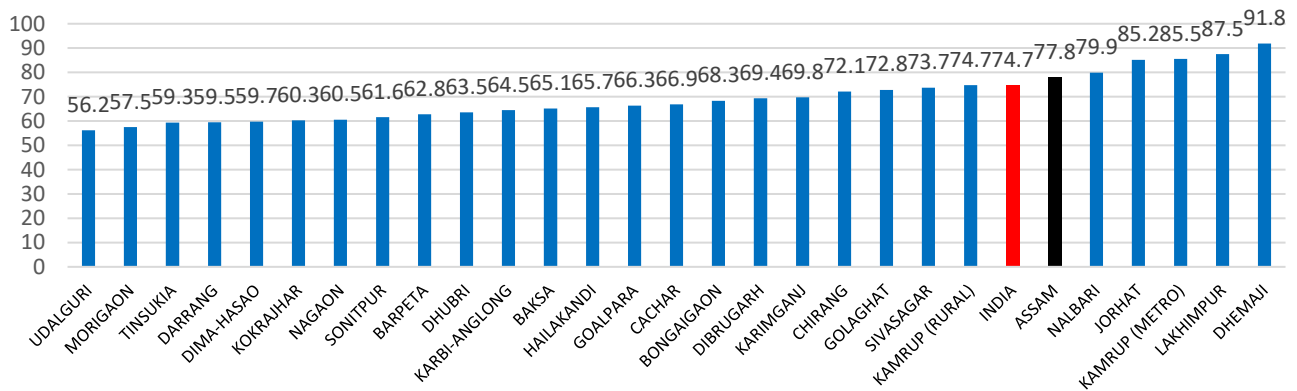


Figure 13. District wise percentage of schools with separate girls toilet facility

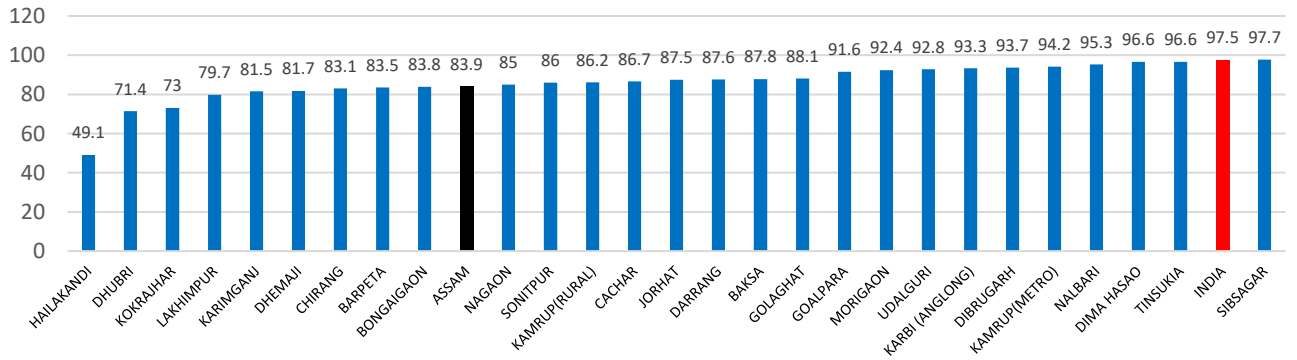


Figure 14. District wise percentage of schools with separate boys toilet facility

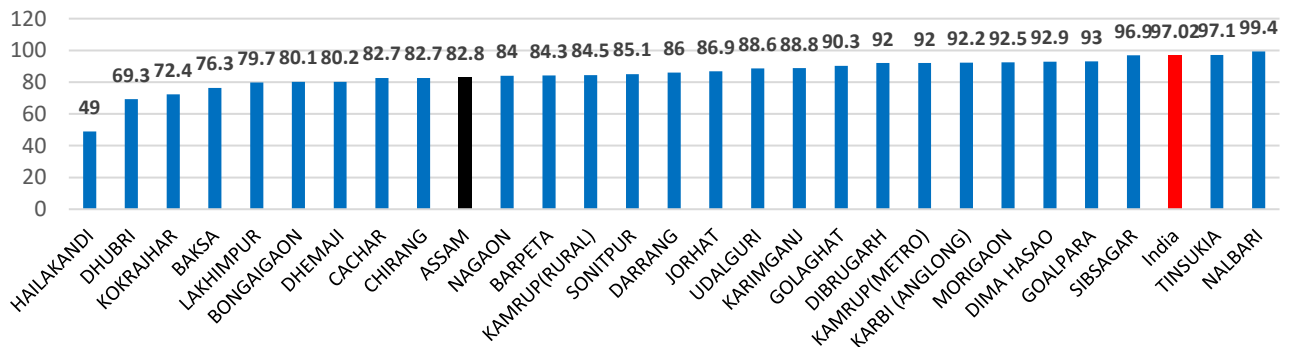
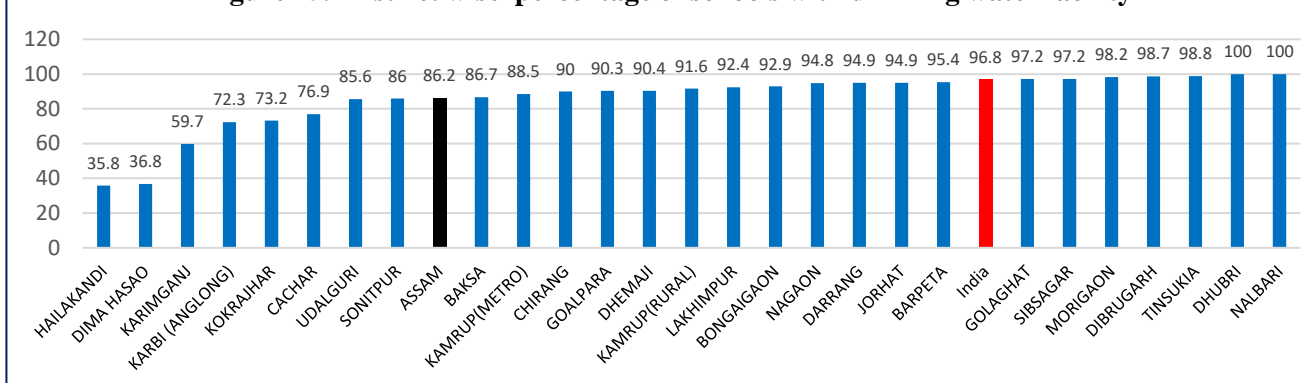


Figure 15. District wise percentage of schools with drinking water facility

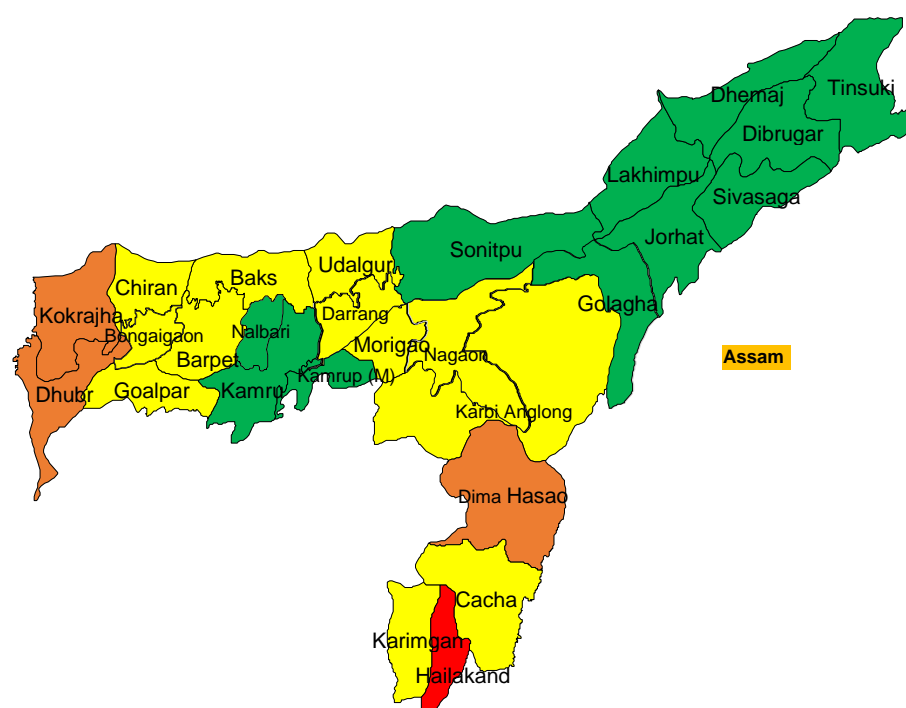
Source: U-DISE 2015-16

Table 4. Composite index for Education

District	Average Index Score
HAILAKANDI	0.04
KOKRAJHAR	0.39
DIMA HASAO	0.42
DHUBRI	0.43
KARIMGANJ	0.48
BARPETA	0.54
BAKSA	0.55
DARRANG	0.55
KARBI (ANGLONG)	0.58
CACHAR	0.59
UDALGURI	0.61
NAGAON	0.62
MORIGAON	0.63
GOALPARA	0.65
CHIRANG	0.65
BONGAIGAON	0.66
SONITPUR	0.68
KAMRUP (RURAL)	0.71
LAKHIMPUR	0.73
DHEMAJI	0.76
DIBRUGARH	0.78
GOLAGHAT	0.78
TINSUKIA	0.80
SIBSAGAR	0.82
JORHAT*	0.86
KAMRUP (METRO)*	0.86
NALBARI	0.87

*Note. In case of Jorhat and Kamrup (Metro) data was not available for all indicators and the composite index was computed by averaging over the indicators available.

