

GOVERNMENT OF ARUNACHAL PRADESH



ECONOMIC REVIEW

OF

ARUNACHAL PRADESH

1999

**DIRECTORATE OF ECONOMICS AND STATISTICS
GOVT. OF ARUNACHAL PRADESH
ITANAGAR – 791113**

**338.954163
ARU 99**

P R E F A C E

The publication "Economic Review of Arunachal Pradesh – 1999 is the 11th issue of its kind annually published by the Directorate of Economics and Statistics, Govt. of Arunachal Pradesh. The 1998 issue of the publication could not be brought out due to inordinate delay in receipt of data. However attempt has been made to incorporate the previous years data in the present issue. The main objective of the publication is to provide an insight view of the economic situation in the state. Efforts are also made to review and analyse the current year's data with that of past year's to highlight the trends of achievement in different sectors of the economy of the state.

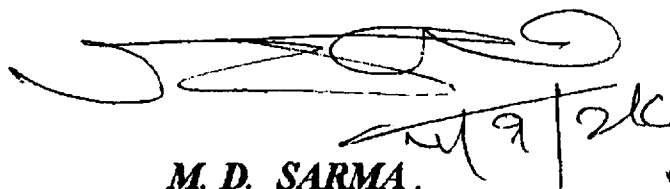
The co-operation extended by various departments/organisations in providing requisite data/information is gratefully acknowledged.

I avail this opportunity to put in record my appreciation and thanks for the hard and sincere efforts made by Shri K. Choudhury Research Officer, Shri R. P. Kalwar, Inspector of Statistics in collection, compilation and analysis of the data as well as drafting and editing the publication.

Suggestions for improvement of this publication is most welcome.

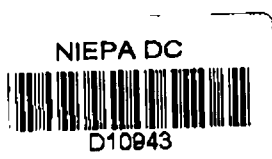
Place - Itanagar

Date the 4th Sept'2000



M. D. SARMA,
DIRECTOR

*Directorate of Economics & Statistics,
Govt. of Arunachal Pradesh,
Itanagar.*



LIBRARY & DOCUMENTATION Centre

National Institute of Education
Planning and Administration.

7-B, Sri Aurobindo Marg,

New Delhi-110016

DOC, No..... D-10943

Date..... 04-01-2001

CONTENTS

Page No.

| | | |
|-----|---|-------|
| i. | Preface | |
| 1. | General Appraisal | 1-3 |
| 2. | Population | 4-6 |
| 3. | State Domestic Product | 7-11 |
| 4. | Agriculture | 12-17 |
| 5. | Horticulture | 17-18 |
| 6. | Veterinary and Animal Husbandry | 19-21 |
| 7. | Fisheries | 22-24 |
| 8. | Environment and Forest | 24-25 |
| 9. | Soil and Water Conservation | 25 |
| 10. | Irrigation and Flood Control | 26-27 |
| 11. | Rural Development and Panchayat Raj | 27-31 |
| 12. | Co-operation | 31-33 |
| 13. | Public Distribution System | 33-34 |
| 14. | Transport and Communication | 34-37 |
| 15. | Power | 38 |
| 16. | Industry | 39-42 |
| 17. | Education and Human Resources Development | 43-46 |
| 18. | Medical and Public Health/Family Welfare | 47-49 |
| 19. | Water Supply and Sanitation | 49-50 |
| 20. | Social Welfare | 50-51 |
| 21. | Economic Census | 52-54 |
| 22. | Manpower and Employment | 55-57 |
| 23. | Banking and Institutional Finance | 57-59 |
| 24. | Budget and Public Finance | 59-61 |

CHAPTER - 1**GENERAL APPRAISAL**

Arunachal Pradesh, the erstwhile North East Frontier Agency (NEFA) has reached the stage of present set-up through a gradual process of constitutional changes. On 21st January 1972, the NEFA was made a Union Territory with the new name of Arunachal Pradesh and placed under the charge of a Chief Commissioner. The territory was bestowed with legislative power with effect from 15th August, 1975. Arunachal Pradesh attained its present statehood status on 20th February, 1987

The State covering a geographical area of 83,743 Sq. Km. accounts for about 2.55% of the total area of the country (32.88 Lakhs Sq. Km.). The State is bounded by China (Tibet) in the North, Myanmar in the East and Bhutan in the West. It has a common border with Nagaland in the East and South-East and Assam in the South. It falls in the outer Himalayas and Patkai range and is vivisected by innumerable rivers and streams flowing to the Brahmaputra in Assam. The major rivers are Kameng, Subansiri, Siang, Dibang, Lohit, Diyun and Dihing.

The State is endowed with rich natural resources like forests in green mountain ranges and water wealth in its numerous rivers and streams. The vegetative cover of the state has been thinned out in number of places due to shifting cultivation, rapid deforestation to meet the need of growing population, natural disaster etc. Out of total geographical area of 83,743 Sq. Km. of the state nearly 51,540 Sq. Km. (62%) has been reported to be under forest cover.

The long isolation and inaccessibility of the areas posed formidable constraints to the efforts for socio-economic development. However, with the introduction of economic planning in Independent India, the wheels of progress in this region have gained steady momentum during the successive Five Year Plans. The outlay approved for Ninth Five Year Plan (1997-2002) was Rs.3570 crores compared to Eighth plan of Rs 1729 crores, Seventh Plan Rs. 552 crores, Sixth Plan Rs. 223 crores, Fifth Plan Rs. 63 crores, Fourth Plan Rs. 18 crores, Third Plan Rs. 7 crores, Second Plan Rs. 5 crores and Ist Plan Rs. 3 crores. The outlay approved for the Ist two years of Ninth Plan i.e. 1997-98 and 1998-99 were Rs517 crores(Revised) and Rs.471 crores(Revised) respectively.

The Net State Domestic Product (NSDP) of Arunachal Pradesh for the year 1998-99, according to the quick estimates was Rs. 1348.52 lakhs at current prices and Rs 936.56 lakhs at constant prices. As compared to the previous year; it indicates a growth of the NSDP by 13.0 per cent at current prices and 6.5 per cent at constant prices.

The Per Capita Income of the state for the year 1998-99 (Q) was estimated at Rs. 12929 at current prices and Rs. 8979 at constant prices (base year 1993-94). The corresponding figures for the year 1997-98 (P) were Rs. 11738 and Rs.8741 respectively. The per capita income also rose by 10.01 per cent at current prices and 3.9 per cent at constant prices over the figures of preceding year 1997-98 (P). The quick estimates at current prices during 1998-99 indicates increasing economic trend by 13.0 % over previous year 1997-98(P).

The economy of the state is largely agrarian. Agriculture occupies the most dominant position in the economy of Arunachal Pradesh since agriculture continues to be the main occupation of this majority of the people of the state. Agriculture provides direct employment to about 67% of the total main workers of the state. Agriculture in the state is mainly dependent on monsoons. In the year 1998-99 the production of food grains was of 2.94 lakhs MT which is decreased by 7.55% over the previous year's (1997-98) production of 3.18 lakhs MT. The production of Rice decreased by about 2.30 %, that of Wheat by 33.33 and in case of Millets, and sugar cane it showed a decrease of 11.11% and 6.25% respectively during 1998-99 over 1997-98. The production of Pulses and potato has not shown any trend of increase or decrease whereas output of Oilseeds showed an increasing trend during 1998-99 over 1997-98.

The varied agro-climatic condition in Arunachal Pradesh are conducive for horticulture. Nearly 34817 hectares of area was brought under fruit plants which indicates over 4.06% increase in area coverage compared to previous year 1997-98. During 1998-99 the horticultural crop production was 93582 MT as against 89813 MT in 1997-98.

Live stock plays pivotal role in the agrarian economy of the state. As per live stock census conducted during 1992-93, the total live stock population in the state was 9,59,416. The total poultry was 11,72,245. Total milk produced during 1998-99 was 44500 MT as against 44,000 MT in 1997-98. The production of eggs in 1998-99 was 34.50 Million number compared to 3400 Million in 1997-98. In the case of Wool, 58,800 Kg. was produced during 1998-99 compared to 58,600 Kg. in 1997-98.

The state has vast potential of culturable water area. It is estimated as much as 7200 hectares of which 3516 hectares were brought under systematic fish culture by 1998-99. The production of fish registered an increase of about 8.03% in 1998-99 over 1997-98. The production of Fry (fish seed) also increased from 24.00 Million in 1997-98 to 24.50 Million in 1998-99 recording a rise by 2.08 %.

In the sphere of rural electrification, nearly 64 % villages of the state have been covered upto the end of March, 1999 by electrifying 2334 villages out of 3649 villages as per 1991 census. The installed capacity of power in state stood at 30.735 MW hydel and 24.770 MW from diesel set during 1998-99. The overall power supply position in the state is inadequate to meet the growing requirements. Under liberalised economic policy, the state government is also looking for private sector involvement in generation of hydel power in the state.

As at the end of March, 1999, the state had a total road length of 13424 Km road of which 270.68* Km is National Highway. The state was brought under railway map of India for the first time with the opening of Balipara-Bhalukpong metre gauge line on 27.1.89. The Arunachal Pradesh Govt. also introduced Civil communication flight services through Pawan Hans Helicopter Ltd. (A Govt. of India enterprise) with effect from 9th December, 1995 as a first step towards the effort for development of air communication. The total Bus route covered by State Transport Department was only 141 with 231 strength of Bus fleet during 1998-99. At the end of March, 1999, there were 294 Post Offices, 81 Telephone Exchanges. The area served by one post office in Arunachal Pradesh is 296 Sq. Km. whereas the All India average is 22 Sq. Km. (1990-91).

There were 99 Bank Branches at the end of March, 1999 with a deposit of Rs. 55874.00 lakhs and advances made was Rs. 10754.00 lakhs.

Inadequacy of infrastructural facilities like road, power, institutional finance etc. stood as hindrances to accelerate the process of industrialisation in the state. At the end of March, 1999, there were 18 Medium scale Industries in addition to one Mini Cement Plant, one Fruit Processing unit, a Citronella Oil Industry and one Tea Industry and 4546 Small Scale registered units. As many as 14539 persons were employed in these Industries as on 31-3-99 in the state

*Figure as on 31st March 1998

The work participation rate to total population registered a declining trend in last three census i.e. 1971, 1981 and 1991 such as 57.60%, 52.69% and 46.24% respectively. Though the cultivators constitute the major chunk of workers, their decadal rise during 1971-81 and 1981-91 had been only 5.69% and 5.83%. There is alarming rise in the number of agricultural labourer by 60% and 150% during these two decades. The proportion of decadal rise in the number of worker in non-agricultural activities are 92.45% and 41.18% respectively. This trend is not only indicative of hidden unemployment in the agricultural sectors but also leads to the conclusion that much avenues of employment were created in non-agricultural sectors during these two decades. Though 67% of total workers according to 1991 census engaged in agricultural activities who contribute to only 29% of the state domestic product which is indicative of under-employment in the agricultural sector and might be the reason of shifting of agrarian population to other economic pursuits.

The educated unemployment is not so alarming in Arunachal Pradesh as compared to the rest of the country. The trend of registration of job seekers remained more or less static over last few years. However the employment exchange data has got its limitation as many of the unemployed youth may not register their names with the Employment Exchange. The government department is the main source of absorption.

The government is pursuing a number of programme for increasing employment opportunities. Employment provided under "Employment Assurance Scheme(EAS)" has generated 38.29 lakhs mandays during the year 1998-99. As many as 2.97 and 3.96 lakhs mandays of employment were generated during 1997-98 and 1998-99, respectively under "Jawahar Rozgar Yojana(JRY)".

4
CHAPTER - 2

POPULATION

According to 1991 census, Arunachal Pradesh has a population of 8,64,558 persons consisting of 4,65,004 males and 3,99,554 females. The State is predominantly inhabited by Scheduled Tribes which constitute 63.66 percent of the total population. Arunachal Pradesh has 0.10 percent of the All India Population of 8463.03 lakhs. The decennial growth rate of the population between 1981-91 shows that the population of the State increased by 36.83% as against an increase of 23.50 % at All India level.

The density of population in Arunachal Pradesh as per 1991 census is 10 persons per sq. km. which is lowest density among the States. Among the States, West Bengal has the highest density at 766 persons which is also higher than the All India Density of 267 persons per sq. km.

In 1961 census, entire Arunachal Pradesh was treated as rural. In 1971 census, four district Hqs viz., Bomdila, Tezu, Along and Pasighat declared as urban area. There had been an addition of two more urban area viz., Naharlagun (Old Itanagar) and Itanagar in 1981. In 1991 census, four more places viz., Namsai, Roing, Khonsa and Ziro are declared as urban area. As many as 7.54 lakhs (87.2%) reside in rural areas and remaining 1.11 lakhs (12.8%) reside in urban areas. The degree of urbanisation has substantially improved in 1991 as compared to 1971. The trend is towards more and more urbanisation. The percentage of urban population to total population was 3.70 % in 1971 and increased to 12.80% in 1991.

The sex ratio i.e. number of females per thousand males is found to be 859 in 1991 which has declined from 862 in 1981 census. The sex ratio in Arunachal Pradesh is much lower than the All India average of 929.

According to 1991 census, percentage of literacy to total population in the State is 41.59 as against 52.11 at All India level. Of the total literate population, 67.6% are males and 32.4% are females. The literacy rate was 11.29% and 20.79% in 1971 and 1981 census. From the literacy rate of different census it reflects that the high trend of literacy is being attained which signifies that the educational amenities being reached to the people gradually. Table below shows some important features of the population of Arunachal Pradesh and India.

**ROWTH OF POPULATION, DENSITY AND LITERACY
IN ARUNACHAL PRADESH AND INDIA**

Table No. 2.1

| Particulars | 1971 CENSUS | | 1981 CENSUS | | 1991 CENSUS | |
|---|------------------|------------------|------------------|------------------|------------------|------------------|
| | India | AP | India | AP | India | AP |
| 1. Population (in lakhs) | 5481.60 | 4.68 | 6833.29 | 6.32 | 8463.03* | 8.65 |
| 2. Decennial Percentage variation of population | 24.80 (61-71) | 38.91 (61-71) | 24.66 (71-81) | 35.04 (71-81) | 23.50 (81-91) | 36.87 (81-91) |
| 3. Density of population (per sq. km) | 171 | 6 | 216 | 8 | 267 | 10 |
| 4. Percentage of urban population to total population | 19.91 | 3.70 | 23.34 | 6.56 | 25.72 | 12.80 |
| 5. Literacy (%) | 29.34 | 11.29 | 43.56 | 20.79 | 52.11 | 41.59 |
| 6. Sex Ratio (females per 1000 males) | 930 | 861 | 933 | 862 | 929 | 859 |

* Includes projected figures of Jammu & Kashmir.

The total number of main workers according to the 1991 census was 390976 constituting 45.22% of total population. The percentage of marginal workers and non-workers to total population of 1991 census was 1.02% and 53.76%. The corresponding percentage to total population of 1981 census for main workers was 49.61%, marginal workers 3.02% and non-workers 47.37%. The significant feature of the composition of work force is that the percentage of cultivators and agricultural labourers together has decreased from 73.75%(1981) to 65.49%(1991) with corresponding rise in workers proportion with household and other industries.

DISTRIBUTION OF POPULATION BY MAIN WORKERS, MARGINAL WORKERS AND NON-WORKERS - 1991 CENSUS

Table No.2.2

| District | Population | Main workers | Marginal workers | Non workers | Percentage of main workers to total population |
|--------------------------|---------------|---------------|------------------|---------------|--|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1. Tawang | 28287 | 15629 | 101 | 12557 | 55.25 |
| 2. W/Kameng | 56421 | 24526 | 343 | 31552 | 43.46 |
| 3. E/Kameng | 50395 | 25088 | 497 | 24810 | 49.78 |
| 4. L/Subansiri | 83167 | 41205 | 477 | 41485 | 49.54 |
| 5. Papum Pare | 72811 | 29086 | 202 | 43523 | 39.94 |
| 6. U/Subansiri | 50086 | 22736 | 997 | 26353 | 45.39 |
| 7. E/Siang | 99643 | 43539 | 657 | 55447 | 43.69 |
| 8. W/Siang | 89936 | 38638 | 160 | 51138 | 42.96 |
| 9. D/Valley | 43068 | 19538 | 175 | 23355 | 45.37 |
| 10. Lohit | 109706 | 46021 | 2384 | 61301 | 41.95 |
| 11. Changlang | 95530 | 41552 | 1946 | 52032 | 43.50 |
| 12. Tirap | 85508 | 43418 | 867 | 41223 | 50.78 |
| Arunachal Pradesh | 864558 | 390976 | 8806 | 464776 | 45.22 |

DISTRIBUTION OF MAIN WORKERS BY CULTIVATORS, AGRICULTURAL LABOURERS, HOUSEHOLD INDUSTRY AND OTHER WORKERS - 1991-CENSUS

Table No.2.3

| District | Main workers | Cultivators | Agricultural labourers | Household Industries | Other workers |
|--------------------------|---------------|---------------|------------------------|----------------------|---------------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1. Tawang | 15629 | 8084 | 911 | 49 | 6585 |
| 2. W/Kameng | 24526 | 10615 | 942 | 178 | 12791 |
| 3. E/Kameng | 25088 | 19234 | 385 | 33 | 5436 |
| 4. L/Subansiri | 41205 | 33006 | 498 | 59 | 7642 |
| 5. Papum Pare | 29086 | 10717 | 1245 | 39 | 17085 |
| 6. U/Subansiri | 22736 | 15457 | 225 | 87 | 6967 |
| 7. W/Siang | 38638 | 25069 | 843 | 53 | 12673 |
| 8. E/Siang | 43539 | 25213 | 4325 | 47 | 13954 |
| 9. D/Valley | 19538 | 7378 | 3757 | 22 | 8381 |
| 10. Changlang | 41552 | 25951 | 3839 | 77 | 11685 |
| 11. Lohit | 46021 | 23704 | 2808 | 87 | 19422 |
| 12. Tirap | 43418 | 31559 | 276 | 11 | 11572 |
| Arunachal Pradesh | 390976 | 235987 | 20054 | 742 | 134193 |

Work participation rate to total population during last three census, i.e. 1971, 1981 and 1991 has shown as 57.60%, 52.69% and 46.24% respectively which registered a gradual decline. This might be due to the penetration of educational system resulting in the rise of number of students who are recorded as non-workers during the census.

PARTICIPATION RATE OF WORKERS AND NON-WORKERS TO TOTAL POPULATION IN ARUNACHAL PRADESH DURING LAST THREE CENSUS:

Table No. 2.4

| Indicator | Unit | 1971 Census | 1981 Census | 1991 Census |
|---|-----------------------|----------------|----------------|----------------|
| 1 | 2 | 3 | 4 | 5 |
| 1. Total workers (including marginal workers). | No. in lacs | 2.69 | 3.33 | 4.00 |
| (a) Cultivators | -do- | 2.11 | 2.23 | 2.36 |
| (b) Agricultural Labourers | -do- | 0.05 | 0.08 | 0.20 |
| (c) Other than cultivator and agricultural labourers | -do- | 0.53 | 1.02 | 1.44 |
| 2. Total non-workers | -do- | 1.98 | 2.99 | 4.65 |
| 3. Work participation rate to total population | %(PC) | 57.60 | 52.69 | 46.24 |
| 4. Non-worker participation rate to total population | -do- | 42.40 | 47.31 | 53.76 |
| 5. Decadal percentage rise of different category of workers | %Variation (+) or (-) | -- | - | - |
| (a) Total workers | -do- | -- | +23.79 | +20.12 |
| (b) Agricultural labourers | -do- | -- | +60.00 | +150.00 |
| (c) Cultivators | -do- | -- | +5.69 | +5.83 |
| (d) Other than cultivators and agricultural labourers | -do- | -- | +92.45 | +41.18 |

CHAPTER - 3

STATE DOMESTIC PRODUCT

State Domestic Product (SDP) - popularly known as State Income is one of the most important indicators to measure economic growth of a state. It shows the level of Macro-Economic aggregates of the economic activities of the state valued in economic terms

The scheme of preparation of the estimates of State Domestic Product in Arunachal Pradesh was started from 1974 and is being annually computed by this Directorate of Economics and Statistics as per methodology and guidelines provided by the Central Statistical Organization (CSO), New Delhi. At the initial stage, the estimates of SDP was based on 1970-71 series and it is available from 1970-71 to 1985-86. Revised series with bench mark year 1980-81 has also been published from 1980-81 to 1995-96. Due to shifting of bench mark year 1980-81 to 1993-94 by the Central Statistical Organisation, New Delhi the latest base year is 1993-94. Now the estimates of SDP is available from 1993-94 to 1998-99 (Q).