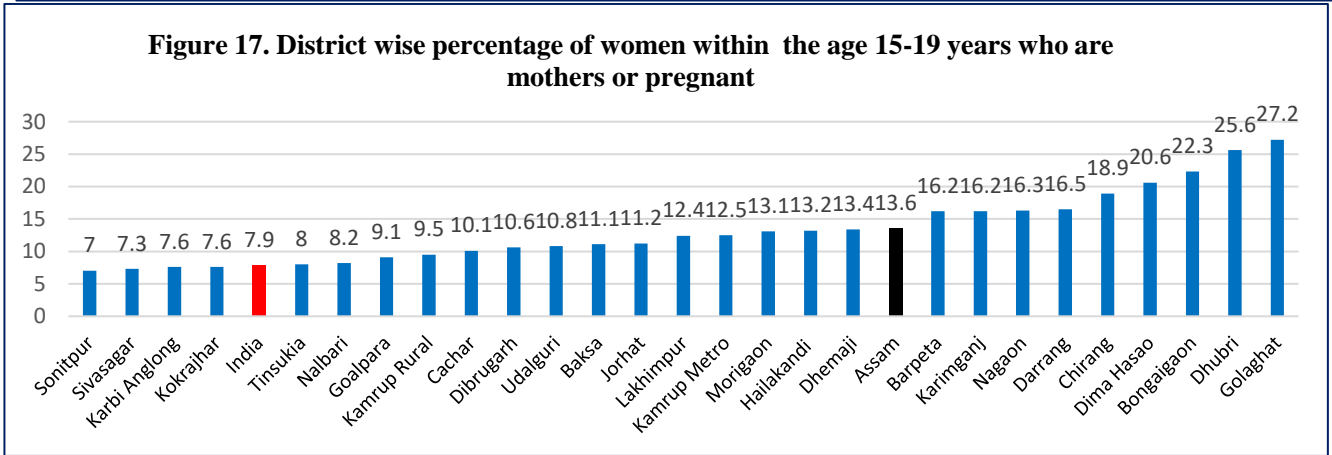
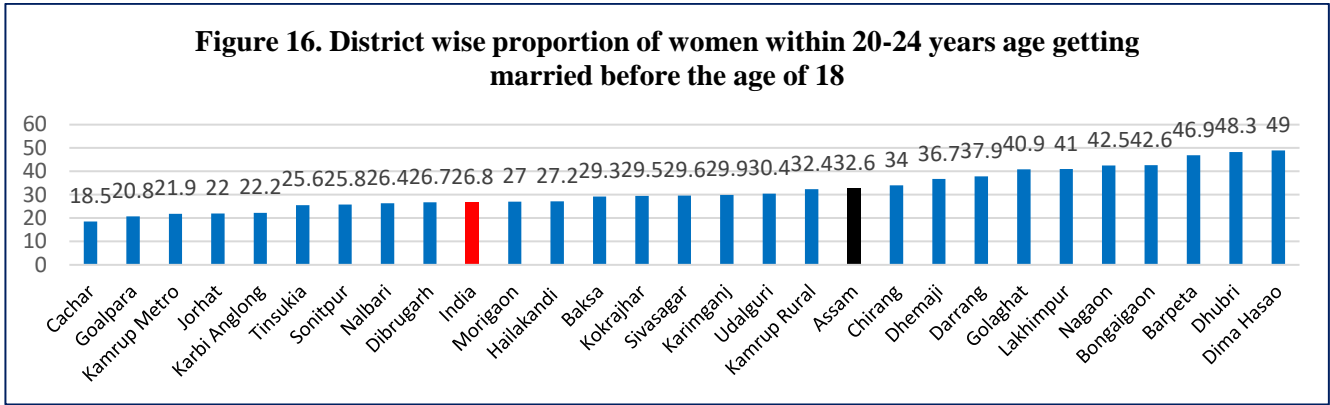
Very poor -	0.04-0.25
Poor-	0.26-0.46
Comparatively better-	0.47-0.67
Satisfactory-	0.68-0.87

Map 4. Education

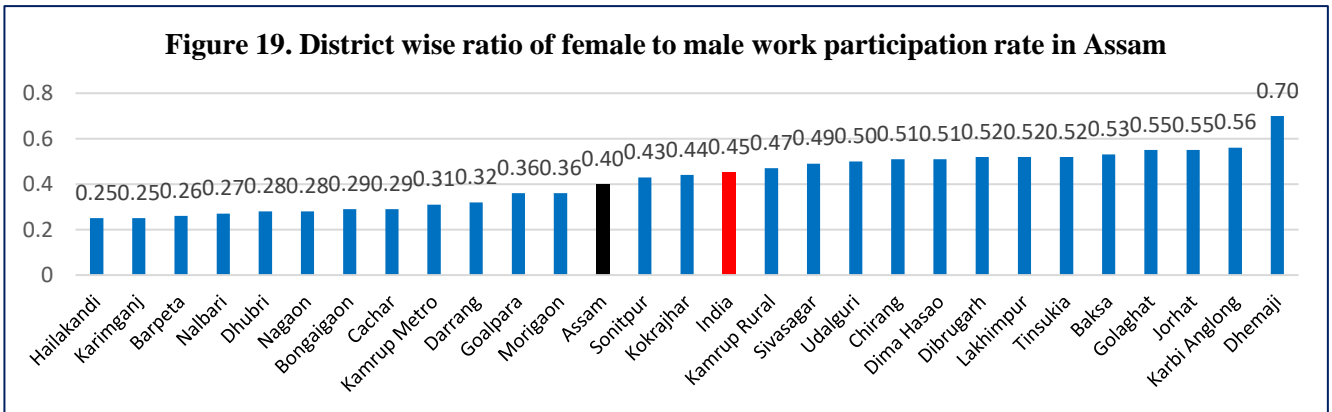
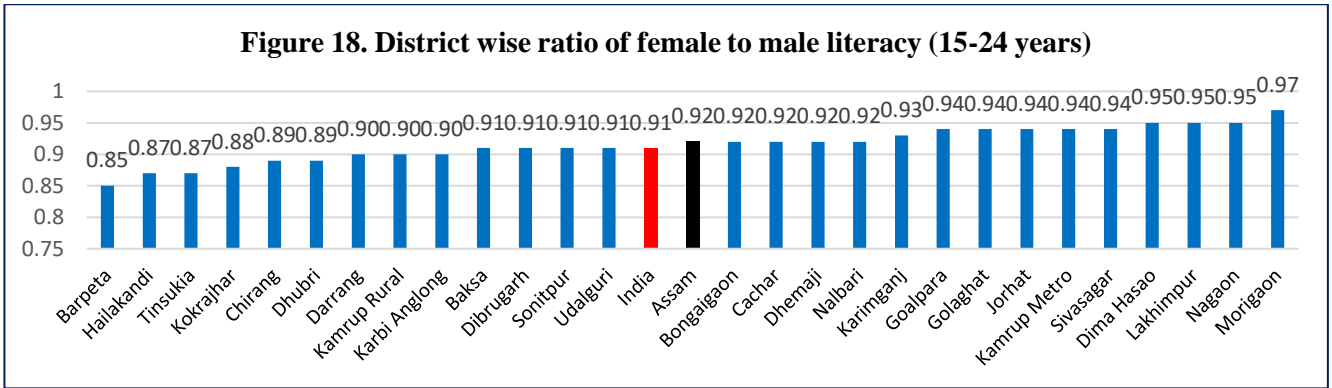
The data on the education indicators presented in Tables 10, 11, 12, 13, 14 and 15 are from U-DISE and relate to 2015-16. The data indicates that although Assam is marginally ahead on net enrolment at upper primary level than India as a whole, quality indicators show that the state is far behind. Drop-out rates are much higher, and facilities such as separate toilets for boys and girls and availability of drinking water in schools is far lower than the all-India averages.

Map 4 summarises the comparative education outcomes for the districts using the composite education indicator presented in Table 4. Although overall education outcomes are poor compared to the all-India average, the comparative picture for districts shows that upper Assam districts are generally faring better than the rest; while Kokrajhar, Dhubri, Dima Hasao and Hailakandi are performing very poorly and while improving education outcomes needs to be stressed all over Assam, these four districts at the bottom need to be focused upon in particular.