The estimates of SDP and related aggregates are shown in the following table:

STATE DOMESTIC PRODUCT AND RELATED AGGREGATES OF ARUNACHAL PRADESH BOTH AT CURRENT AND CONSTANT PRICES (New Series 1993-94 to 1998-99(Q)).

Table No. 3.1

| Sl. No | Aggregates | Unit | 1993-94(R) | | 1994-95(R) | | 1995-96(R) | | 1996-97(R) | | 1997-98(P) | | 1998-99(Q) | |
|--------|--|--------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|
| | | | At current Prices | At constant prices | At current Prices | At constant prices | At current Prices | At constant prices | At current prices | At constant prices | At current Prices | At constant prices | At current Prices | At constant prices |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 1. | Gross State Domestic Product | Rs. in crore | 872.47 | 872.47 | 966.44 | 882.71 | 1179.97 | 1007.63 | 1207.91 | 958.04 | 1353.01 | 996.19 | 1541.67 | 1071.81 |
| 1.1 | Annual Growth Rate | % | -- | -- | 10.8 | 1.2 | 22.1 | 14.2 | 2.4 | (-) 4.9 | 12.0 | 4.0 | 13.9 | 7.6 |
| 1.2 | Index (1993-94 = 100) | - | -- | -- | 110 | 101 | 135 | 115 | 138 | 110 | 155 | 114 | 176 | 123 |
| 2 | Net State Domestic product | Rs. in crore | 788.10 | 788.10 | 869.50 | 793.62 | 1067.09 | 911.34 | 1078.43 | 856.64 | 1193.79 | 889.01 | 1348.52 | 936.56 |
| 2.1 | Annual Growth Rate | % | -- | -- | 10.3 | 0.7 | 22.7 | 14.8 | 1.1 | (-) 6.0 | 10.7 | 2.6 | 13.0 | 6.5 |
| 2.2 | Index (1993- 94 = 100) | - | -- | -- | 110 | 101 | 135 | 116 | 137 | 109 | 151 | 113 | 171 | 119 |
| 3 | Per capita NSDP at factor cost | Rs. | 8557 | 8557 | 9211 | 84.07 | 11035 | 9424 | 10871 | 8635 | 11738 | 8741 | 12929 | 8979 |
| 3.1 | Annual Growth Rate | % | -- | -- | 7.6 | (-) 1.8 | 19.8 | 12.0 | (-) 1.5 | (-) 8.4 | 8.0 | 0.1 | 10.1 | 3.9 |
| 4 | Per capita Net National Product at factor cost (NNP) | Rs. | -- | -- | 9178 | 8357 | 10525 | 8819 | 12099 | 9377 | 13193 | 9660 | NA | NA |
| 4.1 | Annual Growth Rate | % | -- | -- | -- | -- | 14.7 | 5.5 | 15.0 | 6.3 | 9.0 | 3.0 | -- | -- |

The Quick Estimates prepared for year 1998-99 (Q) includes Revised estimates from 1993-94 to 1996-97 and provisional estimates of 1997-98. The new bench mark year 1993-94 reveal that the Gross State Domestic Product (GSDP) of Arunachal Pradesh for the year 1997-98 and 1998-99 at current prices are Rs. 1303.01 crores and Rs 1541.67 crore respectively and at constant prices are Rs. 966.19 crores and Rs 1071.81 crore compared to GSDP of 1993-94 as Rs. 872.81 crores. At current prices, the annual growth of GSDP recorded as 12.0% during 1997-98 and 13.9% in 1997-98 as against 2.4% during 1996-97 and 12.0% in 1997-98 respectively. At constant price estimate indicates negative results due to decrease of production in some sectoral estimates and in it has been increased with a negligible margin rate but price remain constant.

The Net State Domestic Product (NSDP) of Arunachal Pradesh for 1997-98(P) and 1998-99(Q) have been estimated at Rs 1193.79 crore and Rs 1348.52 crore respectively at current price. Rs 889.01 crore and Rs 936.56 crore estimated at constant price for the year 1997-98 and 198-99 respectively. Accordingly the Annual growth rate recorded are 10.7% and 13.0% at current price. Growth of 2.6% and 6.5% have been recorded at constant price for the year 1997-98 and 1998-99 respectively.

The per capita NSDP (Income) of the State has been estimated at current price Rs 11738.00 during the year 1997-98 and Rs 12929.00 in 1998-99. At constant price the per capita income is Rs 8741.00 and Rs 8979.00 during the year 1997-98 and 1998-99 respectively

THE BROAD SECTORAL CONTRIBUTIONS TO NET STATE DOMESTIC PRODUCT FOR 1997-98(P) and 1998-99(Q) ESTIMATES ARE AS FOLLOWS:

Table No. 3.2

| Sector | NSDP 1997-98(P) and 1998-99(Q) (Rs. in crores) | | | | Percentage growth over previous year | | | |
|--------------------|---|--------------------------|-------------------------|--------------------------|---|--------------------------|-------------------------|--------------------------|
| | 1997-98 | | 1998-99 | | 1997-98 | | 1998-99 | |
| | At Current Prices | At Constant Prices | At Current Prices | At Constant Prices | At Current Prices | At Constant Prices | At Current Prices | At Constant Prices |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1.Primary Sector | 531.35 | 401.21 | 557.00 | 394.39 | 11.6 | 4.6 | 4.8 | (-) 1.7 |
| 2.Secondary Sector | 190.72 | 147.08 | 277.21 | 197.08 | (-) 44.5 | (-) 2.3 | 45.3 | 43.8 |
| 3.Tertiary Sector | 471.72 | 340.72 | 514.31 | 345.09 | 31.5 | 20.6 | 9.0 | 1.3 |
| TOTAL (NSDP) | 1193.79 | 889.01 | 1348.52 | 936.56 | 10.79 | 3.8 | 12.96 | 5.35 |

The Primary Sector's contribution records 44.50% at current prices and 45.12% at constant prices to the total NSDP of 1997-98 and 41.30% at current price and 42.12% at constant price are recorded to the total NSDP of 1998-99. The Secondary Sector contributes 15.94% at current price 16.54% at constant price to the total NSDP of 1997-98 20.56% at current price and 21.04% at constant prices are recorded to the total of NSDP of 1998-99.

The Tertiary sector shares 39.5% at current price and 38.2% at constant prices of the total NSDP for the year 1997-98. Its shares are 38.14% at current price and 36.85% at constant prices of the total NSDP 1998-99.

The Quick Estimates indicate economic trend by 10.79% at current prices and 3.8% at constant prices during the year 1997-98 whereas in the year 1998-99 the trend is 12.96% and 5.35% at current and constant prices respectively.

The sector wise estimates of NSDP in Arunachal Pradesh for the years from 1993-94 to 1998-99(Q) both at current and constant prices are shown in the following table.

**NET STATE DOMESTIC PRODUCT OF ARUNACHAL PRADESH AT FACTOR
COST BY INDUSTRY OF ORIGIN AT CURRENT PRICES**

Table No. 3.3

(Rs. In Lakh)

| INDUSTRY | 1993-94 (R) | 1994-95 (R) | 1995-96 (R) | 1996-97 (R) | 1997-98 (P) | 1998-99 (Q) |
|--|----------------|----------------|----------------|----------------|----------------|----------------|
| 1.Agriculture | 27721 | 28000 | 30204 | 34521 | 39685 | 40606 |
| 2.Forestry & Logging | 9324 | 11982 | 11655 | 11687 | 11800 | 13068 |
| 3.Fishing | 741 | 784 | 834 | 898 | 1147 | 1241 |
| 4.Mining & Quarrying | 1147 | 631 | 411 | 495 | 503 | 785 |
| SUB-TOTAL PRIMARY SECTOR | 38933 | 41397 | 43104 | 47601 | 53135 | 55700 |
| 5.Manufacturing | 2536 | 2950 | 3707 | 4931 | 7132 | 11538 |
| 5.1Registered | -- | -- | -- | -- | -- | -- |
| 5.2Unregistered | 2536 | 2950 | 3707 | 4931 | 7132 | 11538 |
| 6.Construction | 16444 | 15823 | 29004 | 20092 | 12472 | 16343 |
| 7.Electricity, Gas & Water Supply | (-2096) | 658 | (-306) | (-644) | (-532) | (-160) |
| SUB-TOTAL SECONDARY SECTOR | 16884 | 19431 | 32405 | 34379 | 19072 | 27721 |
| 8.Transport, Storage & Communication | 2470 | 2987 | 3196 | 3750 | 3904 | 4409 |
| 8.1Railways | 3 | 1 | 1 | 0 | 0 | 0 |
| 8.2Transport by other means | 2175 | 2679 | 2833 | 3380 | 3463 | 3968 |
| 8.3Storage | 2 | 2 | 2 | 2 | 2 | 2 |
| 8.4Communication | 290 | 305 | 360 | 368 | 439 | 439 |
| 9.Trade, Hotel & Restaurant | 4234 | 5075 | 5600 | 6522 | 7716 | 8600 |
| 10.Banking & Insurance | 990 | 1114 | 1366 | 1737 | 1975 | 1975 |
| 11.Real Estate, Owner- ship of dwellings & Business Services | 1623 | 1708 | 1839 | 2006 | 2192 | 2412 |
| 12.Public Administration | 7814 | 8850 | 10024 | 11871 | 18973 | 18843 |
| 13.Other Services | 5862 | 6388 | 9175 | 9977 | 12412 | 15192 |
| SUB-TOTAL TERTIARY SECTOR | 22993 | 26122 | 31200 | 35863 | 47172 | 51431 |
| NET STATE DOMESTIC PRODUCT | 78810 | 86950 | 106709 | 107843 | 119379 | 134852 |
| PER CAPITA INCOME (In Rupees) | 8557 | 9211 | 11035 | 10871 | 11738 | 12929 |

NB : Q = Quick Estimates, R = Revised Estimates and P = Provisional Estimates

**NET STATE DOMESTIC PRODUCT OF ARUNACHAL PRADESH AT FACTOR
COST BY INDUSTRY OF ORIGIN AT CONSTANT PRICES**

Table No 3.4

(Rs. In Lakh)

| INDUSTRY | 1993-94 (R) | 1994-95 (R) | 1995-96 (R) | 1996-97 (R) | 1997-98 (P) | 1998-99 (Q) |
|---|----------------|----------------|----------------|----------------|----------------|----------------|
| 1. Agriculture | 27721 | 25558 | 26020 | 26294 | 27932 | 26849 |
| 2. Forestry & Logging | 9324 | 10563 | 10927 | 10732 | 10820 | 10896 |
| 3. Fishing | 741 | 794 | 817 | 881 | 938 | 1014 |
| 4. Mining & Quarrying | 1147 | 628 | 407 | 446 | 431 | 680 |
| SUB-TOTAL PRIMARY SECTOR | 38933 | 37543 | 38171 | 38353 | 40121 | 39439 |
| 5. Manufacturing | 2536 | 2661 | 3067 | 3855 | 6269 | 8038 |
| 5.1 Registered | -- | -- | -- | -- | -- | -- |
| 5.2 Unregistered | 2536 | 2661 | 3067 | 3855 | 6269 | 8038 |
| 6. Construction | 16444 | 14424 | 23718 | 15728 | 9048 | 12141 |
| 7. Electricity, Gas & Water Supply | (-)2096 | 506 | (-)355 | (-)517 | (-)609 | (-)471 |
| SUB-TOTAL SECONDARY SECTOR | 16884 | 17645 | 26430 | 19066 | 14708 | 19708 |
| 8. Transport, Storage & Communication | 2470 | 2858 | 2760 | 3089 | 3016 | 3148 |
| 8.1 Railways | 3 | 1 | 1 | 1 | 1 | 1 |
| 8.2 Transport by other means | 2175 | 2571 | 2404 | 2712 | 2570 | 2702 |
| 8.3 Storage | 2 | 2 | 2 | 2 | 2 | 2 |
| 8.4 Communication | 290 | 284 | 353 | 374 | 443 | 443 |
| 9. Trade, Hotel & Restaurant | 4234 | 4613 | 4669 | 4971 | 5221 | 5511 |
| 10. Banking & Insurance | 990 | 1105 | 1223 | 1460 | 1654 | 1654 |
| 11. Real Estate, Owner- ship of dwellings & Business Services | 1623 | 1717 | 1821 | 1932 | 2041 | 2162 |
| 12. Public Administration | 7814 | 8090 | 8417 | 9218 | 13788 | 12350 |
| 13. Other Services | 5862 | 5791 | 7643 | 7575 | 8352 | 9684 |
| SUB-TOTAL TERTIARY SECTOR | 22993 | 24174 | 26533 | 28245 | 34072 | 34509 |
| NET STATE DOMESTIC PRODUCT | 78810 | 79362 | 91134 | 85664 | 88901 | 93656 |
| PER CAPITA INCOME (In Rupees) | 8557 | 8407 | 9424 | 8635 | 8741 | 8979 |

NB : Q = Quick Estimates, R = Revised Estimates and P = Provisional Estimates

CHAPTER - 4

AGRICULTURE

Agriculture is the main occupation of the people of Arunachal Pradesh. It plays a vital role in the economy of the state. It provides direct employment to 67% of the total population of the state as per 1991 census. During the year 1998-99 more than one fourth of the total NSDP (28.6%) in the state comes from Agriculture sector. The Agriculture depends on monsoons. The state receives adequate rainfall with high degree of humidity.

The Table below gives a general picture of the pattern of rainfall in the state.

Table No. 4.1

| Sl.No | Raienguage Station | Year | | |
|-------|--------------------|---------|----------|---------|
| | | 1996 | 1997 | 1998 |
| 1 | 2 | 3 | 4 | 5 |
| 1. | Tawang | 2688.06 | 2580.90 | 2760.10 |
| 2. | Bomdila | 1694.20 | 1879.50 | 711.40 |
| 3. | Seppa | 647.50 | 1777.00 | 2596.00 |
| 4. | Itanagar | 3338.30 | 3459.30 | 5171.60 |
| 5. | Ziro | 775.21 | 10075.00 | NA |
| 6. | Daporijo | 824.73 | 896.60 | NA |
| 7. | Along | 2413.80 | 2270.30 | 2608.10 |
| 8. | Pasighat | 4671.10 | 3035.80 | 5570.60 |
| 9. | Yingkiong | NA | 2744.94 | 2810.20 |
| 10. | Anini | NA | NA | NA |
| 11. | Tezu | NA | 3810.90 | 4258.50 |
| 12. | Changlang | 2913.80 | 3159.20 | 2083.00 |
| 13. | Khonsa | 2058.60 | 3248.90 | 6208.70 |

NA = Not available

LAND UTILIZATION

The total geographical area of the State is about 84 thousand (Approx) Sq. kms. Out of which 70% constitutes broad and narrow valleys, 10% foot hills and flat areas and 20% constitutes snow clad peak area. The area of agricultural operations are confined to only 5% of the total geographical area. Even within this area 62% to 65% constitutes to be under shifting cultivation (Jhum). Efforts are being made to motivate the farmers to permanent cultivation. Schemes like land development and irrigation facilities for permanent cultivation, impetus to horticulture and commercial crops, are vigorously taken up by the Govt. to divert the attention of the farmers from Jhum cultivation.

Due to sustained efforts made in this direction the net area sown under permanent cultivation has steadily increased over the years. As per Agricultural Census of 1985-86, it is revealed that net area sown was 149 thousand hectares of land against 118 thousand hectares in 1980-81. During 1997-98 the gross and net cropped areas were recorded as 240 thousand and 195 thousand hectares respectively whereas during 1998-99 the gross and net area slightly declined as recorded 232 thousand and 189 thousands hectares respectively. The following table shows the percentage change of land utilization in 1990-91 over 1985-86 Agricultural Census.

**AREA UNDER DIFFERENT LAND USED IN 1985-86 AND 1990-91
AND ITS PERCENTAGE TO TOTAL**

Table No. 4.2

| Sl. No. | Particulars | 1985-86 census | | 1990-91 CENSUS | | % Change over 1985-86 |
|---------|---|----------------|------------|----------------|------------|-----------------------|
| | | Area in Hect | % of total | Area in Hect. | % of total | |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| 1. | Net area sown | 149314 | 43.38 | 144819 | 43.90 | (+) 0.52 |
| 2. | Area under current fallow | 24700 | 7.18 | 28376 | 8.61 | (+) 1.43 |
| 3. | Fallow other than current fallow | 49008 | 14.24 | 36254 | 10.99 | (-) 3.25 |
| 4. | Other cultivated land excluding fallow land | 28655 | 8.32 | 44555 | 13.50 | (+) 5.18 |
| 5. | Cultivable waste land | 44426 | 12.90 | 33094 | 10.03 | (-) 2.87 |
| 6. | Area not available for cultivation | 48129 | 13.98 | 42789 | 12.97 | (-) 1.01 |
| TOTAL | | 344232 | 100.00 | 329887 | 100.00 | (-) 4.17 |

PRODUCTION OF CROPS

Agricultural programme in the State has always been assigned high priority in successive Five Year Plan in order to achieve self-sufficiency in food-grain and generation of marketable surplus. Food production at the end of the 7th Plan (1989-90) was 2.09 lakh MT. Production of food-grain during 1991-92, 1992-93, 1993-94, 1994-95 -96 ,1996-97 and 1997-98 were 2.16 lakh MT, 1.89 lakh MT, 2.21 lakh MT, 1.83 and 2.20, 2.00 lakh Mt and 3.18 lakh MT respectively. During the year 1998-99 the production of food grain was recorded as 2.94 lakh MT which is decreased by 7.55% over 1997-98. During the year 1998-99 the Agriculture production was affected by the adverse weather condition prevailed in the state during ;both cropping season which created sufficient ;obstacle in the crop production .The table below shows production of important crops for the years from 1995-96 to 1998-99 and percentage of variation of production in 1996-97, 1997-98 and 1998-99 over previous years.

PRODUCTION OF IMPORTANT CROPS

Table No 4.3

(Production in' 000 MT)

| Sl. No. | Crop/Crops group | 1995-96 | 1996-97 | 1997-98 | 1998-99 | % of variation | | |
|---------|-------------------|---------|---------|---------|---------|----------------|----------|----------|
| | | | | | | 1996-97 | 1997-98 | 1998-99 |
| 1. | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1. | Rice | 140 | 130 | 130 | 114 | (-)7.14 | 0 | (-)2.30 |
| 2. | Maize | 48 | 46 | 50 | 47 | (-)4.16 | (+)6.00 | (-)6.00 |
| 3. | Wheat | 8 | 6 | 6 | 4 | (-)25.00 | 0 | (-)33.33 |
| 4. | Millets | 24 | 18 | 18 | 16 | (-)25.00 | 0 | (-)11.11 |
| | Total Food-grains | 220 | 200 | 204 | 181 | (-)10.00 | (-)2.00 | (-)11.27 |
| 5. | Pulse | 6 | 7 | 6 | 6 | (+)16.67 | (-)14.28 | 0 |
| 6. | Oil seeds | 25 | 24 | 24 | 25 | (-)4.00 | 0 | (+)4.17 |
| 7. | Potato | 35 | 33 | 33 | 32 | (-)5.71 | 0 | 0 |
| 8. | Sugarcane | 16 | 18 | 16 | 15 | (+)12.50 | (-)11.11 | (-)6.25 |

With a view to increase the production of crops, emphasis has been given on area specific activities under food-grains production programme. Under the programme, seeds/plants, production materials and agricultural implements are distributed to the farmers on subsidy basis. Besides efforts are being made to enhance the productivity by introducing compact area project, community Nursery demonstration garden on H.Y.V. and encouragement of double and multiple cropping etc. During 1998-99 altogether 56,100 Hect. of land were brought under H.Y.V. and production of food-grains recorded 83900 MT under H.Y.V.