Goal 5. Gender Equality



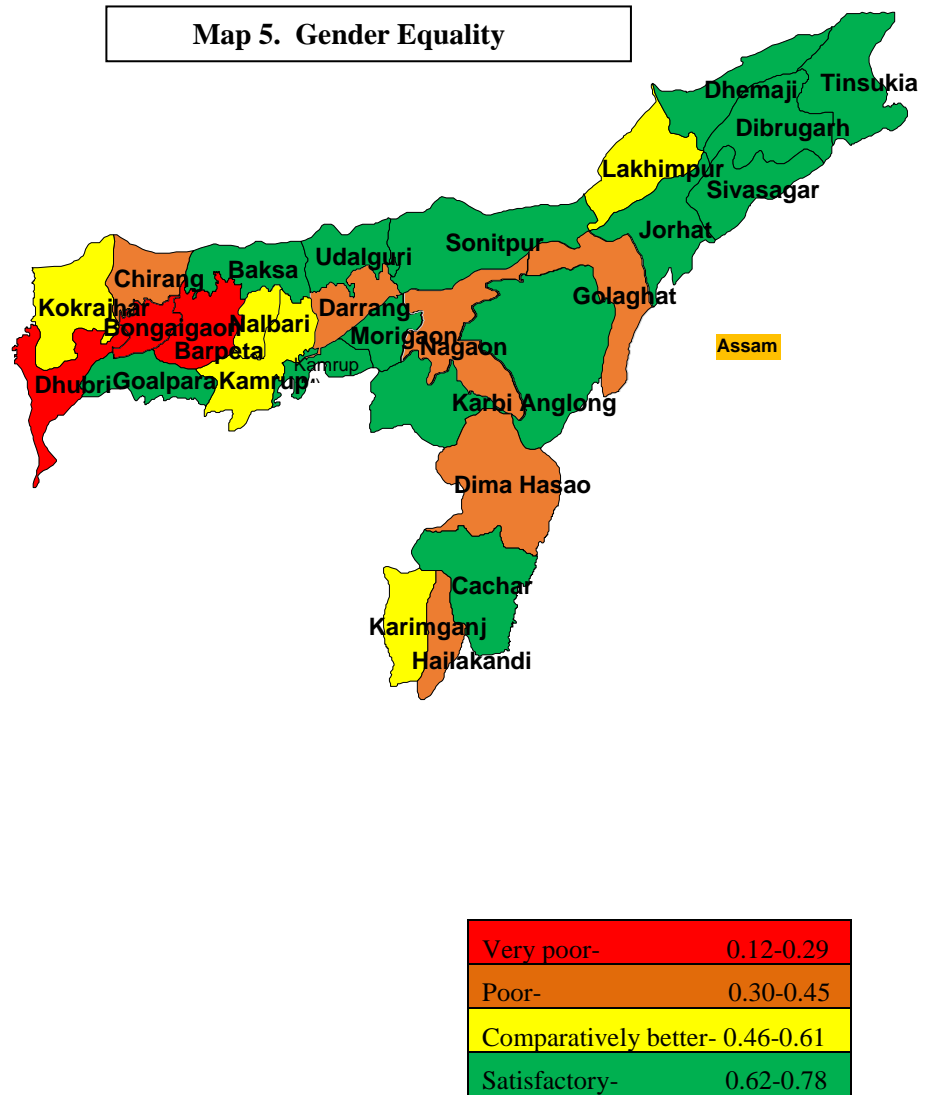
Source of Figures 16 and 17: NHFS-4 (2015-16)



Source of Figure 17 and 18: Census 2011

Table 5. Composite Indicator for Gender Equality

Districts	Average Score
Dhubri	0.12
Barpeta	0.16
Bongaigaon	0.28
Darrang	0.37
Hailakandi	0.40
Nagaon	0.41
Golaghat	0.42
Dima Hasao	0.44
Chirang	0.45
Karimganj	0.46
Kokrajhar	0.57
Nalbari	0.58
Kamrup Rural	0.58
Lakhimpur	0.61
Udalguri	0.62
Tinsukia	0.62
Kamrup Metro	0.62
Cachar	0.63
Baksa	0.64
Dibrugarh	0.67
Morigaon	0.67
Dhemaji	0.67
Sonitpur	0.67
Goalpara	0.70
Sivasagar	0.73
Karbi Anglong	0.74
Jorhat	0.78



Gender equality is being assessed based on four indicators: early marriage; early pregnancy (based on NFHS-4 (2015-16)) ; and ratio of female to male literacy; and ratio of women’s to men’s labour participation rates (from Census 2011). Assam fares worse than the India average on all these indicators except on gender equality on literacy where Assam is marginally ahead of India as shown by Figures 16 to 19 above.

The map showing the comparative position of districts based on the composite indicator on gender equality presented in Table 5 shows a mixed picture but the three lower Assam districts of Dhubri, Barpeta and Bongaigaon are particularly behind the rest.

Goal 6. Clean Water and Sanitation.

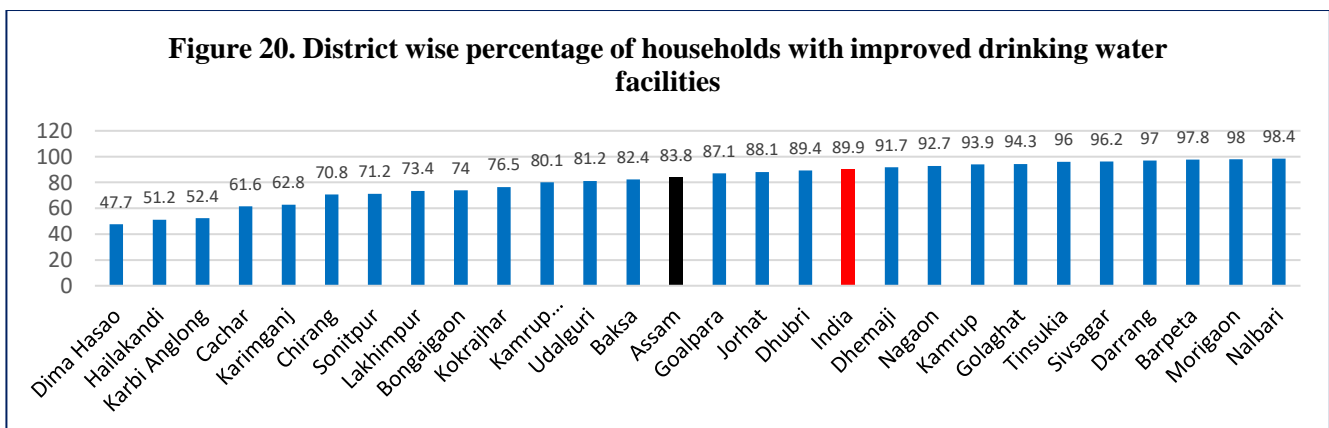
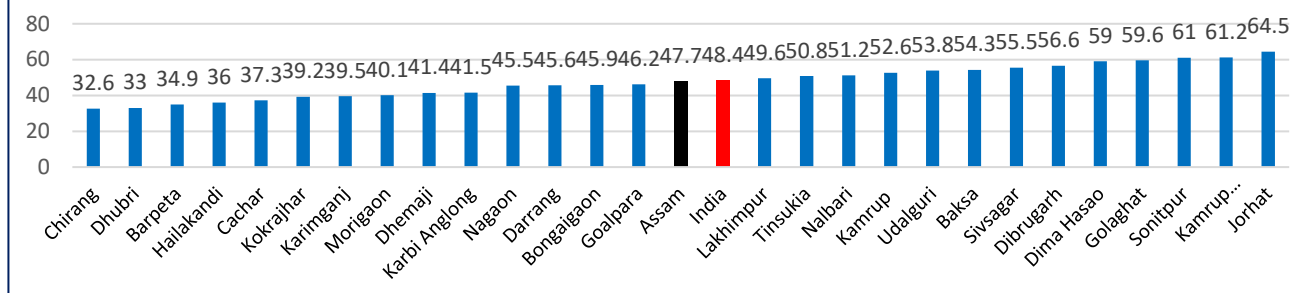


Figure 21. District wise percentage of households using improved sanitation facility

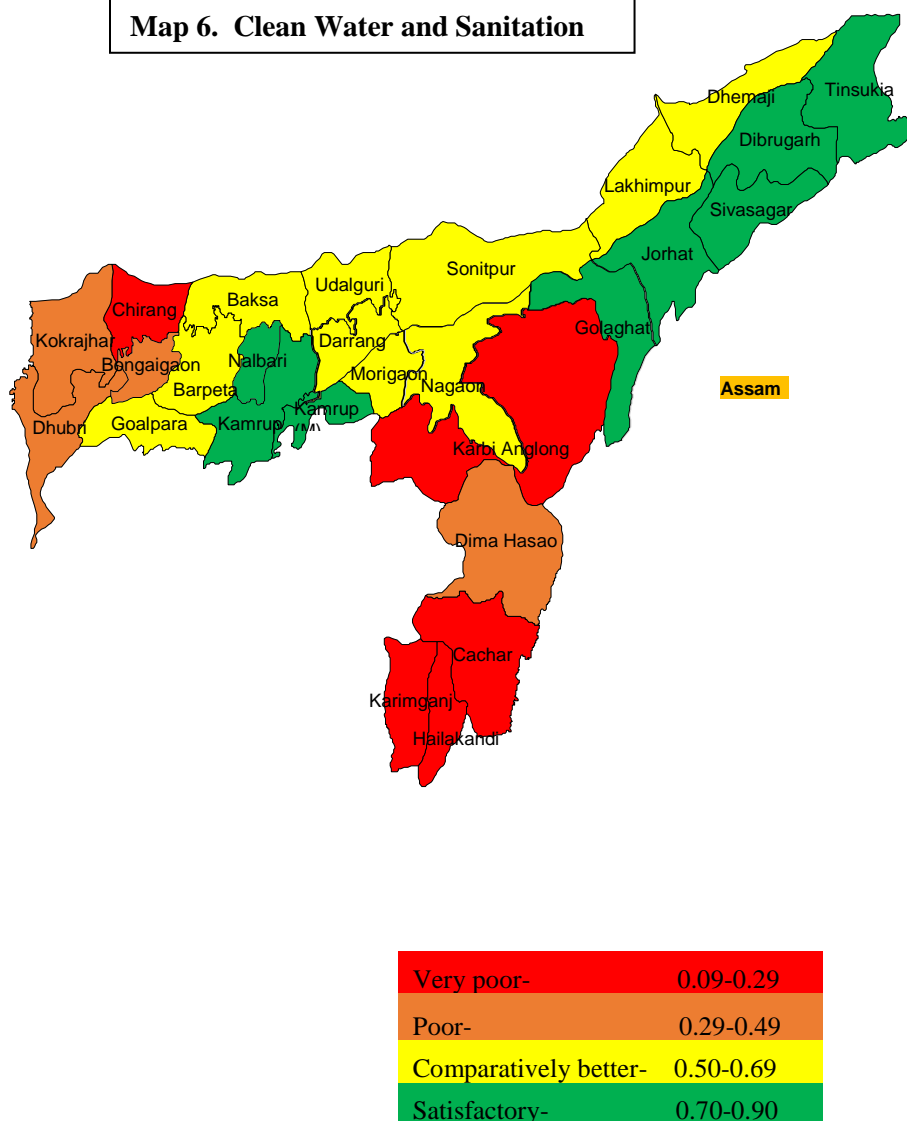


Source: NFHS4 (2015-16)