AREA UNDER CROPS

The area under important crops declined by 1.11% during 1998-99 over the previous year. Total area under important crops during 1997-98 was 271.51 thousand hectares and during 1998-99 it falls to 268.77 thousand hectares. Areas under Rice, Wheat and Millet registered a fall by 2.58%, 9.88% and 2.65 % respectively during 1998-99. However area under Maize, Pulses, Oilseeds, sugarcane and Potato have been registered increased by 1.51%, 12.25%, 1.42%, 8.82% and 8.02% respectively during the year 1998-99 over concerned year. The table below shows the picture of increase / decrease of area under important crops during 1997-98 and 1998-99.

AREA UNDER CROPS

Table No.4.4

(Area in' 000 Hect.)

| Sl. No. | Crops | 1997-98 | | | 1998-99 | | | % of variation over previous year | |
|--------------|-----------|------------|----------------|----------|------------|----------------|----------|-----------------------------------|----------|
| | | Total area | Area under HYV | % of HYV | Total area | Area under HYV | % of HYV | 1997-98 | 1998-99 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 01 | Rice | 152.42 | 32.40 | 21.26 | 148.48 | 33.00 | 22.22 | (+)31.60 | (-)02.58 |
| 02 | Wheat | 7.39 | 03.60 | 48.71 | 6.66 | 03.00 | 45.05 | (+)70.67 | (-)09.88 |
| 03 | Maize | 55.50 | 21.00 | 37.84 | 56.34 | 20.10 | 35.68 | (+)77.88 | (+)01.51 |
| 04 | Millet | 18.47 | - | - | 17.98 | - | - | (-)00.48 | (-)02.65 |
| 05 | Pulses | 6.45 | - | - | 7.24 | - | - | (-)02.95 | (+)12.25 |
| 06 | Oilseeds | 26.11 | - | - | 26.48 | - | - | (-)00.34 | (+)01.42 |
| 07 | Sugarcane | 0.68 | - | - | 0.74 | - | - | (-)16.05 | (+)08.82 |
| 08 | Potato | 4.49 | - | - | 4.85 | - | - | (-)00.44 | (+)08.02 |
| TOTAL | | 271.51 | 57.00 | 21.00 | 268.77 | 56.10 | 20.87 | (+)30.49 | (-)01.01 |

YIELD RATES

The average yield of all important crops showed a decline trend except Oilseeds during the year 1998-99 as compared to 1997-98. The yield rates showed increase in respect of all the crops except Rice and Maize during the year 1997-98 over 1996-97. The following table shows the comparative picture of average yield of important crops for three consecutive years and percentage of increase and decrease over the previous years :-

AVERAGE YIELD RATES OF IMPORTANT CROPS

Table No 4.5.

(Yield rate Qntl/Hect)

| Sl. No. | Crops | 1996-97 | 1997-98 | 1998-99 | Percentage Increase/Decrease | |
|---------|-----------|---------|---------|---------|------------------------------|----------------------|
| | | | | | 1997-98 over 1996-97 | 1998-99 over 1997-98 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. | Rice | 11.17 | 10.70 | 09.88 | (-) 04.21 | (-) 07.66 |
| 2. | Maize | 14.69 | 14.40 | 12.97 | (-) 01.97 | (-) 09.93 |
| 3. | Wheat | 13.97 | 15.10 | 12.01 | (+) 08.09 | (-) 20.46 |
| 4. | Millet | 9.57 | 09.70 | 08.67 | (+) 01.36 | (-) 10.62 |
| 5. | Pulses | 10.03 | 10.20 | 09.43 | (+) 01.69 | (-) 07.55 |
| 6. | Oilseeds | 9.25 | 09.30 | 09.53 | (+) 00.54 | (+) 02.69 |
| 7. | Sugarcane | 221.40 | 232.00 | 202.31 | (+) 04.79 | (-) 12.80 |
| 8. | Potato | 73.08 | 74.00 | 65.14 | (+) 01.26 | (-) 11.97 |

HIGH YIELDING VARIETIES (HYV)

Production of all the crops of high yielding varieties have declined during the year 1998-99 over the previous year except a little rice in area by 1.85% only. It is due to considerable effect of the adverse weather condition prevailed in the state during both cropping seasons, which created sufficient obstacles in achieving the production target of the year. Continuous rainfalls for a long period have effected the kharif /98 production very significantly. In some districts kharif crops has lowest ever yield known in the agricultural history of the state.

The following tables gives an over all pictures of 1997-98 and 1998-99 in terms of area and production of Rice, Maize and Wheat crops.

AREA AND PRODUCTION OF HIGH YIELDING VARIETIES (HYV)

Table No 4.6

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

| Sl. No. | HYV crops | 1997-98 | | 1998-99 | | % of variation over 19-96 | |
|---------|-----------|---------|------------|---------|------------|---------------------------|------------|
| | | Area | Production | Area | Production | Area | Production |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1. | Rice | 32.40 | 55.00 | 33.00 | 47.90 | (+)01.85 | (-)12.91 |
| 2. | Maize | 21.00 | 33.60 | 20.10 | 32.20 | (-)04.29 | (-)04.17 |
| 3. | Wheat | 03.60 | 05.50 | 03.00 | 03.80 | (-)16.67 | (-)31.41 |

CONSUMPTION OF FERTILIZERS

Fertilizers play a very important role in enhancing the agricultural production. It is one of the most essential inputs in the agricultural production in the State. Since introduction of HYV the consumption of chemical fertilizers has been steadily increasing. However, the total consumption remain same as compared to previous year. The table below reflects the trend of consumption of fertilizers over last 5 years. The level of fertilizers consumption has increased from 470 MT in 1991-92 to 705 MT in 1998-99

Besides, use of organic plant nutrient as alternative source to chemical fertilizers has also been introduced in the farming process.

CONSUMPTION OF FERTILIZERS

Table No.4.7

| Year | Nitrogenous (N) | Phosphate (P ₂ O ₅) | Potassic (K ₂ O) | Total | (In MT) |
|---------|--------------------|---|--------------------------------|-------|---|
| | | | | | % of increase/ decrease over previous year. |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1991-92 | 285 | 136 | 49 | 470 | |
| 1992-93 | 303 | 143 | 53 | 499 | 6.17 |
| 1993-94 | 340 | 190 | 15 | 575 | 15.23 |
| 1994-95 | 400 | 220 | 50 | 670 | 16.52 |
| 1995-96 | 418 | 228 | 49 | 695 | 3.73 |
| 1996-97 | 415 | 230 | 50 | 695 | 0.00 |
| 1997-98 | 417 | 231 | 50 | 698 | (+)00.43 |
| 1998-99 | 400 | 205 | 100 | 705 | (+)01.00 |

QUALITY SEED PRODUCTION PROGRAMME

The farmers are being encouraged to cultivate/grow commercial crops like Potato, Sugarcane, Oilseeds, Ginger, Turmeric and Chilly by way of supplying quality seeds on subsidy. With a view to produce quality seed, the programme on quality seed production has been taken up in Govt. farms as well as in the progressive farmers field under close supervision of the technical staff to ensure the quality and disease free seeds. The seeds produced in the farms and the farmers field are tested at state seed Testing Laboratory, Sonajuli before sowing. During 1998-99 improved seeds to the tune of 4400 MT produced/distributed to farmers.

Annual Achievement in agriculture during 1997-98 and 1998-99 are shown in table below:

ANNUAL ACHIEVEMENT DURING 1997-98 and 1998-99

Table No.4,8

| Sl. No. | Indicator | Unit | Achievement during | |
|---------|--|------------|--------------------|---------|
| | | | 1997-98 | 1998-99 |
| 1. | Gross Crop Area | -000 Hect. | 240.00 | 231.70 |
| 2. | Net Cropped Area | -do- | 195.00 | 188.94 |
| 3. | Area under Multiple cropping | -do- | 045.00 | 042.76 |
| 4. | Area under plant protection | -do- | 036.00 | 036.50 |
| 5. | Area under fertilizers | -do- | 022.00 | 022.50 |
| 6. | Area under High Yielding Varieties seeds | -do- | 057.00 | 056.10 |
| 7. | Area under permanent cultivation | -do- | 087.87 | 083.00 |
| 8. | Irrigation area | -do- | 041.50 | 040.50 |
| 9. | Pesticides used | MT | 1800 | 1800 |
| 10. | Fertilizers consumption | -do- | 689 | 705 |
| 11. | Improved seeds production | -do- | 4500 | 4400 |
| 12. | Improved seeds distributed | -do- | 4500 | 4400 |

CROP ENTERPRISE

The Agriculture Department has come up with a noble scheme through which it is proposed to assist 60 nos. of un-employed educated rural youth one each from each Assembly Constituency by providing infrastructural support.

The selected un-employed youth will take up a Crop Enterprise and generate his own income. During the year 1998-99 each crop enterprise was provided with 1(one) no of powertillers. The power tiller will be rented out to the fallow farmers so as to help them in their cultivation, making the tillage facility easily available. This would help farmers of the nearby areas to augment their efforts in intensive as well as extensive cultivation. Besides, powertiller each beneficiary was given a cash amount of Rs. 1000/= being the initial operational charges

CHAPTER - 5

HORTICULTURE

Arunachal Pradesh with its undulating topography and varied agro-climatic conditions has excellent scope for growing wide variety of tropical and sub-tropical and temperate fruits, vegetables, spices, mushroom, floriculture and other economical crops like medicinal and aromatic plants.

The Directorate of Horticulture has taken up various schemes to uplift the Rural Economy. Some of the important schemes taken up by the Department are as follows:

1. Peoples' Horticulture garden
2. Compact area plantation
3. Plant protection
4. Mushroom Development Programme
5. Spices development
6. Floriculture
7. Training and education
8. Medicinal, Aromatic Plantation Programme etc

The peoples' horticultural garden schemes are taken up in small holding up to 1 hect. where large and compact area not easily available, farmers are provided inputs and technical guidance to set up horticulture garden. The compact area plantation scheme is aimed at commercialisation of horticulture through establishment of garden in compact area of 2 to 10 hectares with individual or joint holding. Under this scheme the beneficiaries bear the cost of land development, digging of pits, plantation, erection of fencing etc. in the shape of labour. Besides to improve the rural economy of the common masses diversification of horticulture with the introduction of Floriculture, cultivation of spices, cardamom and Black-pepper etc has been introduced.