Table 6. Composite Indicator for Clean Water and Sanitation

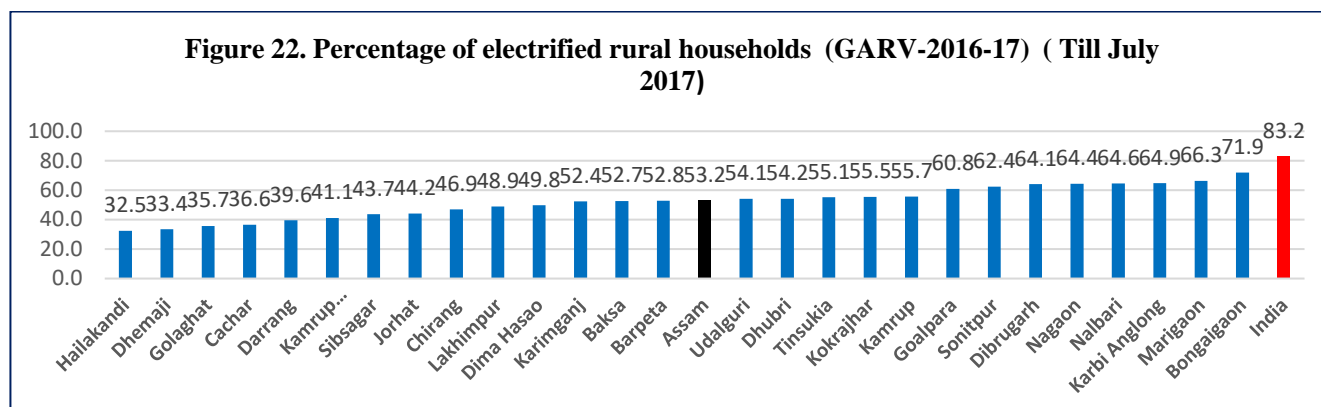
District	Score index
Hailakandi	0.09
Karbi Anglong	0.19
Cachar	0.21
Chirang	0.23
Karimganj	0.26
Kokrajhar	0.39
Dima Hasao	0.41
Dhubri	0.41
Bongaigaon	0.47
Lakhimpur	0.52
Barpeta	0.53
Dhemaji	0.57
Goalpara	0.60
Morigaon	0.61
Nagaon	0.64
Udalguri	0.66
Sonitpur	0.68
Baksa	0.68
Darrang	0.69
Tinsukia	0.76
Kamrup Rural	0.77
Kamrup Metro	0.77
Nalbari	0.79
Sivasagar	0.83
Dibrugarh	0.88
Golaghat	0.88
Jorhat	0.90

Map 6. Clean Water and Sanitation



Data for clean water and sanitation are drawn from NFHS-4 (2015-16). In both respects, Assam is behind the all-India attainments as shown in Figures 20 and 21. Map 6 shows a composite picture for this Goal. The districts faring worst are all three Barak valley districts; the lower Assam districts of Chirang, Dhubri, Kokrajhar and Bongaigaon; and the two hill districts of Karbi Anglong and Dima Hasao.

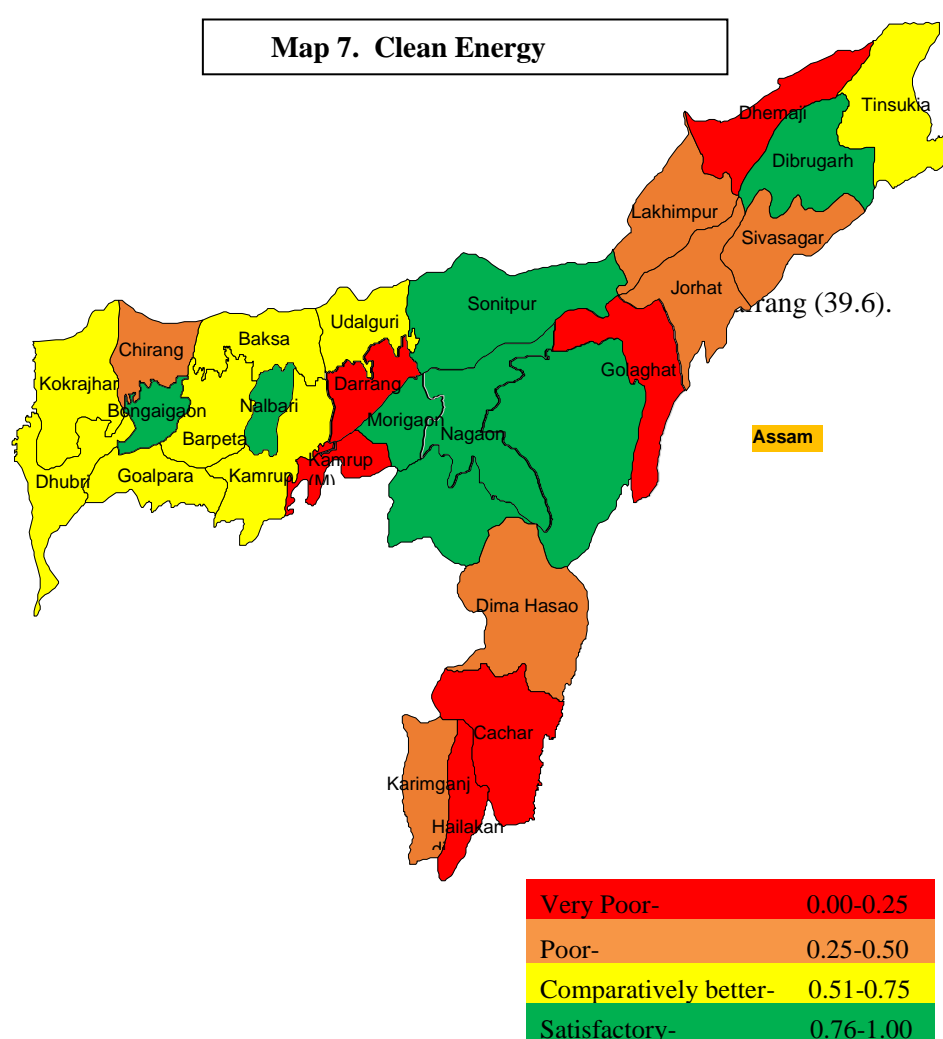
Goal 7: Affordable and Clean Energy



Source: Garv.gov.in

Table 7. Index for Clean Energy

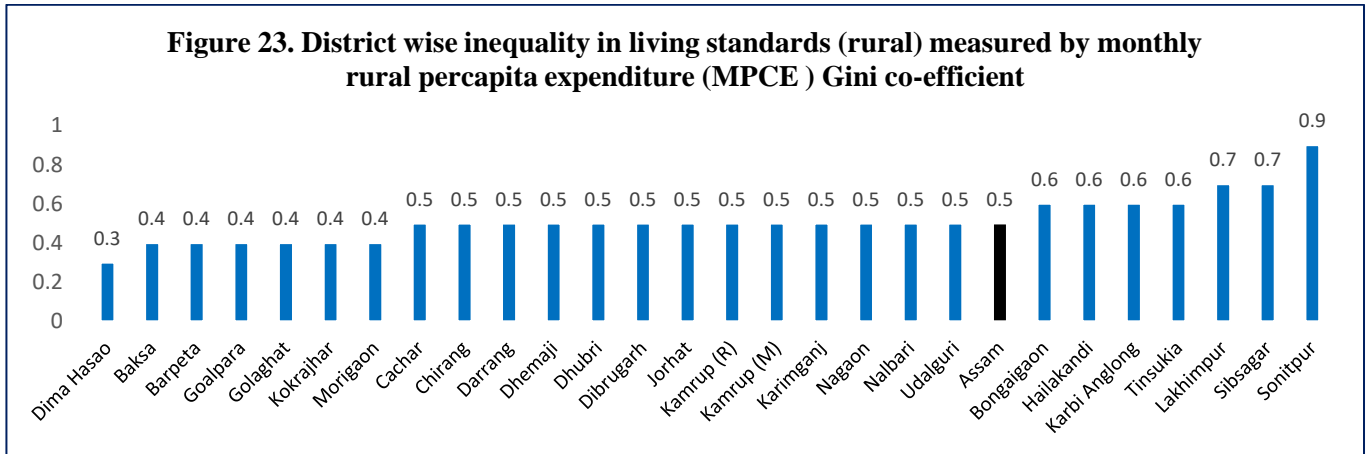
District	Index Score
Hailakandi	0.00
Dhemaji	0.02
Golaghat	0.08
Cachar	0.10
Darrang	0.18
Kamrup Metropolitan	0.22
Sibsagar	0.29
Jorhat	0.30
Chirang	0.37
Lakhimpur	0.42
Dima Hasao	0.44
Karimganj	0.50
Baksa	0.51
Barpeta	0.52
Udalguri	0.55
Dhubri	0.55
Tinsukia	0.57
Kokrajhar	0.58
Kamrup	0.59
Goalpara	0.72
Sonitpur	0.76
Dibrugarh	0.80
Nagaon	0.81
Nalbari	0.82
Karbi Anglong	0.82
Marigaon	0.86
Bongaigaon	1.00



Data on clean energy is drawn from the Rural Electrification Corporation's GARV application. As can be seen from Figure 22, all Assam districts are behind the all-India average² regarding proportion of rural households that are electrified. While the Brahmaputra valley districts present a mixed picture in this respect, all Barak valley districts and Dima Hasao have poor attainments.

² The India data for this indicator is taken from NFHS-4 (2015-16)

Goal 10. Reduce Inequalities



Source: Assam HDR 2014

District	Average Index Score
Sonitpur	0.00
Lakhimpur	0.33
Sibsagar	0.33
Bongaigaon	0.50
Hailakandi	0.50
Karbi Anglong	0.50
Tinsukia	0.50
Cachar	0.67
Chirang	0.67
Darrang	0.67
Dhemaji	0.67
Dhubri	0.67
Dibrugarh	0.67
Jorhat	0.67
Kamrup (M)	0.67
Kamrup (R)	0.67
Karimganj	0.67
Nagaon	0.67
Nalbari	0.67
Udalguri	0.67
Baksa	0.83
Barpeta	0.83
Goalpara	0.83
Golaghat	0.83
Kokrajhar	0.83
Morigaon	0.83
Dima Hasao	1.00

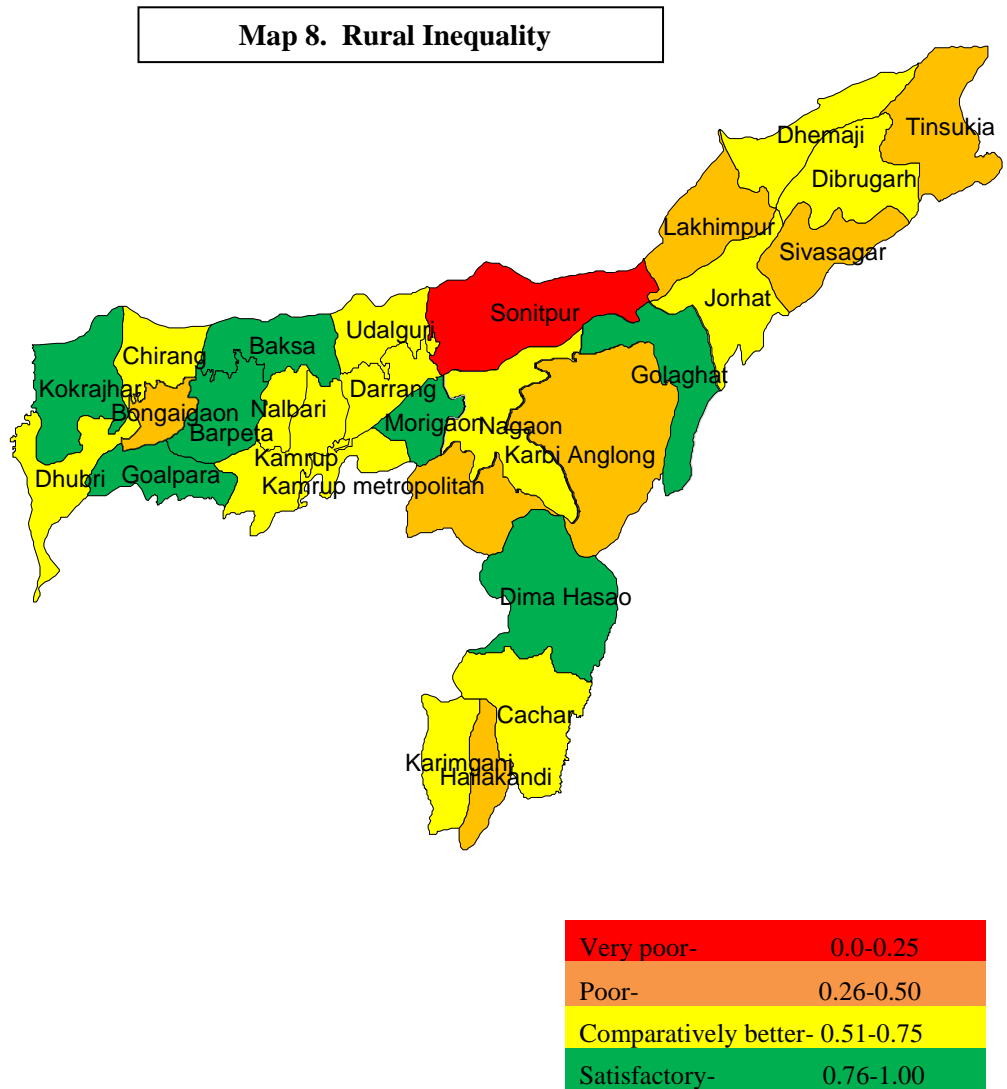
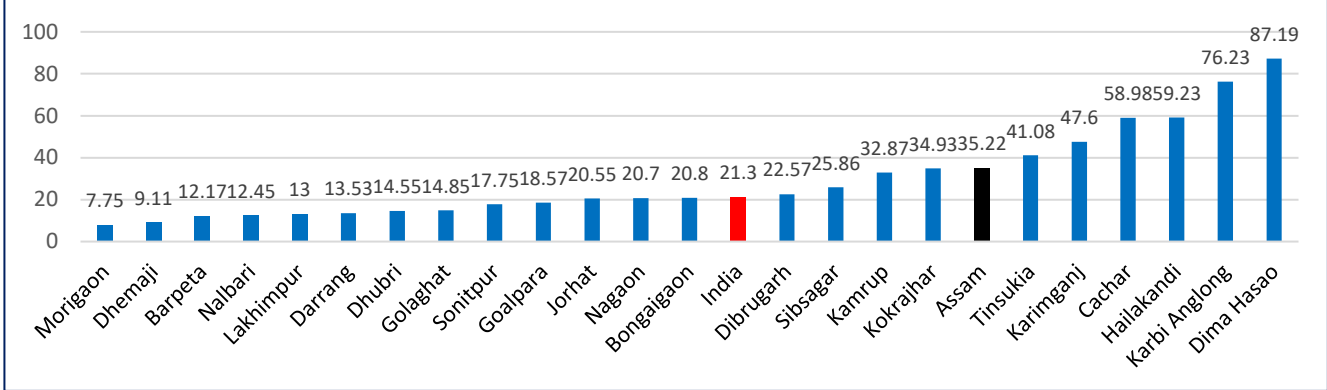


Figure 23 and Map 8 shows a mixed picture for rural inequality as measured by Gini coefficients of monthly rural per capita expenditures. Sonitpur has the highest inequality; while Dima Hasao the least.

Goal 15: Life on Land

Figure 24. District wise proportion of area under forest cover



Source: India State of Forests Report (2015)

Districts	Score index
Morigaon	0.00
Dhemaji	0.02
Barpeta	0.06
Nalbari	0.06
Lakhimpur	0.07
Darrang	0.07
Dhubri	0.09
Golaghat	0.09
Sonitpur	0.13
Goalpara	0.14
Jorhat	0.16
Nagaon	0.16
Bongaigaon	0.16
Dibrugarh	0.19
Sibsagar	0.23
Kamrup	0.32
Kokrajhar	0.34
Tinsukia	0.42
Karimganj	0.50
Cachar	0.64
Hailakandi	0.65
Karbi Anglong	0.86
North Cachar	1.00