During 1998-99 the area under fruits has gone up from 12175 hectares in 1987-88 to 34817 hectares and production rose from 29025 MT in 1987-88 to 93582 MT

The major fruits grown in the state are (a) Apple, (b) Pineapple, (c) Orange and (d) Walnut. The major spices grown in the State is Black-pepper. Two varieties of Mushrooms are grown in the State. These are (a) European or White Button and (b) Tropical Oyster or Dhingri. Keeping in view of the nutritive value in diet, the Department is trying to popularise this crop (mushroom) by taking demonstration units in different districts of the state.

This will generate 10 times more income to growers per unit area than other crops as well as supplement the nutritive requirement of the human body. Due to remoteness of fruit growing areas of the State from market and also due to inadequate communication facilities, emphasis is given for production of low volume, high value horticultural crops like spices, Cardamom, Ginger, Turmeric, Chilly, Black-pepper, Garlic etc.

Area Covered and Production Level of Cardamom and Black-pepper for 1996-97, 1997-98 and 1998-99 are appended below.

Table No. 5.1

(Area in Hect./Production in MT)

| Spices | 1996-97 | | 1997-98 | | 198-99 | |
|-----------------|---------|------------|---------|------------|--------|------------|
| | Area | Production | Area | Production | Area | Production |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. Cardamom | 1312 | 445 | 1494 | 450 | 1891 | 472 |
| 2. Black-pepper | 363 | 215 | 663 | 215 | 505 | 226 |
| TOTAL | 1675 | 660 | 2159 | 665 | 2396 | 698 |

The estimated area covered and production level of main horticultural crops during last three years i.e. from 1996-97 to 1998-99 is appended below. During 1998-99 the total area covered under horticultural crops was 34817 hectares which recorded increase of 4.06% over 1997-98. Production of horticultural crops during 1998-99 recorded 93582MT which is 4.20% higher than that of in 1997-98. During the year, production of apple recorded increase of 5.00% citrus fruits 5.05%, pineapple 2.63% Banana 5.00% and other crops 5.13% respectively over previous year.

AREA AND PRODUCTION OF HORTICULTURAL CROPS

Table No. 5.2

(Area in Hect./ Production in MT.)

| Sl. No | Name of crops | 1996-97 | | 1997-98 | | 1998-99 | | % increase/decrease of Production. | |
|--------|---------------|---------|------------|---------|------------|---------|------------|------------------------------------|---------|
| | | Area | Production | Area | Production | Area | Production | 1997-98 | 1998-99 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1. | Apple | 6186 | 14500 | 6370 | 15225 | 6477 | 15986 | (+)5.00 | (+)5.00 |
| 2. | Citrus | 7258 | 18500 | 7643 | 19795 | 7963 | 20794 | (+)7.00 | (+)5.04 |
| 3. | Pineapple | 7143 | 28000 | 7230 | 29400 | 7270 | 30170 | (+)5.00 | (+)2.63 |
| 4. | Banana | 3198 | 10500 | 3350 | 11025 | 3404 | 11576 | (+)5.00 | (+)5.00 |
| 5. | Walnut | 2038 | 940 | 2077 | 958 | 2134 | 958 | (+)4.91 | 0.00 |
| 6. | Other crops | 6209 | 12820 | 6790 | 13410 | 7569 | 14098 | (+)4.60 | (+)5.13 |
| | TOTAL | 32032 | 85260 | 33460 | 89813 | 34817 | 93582 | (+)5.34 | (+)4.20 |

VETERINARY AND ANIMAL HUSBANDRY

Livestock is one of the components of the primary sector of the economy. In order to improve the economic status of the local people and to boost up live stock and poultry production, emphasis on the main four aspects of veterinary development programme like (i) livestock production and development, (ii) animal health coverage, (iii) dairy development and (iv) education and training are being continued in successive five year plan programme. The approved outlay for the Ninth Plan was Rs.4234 lakhs under Animal Husbandry, Veterinary and Dairy Development Sector. The expenditure incurred under Animal Husbandry and Dairy development during the 1st 2 (two) years of the ninth Plan is as follows:

Table No. 6.1 (Rs. in lakhs)

| Head of development | Ninth plan Plan Outlay | Expenditure (Plan) during | |
|----------------------|---------------------------|---------------------------|---------|
| | | 1997-98 | 1998-99 |
| 1 | 2 | 3 | 4 |
| 1. Animal Husbandry | 3003 | 611 | 519 |
| 2. Dairy Development | 1231 | 33 | 35 |
| TOTAL | 4234 | 644 | 54 |

Expenditure incurred under Non Plan was Rs 656 Lakhs and Rs 773 Lakhs during the year 1997-98 and 1998-99 respectively.

The total livestock and poultry population in Arunachal Pradesh as per 1997-98 Quinquennial livestock census is given in the table below. From the table it reveals that the livestock population in the state was about 11.87 lakhs whereas in the earlier census of 1992-93 the livestock population was 9.59 lakhs. Thus in the five year period there was an increase of 23.69% in the livestock population of the State. Cattle accounted for the major share in the livestock population. In 1997-98 the cattle population was 4.53 lakhs compared to 3.47 lakhs in 1988-89. The total number of mithun was 1.06 lakhs in 1992-93 compared to 0.99 lakhs in 1992-93. The total number of poultry of 11.72 lakhs in 1992-93 census increased to 12.19 lakhs in 1997-98 livestock census registering a growth of 3.98%. The population of all types of livestock between two livestock census of 1992-93 and 1997-98 registered a growth except yak and sheep population which registered a decline of 7.22% and 13.81% respectively.

LIVESTOCK AND POULTRY POPULATION IN A.P.

Table No. 6.2 (In number)

| Sl. No. | Category | 1992 - 1993 livestock census | 1997 - 1998 livestock census | Percentage variation |
|---------|-----------------|---------------------------------|---------------------------------|-------------------------|
| 1 | 2 | 3 | 4 | 5 |
| 1. | Cattle | 346535 | 452920 | (+) 30.70 |
| 2. | Buffaloes | 10241 | 11550 | (+) 12.78 |
| 3. | Mithun | 105729 | 124194 | (+) 17.46 |
| 4. | Yak | 9675 | 8976 | (-) 07.22 |
| 5. | Sheep | 32774 | 28245 | (-) 13.81 |
| 6. | Goat | 128134 | 183826 | (+) 43.46 |
| 7. | Horse & ponies | 5818 | 6678 | (+) 14.78 |
| 8. | Pigs | 239197 | 275372 | (+) 15.12 |
| 9. | Other livestock | 81317 | 96279 | (+) 18.40 |
| 10. | Total livestock | 959416 | 1186741 | (+) 23.69 |
| 11. | Poultry | 1172245 | 1218917 | (+) 03.98 |

Production of livestock products like, Milk, Eggs and Wool is gradually increasing over the years. Total production of milk during 1998-99 was 44.50 thousand MT as against 43 thousand MT during previous year. Production of eggs was 33.50 million number as against 44.00 million number during 1997-98. Similarly production of Wool was recorded 58.80 thousand Kg. as against 58.60 thousand Kg. during 1997-98. The table below gives an overall picture of production of livestock products during, 1996-97, 1997-98 and 1998-99.

Production of Milk, Eggs, and Wool

Table No. 6.3

| Products | Unit | 1996-97 | 1997-98 | 1998-99 |
|----------|-------------|---------|---------|---------|
| 1 | 2 | 3 | 4 | 5 |
| 1. Milk | '000 MT | 43.00 | 44.00 | 44.50 |
| 2. Eggs | Million No. | 33.00 | 34.00 | 34.50 |
| 3. Wool | '000 Kg. | 58.20 | 58.60 | 58.80 |

In the sphere of Animal Husbandry development programme, various schemes under implementation in the state include Cattle and Buffalo development, Sheep/Goat and Wool development, Piggery development, Poultry development and other livestock development, Dairy development and fodder development. Under intensive cattle development programme 10 district Cattle Breeding farms and a Central Cattle Breeding farm at Itanagar are functioning to enhance production of milk and cross-breed stock. Apart from this, 30 Frozen Semen Bull Stations, 2 Liquid Semen production and Artificial Insemination Centre, 120 Cattle Upgrading centers are functioning under this programme.

Upgradation of local indigenous livestock through cross-breeding is an important objective of the livestock development programme in the State. Frozen Semen Technology centre was opened at the state capital and efforts are being made to convert all existing 120 cattle upgrading centers to Artificial Insemination centres so that by the end of the Ninth Plan they become operational to cater the needs of the entire state.

The sheep rearing in the State has also been one of the traditional activities of the people living in the high altitude and border areas. The regional sheep breeding farm at Sangti (West Kameng) is engaged to improve the local sheep through cross breeding with exotic marino rams. This center is also imparting training periodically to the interested rural people as well as field personnel. There are 7 sheep and wool extension centers in the State.

Almost every tribal family is engaged in rearing of pigs irrespective of status and position in the society. The piggery development programme emphasises on up-gradation of local stock through improved cross breeding with exotic breed such as large white Hampshire. With this objective, two following farms of fairly large size were established:

- 1) Central Pig Breeding Farm at Karsingsa
- 2) Regional Exotic Pig Breeding Farm at Loliang

In addition, there are 3 general Pig Breeding Farms functioning in the state during the year under report (at Tawang, Along and Roing). Under Poultry development programme, 22 Poultry Farms, one Central poultry farm and one central Hatchery at Nirjuli are functioning. The poultry development programme aims at improvement of local breed through scientific breeding so as to enhance production besides improvement of rural economy.

The department is also maintaining one Central Fodder farm, one Regional Temperate fodder farm and seven District fodder farms to meet the demand of feed and fodder for cattle breeding farms located in different parts of the State. Feed and fodder development are essential for better livestock production and growth.