Map 9. Life on Land: Forests

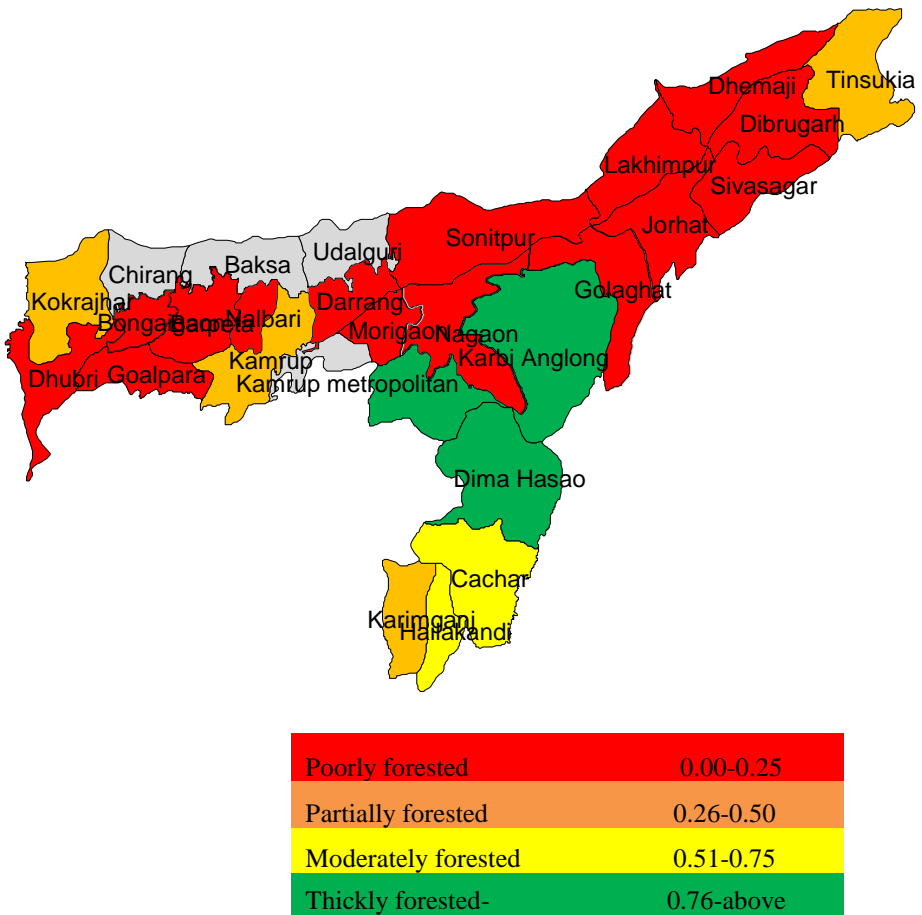
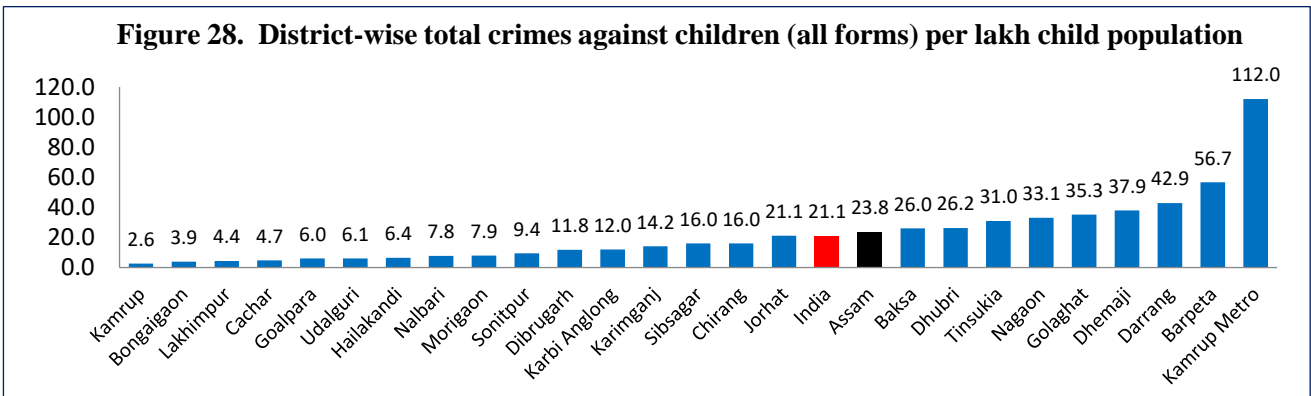
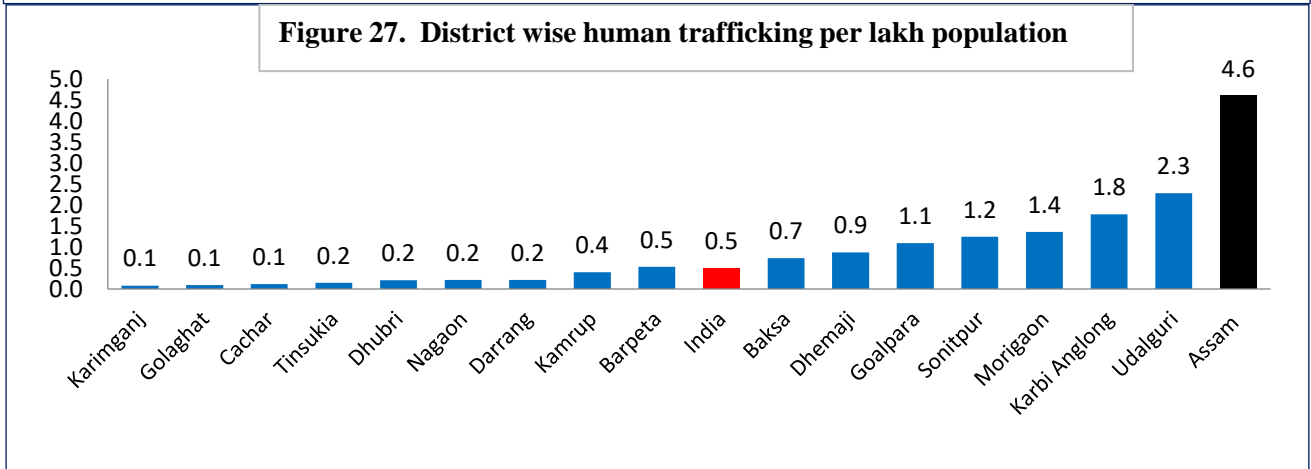
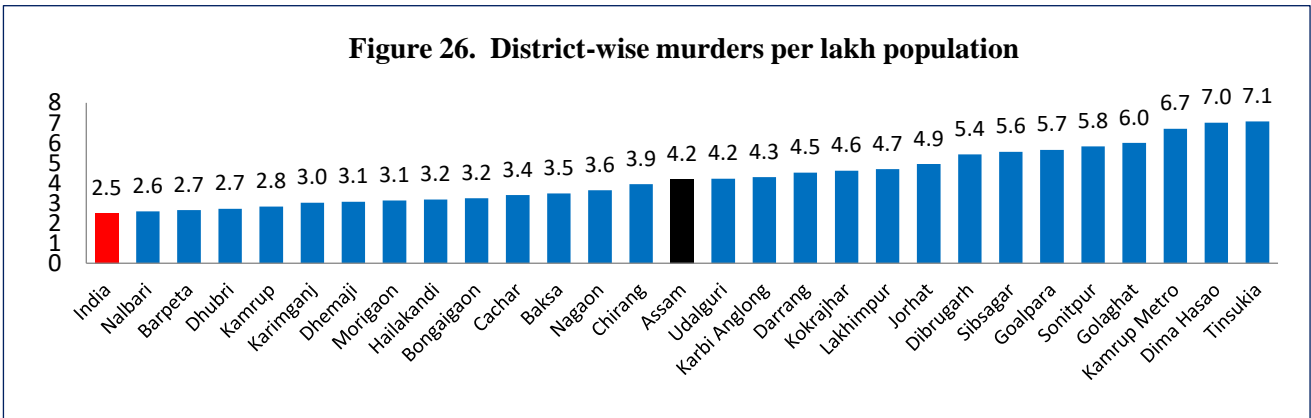
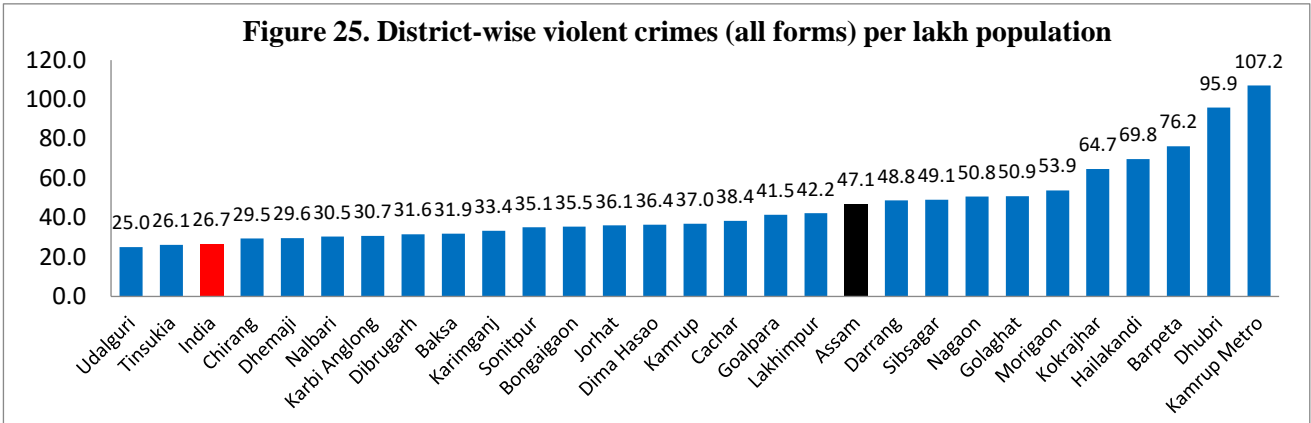
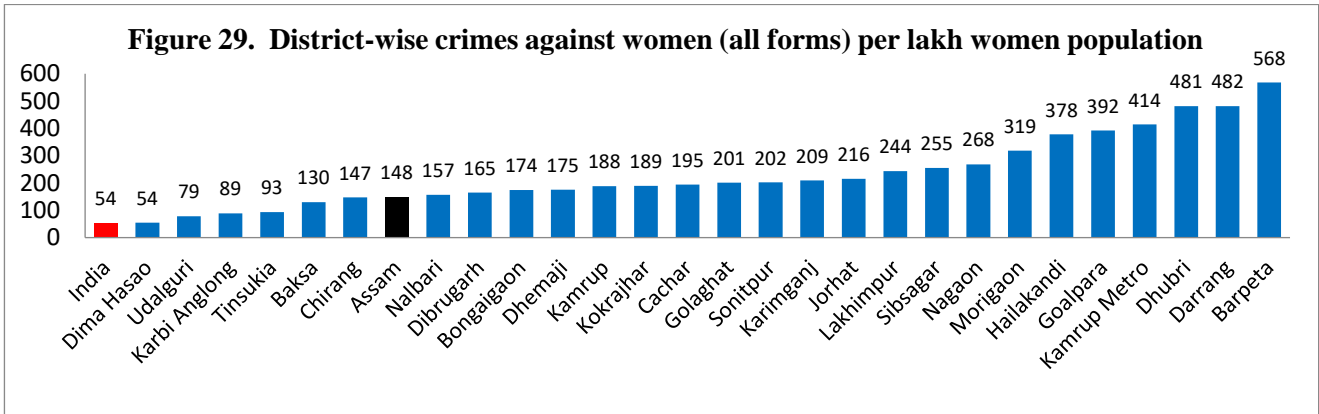


Figure 24 shows the proportion of area in each Assam district covered by forests. The proportion of area under forests in Assam at over 35% well exceeds the India average which is a little over 21%. The SDGs target halting further deforestation and encouraging afforestation. Except for the two hill districts of Karbi Anglong and Dima Hasao, and to a limited extent Barak Valley districts, the status of Brahmaputra Valley districts which have data indicate either a “partially forested” or a “poorly forested” status.