Extensive animal health coverage measures are being carried out in the State by a wide network of veterinary hospital, veterinary dispensaries, aid centers. During 1998-99 there are one veterinary hospital, 93 veterinary dispensaries, 155 veterinary aid centers, 11 District diagnostic laboratories, 3 Zonal disease investigation laboratories and 14 mobile veterinary dispensaries functioning in the state. During 1998-99 altogether 4.17 lakhs of birds and animals treated through these institutions as against 4.23 lakhs during 1997-98. Vaccination against outbreak of various diseases was carried out to 3.24 lakhs animals and birds during 1998-99. Castration covered 43 thousand numbers of animals during 1998-99.

Adequate importance was given for training of paraveterinarians to meet the requirement of skilled personnel in the various specialised fields of Veterinary and Animal Husbandry and Dairy. A veterinary training Institute (school of veterinary science) was established at Pasighat in 1980-81 which is presently offering various short term and regular courses for the in-service field assistants and defence personnel also who are deputed from all over the country. Special training in wool-grading is imparted at Sangti (Regional Sheep Breeding Farm).

Another important development scheme is being initiated by the Special Area Development Programme under which an individual or a cluster of villages would be identified and adopted by the department to pump in all the essential technical inputs, veterinary aid, subsidiary assistance, training and marketing needs etc. for enhancing production. In all these areas besides progressive farmers and rural educated youths, women beneficiaries would be engaged to take up livestock enterprise for better economic growth and improvement of job opportunities.

CHAPTER - 7

FISHERIES

Pisciculture has gained acceptability and confidence among the farmers of Arunachal Pradesh and fish farming has become a subsidiary occupation of the farmers for gainful employment to supplement their income from agriculture. Piscicultural activities in the state is ensuring three basic requirements like generating self-employment, supplementing proteineous food and a source of income.

Being an important economic activity, the Govt. is encouraging various programmes by providing substantial subsidy to the beneficiaries. Subsidy oriented programmes are (i) Rural Aqua-culture, (ii) Paddy-cum-fish culture, (iii) Integrated fish farming, (iv) Trout culture, (v) Training of farmers etc. Apart from this, the Govt. is also supporting commercial fishery projects with bank loan components,

During the first two years of the ninth Plan an amount of Rs. 351.56 lakhs was utilised for fishery development in the State against the outlay of Rs. 363 lakhs. The approved outlay for, 1997-98 and 1998-99 were Rs. 196 lakhs, and Rs. 167 lakhs, respectively against fishery development in the state.

Upto the end of 1998-99 an area of 3516 hectares was brought under systematic fish-culture in the state against as much as 7200 hectares of estimated vast potential of culturable water area of the state. Under private fish farming altogether 753 hectares of water area was developed up to 1998-99. Two Eco hatcheries through private fish farmers, 7 (seven) hatcheries through government were developed up to 1995-96. Paddy-Cum-Fish culture which has taken firm footing in the Apatani Plateau of Lower Subansiri District has been extended to other districts where suitable area for paddy-cum-pisciculture is readily available. During 1998-99 an area of 30 hectares of water area developed in the state. The cumulative figure upto 1998-99 is 902 hectares under this scheme. During 1998-99 220 tonnes of fish was produced under paddy-cum-fish culture. After thorough review it is found Poly-culture of fishery could not make substantial impact in development of the fish culture. Hence it is dropped during the current financial year 1998-99 in Arunachal Pradesh due to its complimentary effects. Production of Trout (cold water fish culture) has also been increased through stocking of fish-seeds at Mechuka and other streams of West Kameng and Tawang districts besides improvement of existing hatcheries and extending the technology to the farmers level.

Achievement under pisciculture development programme as on 31-3-99 has been reflected in the following table:-

Pisciculture development Programme in A.P. as on 31-3-99**Table No. 7.1**

| Sl No. | Items | Units | Achievement | | |
|--------|-----------------------------------|-----------|----------------|----------------|--------------------------|
| | | | During 1997-98 | During 1998-99 | Cumulative Up to 31-3-99 |
| 1. | Govt. fish farm/ponds | Hectares | 30.93 | - | 30.93 |
| 2. | Peoples' fish farms/ponds | -do- | 604.07 | 114.00 | 718.07 |
| 3. | Other fish farm | -do- | 107.05 | - | 107.05 |
| 4. | Area under pisciculture | -do- | 1614.06 | 144.00 | 1758.05 |
| 5. | Area under paddy-cum-fish culture | -do- | 872.00 | 30.00 | 902.00 |
| 6. | Total area developed | Hectares | 3228.11 | 213.00 | 3516.00 |
| | (a) Ponds/Lakes | -do- | 635.00 | 114.00 | 749.00 |
| | (b) Beels/Lakes/Swamps | -do- | 107.05 | - | 107.05 |
| | (c) Paddy fields | -do- | 872.00 | 30.00 | 902.00 |
| | (d) Others (pits, ditches) | -do- | - | - | - |
| 7. | Fingerlings distributed | '000 Nos. | - | 08 | - |

Trend of the production of fish and fish-seeds in the State during last three years can be seen from the following table:

Table No.7.2

| Sl. No | Items | Units | Base year achievement 89-90 | 1996-97 | 1997-98 | 1998-99 | % of production variation | |
|--------|------------------------------|-------------|-----------------------------|---------|---------|---------|---------------------------|----------------------|
| | | | | | | | 1997-98 over 1996-97 | 1998-99 over 1997-98 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1. | Fish Production | Tonnes | 998 | 2002 | 2130 | 2301 | (+)6.39 | (+)8.03 |
| | a)Ponds & Tanks. | -do- | NA | 737 | 835 | 926 | (+)3.30 | (+)1090 |
| | b)Beels, lakes, Swamps | -do- | NA | 490 | 495 | 545 | (+)1.02 | 10.10 |
| | c)Paddy-cum-fish-culture | -do- | NA | 220 | 220 | 220 | 0.00 | 0.00 |
| | d)River, Canals, Streams etc | -do- | NA | 555 | 580 | 610 | (+)4.50 | 5.17 |
| 2. | Fish-seed Production | | | | | | | |
| | a) Fry | Million No. | 15 | 21.00 | 24.00 | 24.50 | (+)10.09 | (+)2.08 |
| | i) Private | -do- | - | 7.15 | 7.65 | 7.30 | (+)7.00 | (-)4.58 |
| | ii)Govt. | -do- | - | 14.65 | 16.35 | 17.20 | (+)11.60 | (+)5.20 |
| | b) Fingerlings | -do- | - | 7.30 | 7.50 | 8.00 | (+)2.74 | (+)6.67 |

It appears from the above table that fish production in the State has been gradually increasing year after year. During terminal year of 1989-90 of the 7th Five Year Plan, total production of fish was 998 tonnes which stood at 2801 tonnes during 1998-99. Increased production of fish has also led its share of contribution to the State Domestic Product(SDP) to increase annually.

As evident, the production has increased during 1998-99 by 8.08% over 1997-98 and by 6.39% in 1997-98 over 1996-97. The production of Fry increased from 24.00 million number in 1997-98 to 24.50 million number in 1998-99 recording an increase of 2.08% over

previous year's production. Production of fingerlings has also recorded a rise of 6.67% during 1998-99 over 1997-98. During 1998-99 production of fingerlings was 8.50 million number where as during 1998-99 it was only 7.50 million number

CHAPTER – 8

ENVIRONMENT AND FOREST

The socio-economic life of the people of Arunachal Pradesh, in fact, centres round the forest. Most of the population depends directly upon forests for fuel wood, house building materials, timber and other minor forest produce. There fore 62% of the total forest area of the state is under unclassed forest where the local people exercise their traditional right.

Forests in Arunachal Pradesh cover an area of 51,540 Sq. km. and form about 62% of the total geographical area of the state. Nearly, 10178 Sq. km. of forest area has been surveyed, demarcated and notified as Reserved forest. Anchal and village reserve forest for providing basis for their scientific management and sustainable use. At the end of 8th plan, an area of 7401 sq. km. has been brought under APNABAN scheme. The scheme "Apnaban" and "Decentralised Peoples Nursery" is also being implemented with the active participation of the people.

So far ten (10) active Wildlife Sanctuaries and two (2) National Parks covering a total protected area of 9483 sq. km. for conservation and preservation of rich biological diversity of the state has been created. About 500 species of orchid which grow on ground, rocks or on trees and attracting attention with various shapes and brilliant colours have developed for commercial exploitation in peoples sector. Arunachal Pradesh Forest Department has established an Orchid Sanctuary with Research station at Tipi near Bhalukpong under West Kameng District covering an area of 100 sq. km.

Most of the wood based industries like saw Mills and plywood Mills are not functioning in the state which provided employment to local people due to ban of felling of green trees by the Hon'ble supreme court of India.

A state Forest Research Institute at Van Vihar, Itanagar with multi-disciplinary staff is engaged in survey/scientific research work in the field of Silviculture, Forest Botany including medicinal plants, Zoological research, forest genetics etc. for providing developed technology in forestry developmental programmes.

The Arunachal Pradesh Forest Corporation Ltd (APFC Ltd) which came into existence from the year 1977 is being engaged to eliminate the agency of forest contractors and to improve the utilisation of forest produce and to tap institutional finance, develop/cultivation of cash crops like coffee, tea etc. Besides, the Namsang-Barduria village forests of Tirap District is being managed by the APFC Ltd. and a portion of the revenue earned through management of the forests being utilised to promote a number of welfare programme in Tirap District.