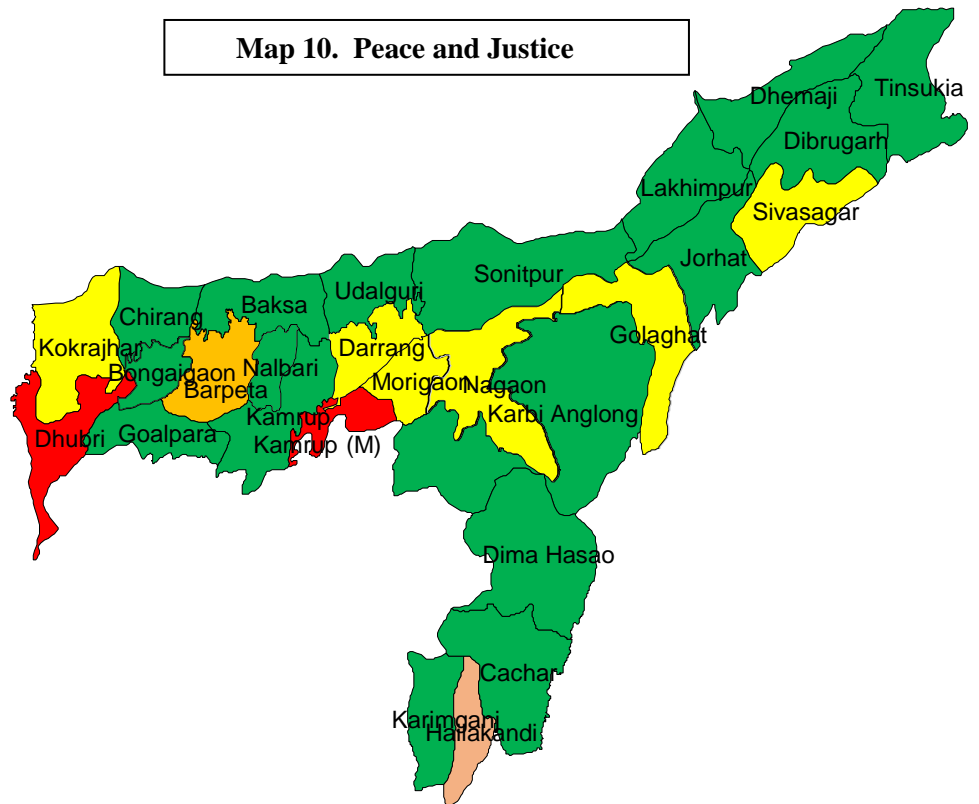
Goal 16: Peace and Justice





Source: Staff estimates using NCRB 2015 and population figures from Census 2011

Districts	Index Score
Kamrup Metro	0.00
Dhubri	0.14
Barpeta	0.38
Hailakandi	0.46
Kokrajhar	0.52
Morigaon	0.65
Golaghat	0.68
Nagaon	0.69
Darrang	0.71
Sibsagar	0.71
Lakhimpur	0.79
Goalpara	0.8
Cachar	0.84
Kamrup Rural	0.85
Dima Hasao	0.86
Bongaigaon	0.87
Jorhat	0.87
Sonitpur	0.88
Karimganj	0.9
Baksa	0.92
Dibrugarh	0.92
Karbi Anglong	0.93
Nalbari	0.93
Dhemaji	0.94
Chirang	0.95
Tinsukia	0.99
Udalguri	1.00



Very poor	0.10-0.28
Poor	0.29-0.51
Comparatively better	0.52-0.78
Satisfactory	0.79-0.92

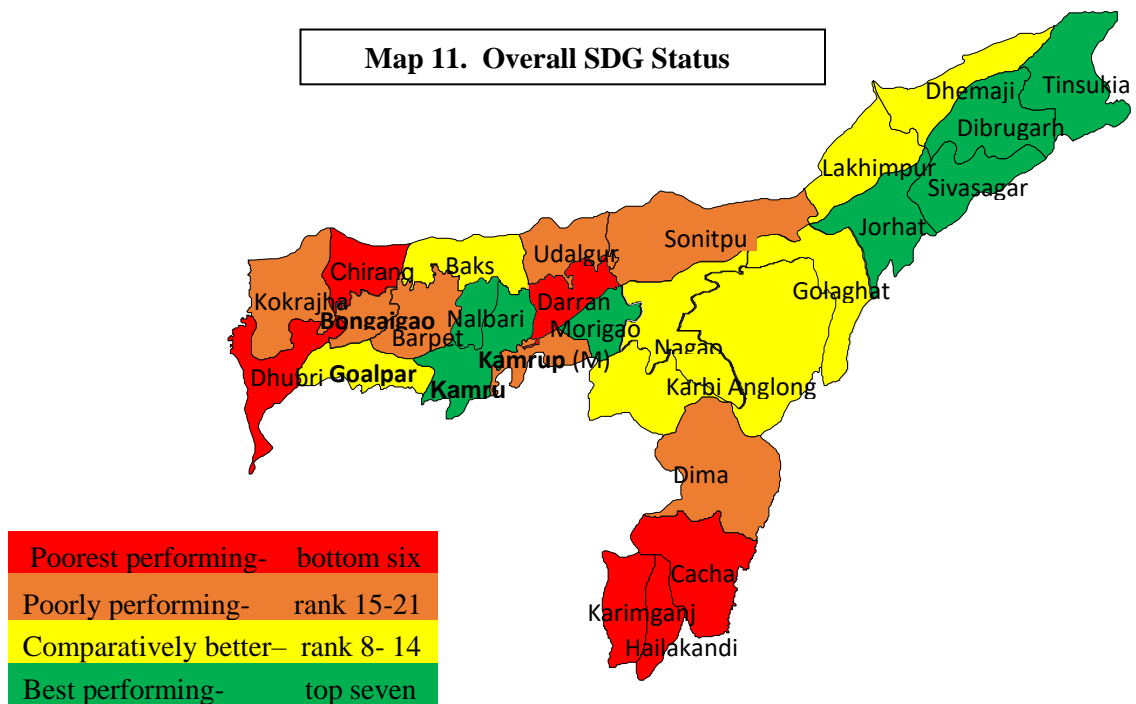
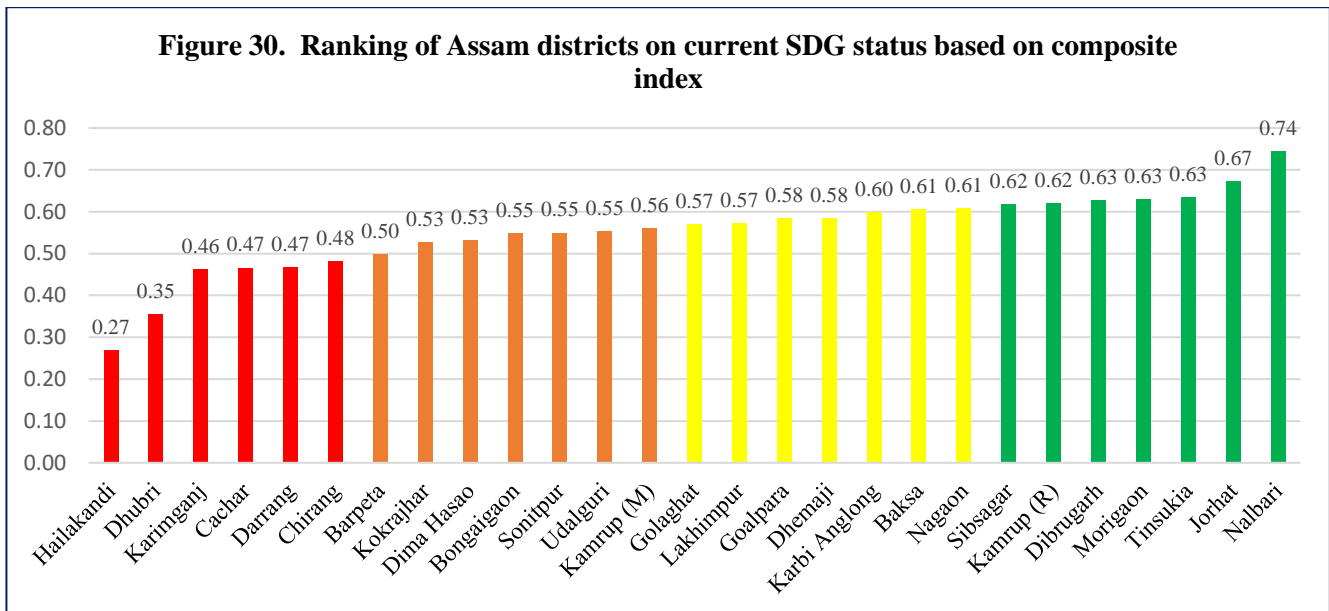
Crime of all types is high in most districts of Assam compared to the all India average as can be seen from the Figures 25 to 29 above. The composite index for Goal 16 is based on the indicator for all violent crimes only as the other indicators are subsets of this indicator. This is presented in Table 10 in index form and Map 10. As expected, crime situation is worst in Kamrup (Metro); it is also very poor in Dhubri and poor in Barpeta and Hailakandi. All districts shown in yellow and green show better performance comparatively in the state context but still more crime affected than the all-India average – except Udalguri and Tinsukia which are better than the all-India average.

3. Overall district rankings based on a composite index

Individual indicators and goals do not provide a total picture on how districts are faring overall on the SDGs. To obtain this overall picture, a composite index is constructed as described in Appendix 1. This composite picture –taking into account all the 10 Goals (Poverty, Hunger, Health, Education, Gender Equality, Water and Sanitation, Clean Energy, Inequality, and Peace and Justice) as presented individually goal-wise in detail in Section 2 above and combined into a single indicator –is now presented in this section. (Note that the indicator on Forests has been excluded as it is not a performance indicator, showing simply the status of proportion of area under forests in each district).

Figure 30 and Map 11 show the inter district position. The bottom 13 districts that have fallen behind the other 14 better performing districts are colour coded in red (the poorest performing) and brown (poorly performing). Golaghat is the median performing district being ranked 14th. The 14 better performing districts including Golaghat are shown in green (the best) and yellow (better).

The Map 11 shows the geographical distribution. Generally, more of the Upper Assam districts and some in the periphery of Guwahati (excepting Kamrup Metro) are performing better; while Barak Valley districts, Dima Hasao and lower Assam districts in the western periphery of the state as well as Darrang, Udalguri, Sonitpur and Kamrup (Metropolitan) are poor performers.



Finally, Table 11 shows the Goal-wise picture for all the districts in a single matrix. This enables the entire Goal-wise disaggregated information for all districts to be viewed together.

This matrix allows an examination of those indicators where a particular district (read along the rows) needs to focus more attention.

Table 11. Matrix showing comparative performance of SDGs and districts									
Districts	Goal -1	Goal-2	Goal-3	Goal-4	Goal-5	Goal -6	Goal-7	Goal-10	Goal-16
Baksa	Red	Yellow	Yellow	Yellow	Green	Yellow	Yellow	Green	Green
Barpeta	Red	Yellow	Green	Yellow	Red	Yellow	Yellow	Green	Green
Bongaigaon	Brown	Green	Red	Yellow	Red	Brown	Green	Brown	Green
Cachar	Brown	Red	Brown	Yellow	Green	Red	Red	Yellow	Green
Chirang	Red	Yellow	Brown	Yellow	Brown	Red	Brown	Yellow	Green
Darrang	Red	Green	Yellow	Yellow	Brown	Yellow	Red	Yellow	Yellow
Dhemaji	Red	Green	Yellow	Yellow	Green	Yellow	Red	Yellow	Green
Dhubri	Red	Red	Yellow	Green	Red	Brown	Yellow	Yellow	Red
Dibrugarh	Brown	Green	Red	Green	Green	Green	Green	Yellow	Green
Dima Hasao	Red	Green	Brown	Green	Brown	Brown	Brown	Green	Green
Goalpara	Red	Red	Yellow	Yellow	Green	Yellow	Yellow	Yellow	Green
Golaghat	Red	Green	Yellow	Green	Brown	Green	Red	Green	Yellow
Hailakandi	Brown	Green	Red	Red	Brown	Red	Red	Brown	Green
Jorhat	Brown	Green	Brown	Green	Green	Green	Brown	Yellow	Green
Kamrup Metro	Green	Yellow	Red	Yellow	Green	Green	Red	Yellow	Red
Kamrup Rural	Red	Yellow	Yellow	Green	Yellow	Green	Yellow	Yellow	Green
Karbi Anglong	Red	Green	Yellow	Yellow	Green	Red	Green	Brown	Green
Karimganj	Red	Green	Red	Yellow	Yellow	Red	Brown	Yellow	Green
Kokrajhar	Red	Yellow	Yellow	Green	Yellow	Brown	Yellow	Green	Yellow
Lakhimpur	Red	Green	Green	Green	Yellow	Yellow	Brown	Brown	Green
Morigaon	Red	Yellow	Green	Yellow	Green	Yellow	Green	Green	Yellow
Nagaon	Red	Yellow	Green	Yellow	Brown	Yellow	Green	Yellow	Yellow
Nalbari	Brown	Green	Green	Green	Yellow	Green	Green	Yellow	Green
Sivasagar	Brown	Green	Yellow	Yellow	Green	Green	Brown	Brown	Yellow
Sonitpur	Red	Yellow	Yellow	Green	Green	Yellow	Green	Red	Green
Tinsukia	Brown	Green	Green	Yellow	Green	Green	Yellow	Brown	Green
Udalguri	Red	Red	Brown	Yellow	Green	Yellow	Yellow	Yellow	Green

The matrix also shows that although in almost all of these 9 SDGs Assam is faring poorly compared to the all-India average and therefore efforts to improve performance on all these Goals is necessary, the SDGs of most concern i.e. where a large number of districts are poorly performing (red and brown colours) include (i) poverty; (ii) health; (iii) gender equality; (iv) water and sanitation; and (v) clean energy. On each Goal too, those districts requiring priority attention are identified (red and brown).

4. Conclusions

The above analysis attempting to present a disaggregated picture of the SDG performance in the state – disaggregated by districts– is based on partially available data only on 10 of the 17 SDGs. Nevertheless, it provides considerable more information and insights to enable better and more focused policy making especially in those districts where performance is falling behind.

In future years, it is intended to generate more data on all the core indicators identified in the Assam Economic Survey 2017 as well as in more categories of disaggregation such as by gender, ethnic characteristics of particularly deprived groups, and pockets of geographical deprivation such as char and border areas and hills. It is also proposed that data will be generated more frequently so that it can assist better policy making for the SDGs.

Appendix 1

Methodology for Developing Composite Indicators

Data has been drawn from various primary and secondary sources for each indicator and a comparative analysis of all the districts has been done. A score index for every goal is generated from the indicators selected to track each respective goal using the following formula:

- 1) **Score index:** First, performance of all districts on each individual indicator is given a score. The score index ($S_{\text{indicator}}$) is given by the following formulae:

For a positively increasing indicator,

$$S_{\text{indicator}} = 1 - ((\text{max}-I)/(\text{max}-\text{min}))$$

For a negatively increasing (declining) indicator,

$$S_{\text{indicator}} = 1 - ((I-\text{min})/(\text{max}-\text{min}))$$

Where “max” is the maximum value of a given indicator across all districts in the sample set; “min” is the minimum value of that indicator in the set of districts, and ‘I’ is the actual data value of an individual district on that indicator. A score of zero implies that the particular district is the poorest performing in the sample; while a score of one indicates that the particular district is the best performing in the sample. This has been used to demonstrate an inter district ranking based on the score index.

- 2) **Goal score:** Next, a **Goal score** is arrived at for each Goal by averaging across the indicator scores under that Goal. For instance, Goal 3 i.e. Good Health and Wellbeing has 4 indicators; all the score indices ($S_{\text{indicator}}$) would be averaged so as to provide equal weight to all indicators within the Goal into a single Goal score.
- 3) **Composite index score:** Finally, averaging all the Goal scores is done to get at the composite index to arrive at a final ranking of the districts based on their performance in all the SDGs.
- 4) **Map and colour coding:** The final ranking of the districts based on their status on all the SDGs is represented in the form of a map with different colour grading representing better performing and relatively poorer performing districts. The map shows inter district inequities based on performance of the districts on the identified 27 indicators of 10 SDGs namely Goals 1,2,3,4,5,6,7,8, 10 and 16. The colour codes show four different categories of performance and the range for each is based on breaking up the composite index values into quartiles (except the overall performance which is based on rankings into four approximately equal groups).
- 5) In the district disaggregated graphs of all the indicator, the bar for Assam has been coloured black and the bar for India has been coloured red. The values of all the indicators for India have been taken from the latest available sources.

The list of indicators used in this chapter are in Appendix Table 1 below.

Appendix Table 1

Goal	Indicator
Goal-1 No Poverty	a) Poverty Head Count Ratio
Goal-2- Zero Hunger	a) Proportion of Children under-5 who are stunted (%) b) Proportion of Children under-5 who are under weight (%) c) Proportion of women (Non Pregnant) within age 15-49 who are anemic (%) d) Proportion of Pregnant women within the age 15-49 who are anemic
Goal-3 Good Health & Well Being	a) Maternal Mortality Ratio (MMR) b) Infant Mortality Rate (IMR) c) Under-five Mortality Rate (U5MR) d) Proportion of births attended by trained medical personnel (%)
Goal-4 Quality Education	a) % of Dropout rate at Lower Primary Level b) % of Dropout rate at Upper Primary Level c) Net Enrolment Ratio at Upper Primary level d) % Schools with separate Girls' toilet e) % Schools with separate Boys' toilet

	f) % Schools with drinking water facilities
Goal-5 Gender Equality	a) Proportion of women within the age 20-24 years getting married before the age of 18 years (%) b) Proportion of women within 15-19 years who are mothers or pregnant (%) c) Ratio of female to male literacy (15-24 years) d) Ratio of female to male work Participation rate
Goal-6 Clean Water & Sanitation	a) % Households with improved drinking water facilities b) % Households with improved sanitation facilities
Goal-7 Affordable Clean Energy	a) % Households using electricity as the primary source of lighting (Rural)
Goal-10 Inequality	a) Gini coefficient of monthly percapita rural expenditures
Goal-15 Life on land	a) Proportion of area under forests (%)
Goal-16 Peace and Justice	a) Total violent crimes (all forms) per lakh population b) Murders per lakh population c) Crimes against children (all forms combined) per lakh children d) Cases reported of crimes against women per lakh female population