The objective of the forest activities continue to be the restoration of vegetative cover through various plantation scheme and department have made this headway gradually through the successive Five Year Plans. The approved outlay for 9th plan in respect of forestry and wildlife was Rs.6811 lakhs. The outlay approved for 1997-98 and 1998-99 were Rs. 1479 lakhs, and Rs.1093 lakhs respectively. The progress of achievements under various plantation schemes is indicated below:

Table No. 8.1

| Sl. No. | Scheme /indicator | Unit | Achievement | |
|---------|-------------------------------------|------------|-------------|---------|
| | | | 1997-98 | 1998-99 |
| 1 | Forest Area | Sq.K.m | 51540 | 51540 |
| 2 | Resource Survey | Sq.Km. | 960 | 1032 |
| 3 | Area Planted | Hect. | 2725 | NA |
| 4 | Area covered under "Apnaban" Scheme | Hect. | | 530 |
| 5 | Forest Revenue earned | Rs in Lakh | 23 | 98 |
| 6 | Forest Road | In Km | NA | 1059 |

CHAPTER - 9

SOIL AND WATER CONSERVATION

Heavy rainfall almost in every year in Arunachal Pradesh causes heavy soil erosion and devastating flood in the lower region and in the neighbouring State. The programme on soil and water conservation, therefore, is taken up to conserve soil from heavy erosion and to minimise the run off sediment load for moderation of flood discharge in the lower region. Soil conservation works thus include land sloping, contour bunding, bench terracing and protection and preservation of agricultural land by various protective measure under land development scheme. Terrace cutting in the hill slopes along with bunding, shaping etc. are taken up. Reclamation of marshy land is also taken up in low lying areas. Land protection work generally consists of construction of bunds and embankments, spurs retaining walls, bust walls etc. in the lower regions and engineering structures like brush wood dams, check dams etc. in the higher regions.

A land use board has also been setup in the state to co-ordinate activities of the concerned departments for better use and management of land.

The out lay and expenditure on soil and water conservation during the Ninth plan is reflected below

Table No 9.1

(Rs. In Lakh)

| Sl. No. | Name of the Scheme | 9 th Plane Approved Plan | Annual Plan Approved out-lay/Expdr. | | | |
|---------|-----------------------------|-------------------------------------|-------------------------------------|--------|---------|--------|
| | | | 1997-98 | | 1998-99 | |
| | | | Out lay | Expdr. | Out lay | Expdr. |
| 1 | Soil and water conservation | 700 | 654 | 656 | 561 | 567 |

IRRIGATION AND FLOOD CONTROL

Modernisation in agricultural pattern and shifting from jhuming to permanent type of cultivation calls for creation of irrigation potential in the state. But up-till now the thrust is still confined mostly to minor irrigation works since scope of medium and major irrigation projects is limited particularly due to cultivable and being available patches mainly in the foot hill areas and narrow valleys. However, survey and investigation of a few medium irrigation projects has already been taken up as also by CWC.

Recent experiments for exploration of ground water at Sonajuli, Kokila, Karsingsa, Nirjuli showed vast potential for ground water. On-going irrigation projects being mostly of surface water with weirs dams head works and eastern channel need constant maintenance.

As per available record, total irrigation potential of 149802 hectare was created at the end of 8th Five Year Plan including two single years plan of 1990-91 and 1991-92 out of which nearly 80753 hectare was created during the 8th Five Year Plan. Achievement during Ist two years of 9th five year Plan i.e. for the year 1997-98 and 1998-99 are 4676 hectars and 3215 hectars. The following table shows the achievement under minor irrigation during the last two plan periods:

ACHIEVEMENT UNDER MINOR IRRIGATION

Table No.10.1

| Sl. No. | Particulars | Unit | Achievement |
|---------|--|-------------|-------------|
| 1 | Irrigation potential created during 8 th Plan. | Hect. | 80753 |
| 2 | Irrigation potential created at the end of 8 th plan including two Single year plan 1990-91 and 1991-92 | Hect | 149802 |
| 3 | Irrigation potential created during Ist two years of 9 th Plan | | - |
| | (i) 1997-98 | Hect | 4676 |
| | (ii) 1998-99 | Hect | 3215 |
| 4 | Total irrigation potential created upto 31-3-99 since inception | Hect | 157693 |
| 5 | Expenditure incurred (PLAN) | Rs in Lakh. | |
| | (i) 1997-98 | do | 154.51 |
| | (ii) 1998-99 | do | 1336.55 |

FLOOD CONTROL

During every monsoon, heavy damages occur to various types of assets, such as roads and bridges, buildings, water supply installations and damage to land areas and other kind of properties in Arunachal Pradesh. A significant number of human and animal lives are also lost each year. Arunachal Pradesh being in a heavy rainfall zone with loose and sandy soils particularly in lower belt are exposed to seasonal flood caused by the network of its numerous rivers and streams in their course to the Brahmaputra in Assam. Particularly the lower region i.e. the foothill areas are very much affected by flood. In order to control such colossal damage to various types of assets as well as valuable human lives, the Irrigation and Flood Control Department is identified as nodal agency for flood control programme which essentially conceived River Training works including survey and investigation since being carried out by the Brahmaputra Board and Central Water and Power Corporation (CWPC).

Of course, no major flood control project has yet been taken up in the State. Activities taken up under flood control are in the nature of protection and restoration which are being implemented to restore damages caused every year by heavy rains and flood.

The following table shows the few measures under flood control programme.

Table No. 10.2

| Sl. No. | I T E M S | Unit | Achievements | |
|---------|------------------|-------------|--------------|---------|
| | | | 1997-98 | 1998-99 |
| | | In Metr. | | |
| 1 | Embankment | Do | 100 | - |
| 2 | Guid bud | " | 2500 | 2957 |
| 3 | Spur | " | 209 | 350 |
| 4 | Drain | " | - | 205 |
| 5 | Other protection | " | 3765 | 4853 |
| 6 | Expenditure | Rs. in Lakh | 376.00 | 432.75 |

CHAPTER - 11

RURAL DEVELOPMENT AND PANCHYAT RAJ

In order to improve the social and economic condition of the rural poor, a number of State and Centrally sponsored poverty alleviation programme are being implemented in the State during the year. The poverty alleviation programmes are (1) Integrated Rural Development Programme (IRDP) (ii) Training of Rural Youth for Self Employment (TRYSEM) (iii) Development of Women and Children in Rural Areas(DWCRA) (iv) Jowahar Rozgar Yojna (JRY) (v) Employment Assurance Scheme(EAS) (vi) Improved Tool-kits to Rural Artisans (vii) Area-cum-CD Programme.(vii)Waste land development programme.

I.R.D.P

IRDP is an individual-family oriented programme under which productive assets and inputs are provided to rural families identified as below poverty line(BPL) so that an assisted family could earn additive income and cross the poverty line.

The BPL families are identified on the basis of household surveys conducted in the Blocks. During Ninth plan comprehensive household surveys have been conducted in all the

Blocks to ascertain the number of families below the poverty line . Out of 102852 rural household as per ninth plan B.P.L survey, 80627 families are assessed to be below poverty line which is 78%.

Under the programme, a total of 12799 beneficiaries and 11590 beneficiaries are assisted during 1997-98 and 1998-99 respectively. The fund of Rs 565.71 and Rs 688 lakhs were utilised during the year 1997-98 and 1998-99 respectively. Achievement made under IRDP during the year 1997-98 and 1998-99 is shown in the following table:

Table No. 11.1

| Item | Unit | Achievement during | |
|----------------------------|--------------|--------------------|---------|
| | | 1997-98 | 1998-99 |
| (i) Beneficiaries assisted | No. | 12799 | 11590 |
| (ii) Fund utilised | Rs. in lakhs | 565.71 | 688.00 |

T.R.Y.S.E.M

The TRYSEM, an allied scheme of IRDP, is introduced with an objective to provide technical and entrepreneurial skill to youths from families below the poverty line to enable them to take up self-employment ventures in the broad fields of cottage industries, services and business activities. The identified youths are put through a period of training either with a training institution or by engaging master crafts-man to equip them with necessary technical skills. On completion of training, they are provided with assistance from IRDP linking with bank loan. Alternatively they can launch their self-employment ventures by arranging funds from banks and other sources at their own initiative with such help and guidance as may be asked for from the DRDA/Block level. During the training period, the trainees are provided with stipends and a lump sum grants for tool-kits.

Fund is also provided to various govt. and NGO's for strengthening or creation of training infrastructure. The grants are given for construction of class room/workshop and hostel facilities including equipment and training aids. The number of youths trained in various trades and vocations as a step towards self-employment during 1997-98 and 1998-99 is given below:

Table No. 11.2

| Item | Unit | Achievement during 1997-98 | Achievement During 1998-99 |
|---------------------------|-------------|----------------------------|----------------------------|
| (i) Youths trained | No. | 698 | 370 |
| (ii) Expenditure incurred | Rs. in lacs | 37.47 | 20.40 |

D.W.C.R.A.

DWCRA is a sub-scheme of IRDP. Under this scheme, groups of women with 10-15 members who are below the poverty line, are formed in villages for taking up of economic activities to earn additive income. The earnings from the group activities are shared by the group members. Each group of women under DWCRA is given a lump sum grant of Rs.15,000.00 as Revolving Fund for purchase of assets, raw materials, etc. Also an additional amount of Rs.10,000.00 is allowed for a group if the group has been functioning satisfactorily. During 1997-98 and 1998-99, about 154 and 70 DWCRA groups have been formed respectively. An amount of Rs.42.95 and Rs 56.00 lakhs have been utilised during 1997-98 and 1998-99 respectively

Table No. 11.3

| Item: | Unit | Achievement during 1997-98 | Achievement during 1998-99 |
|---------------------------|-------------|----------------------------|----------------------------|
| (i) DWCRA groups formed | No. | 154 | 70 |
| (ii) Expenditure incurred | Rs. in lacs | 42.95 | 56.00 |

J.R.Y

The Jowahar Rozgar Yojna came into existence from 1st April, 1989 by merging the erstwhile programmes of NREP and RLEGP. The primary objective of JRY is to generate additional gainful employment for the people below the poverty line, both man and woman, in rural areas. The secondary objective is to create and strengthen infrastructure for economic development in rural areas, as well as to create community assets for improvement of overall quality of rural life. The villagers engaged as workers are paid daily wages as per State Govt's Minimum Wage Act, 1994. The Anchal Samities are responsible for planning and implementation of JRY under the overall supervision of DRDA. Under this programme nearly 2.97 lakhs and 3.96 lakhs mandays of employment were generated during 1997-98 and 1998-99 respectively. An amount of Rs. 241.82 lakhs and Rs. 620.53 lakhs were utilised during 1997-98 and 1998-99 respectively under JRY programme.

E.A.S

Employment Assurance Scheme is also a rural employment programme similar to more or less the J.R.Y. with this distinction that this programme is to be planned and implemented by Deputy commissioner as "implementing authority" by engaging the departmental executing agencies without directly involving the panchayat Raj bodies. Also 100 days of employment in a year to at least 2 adult members of a family is assured under EAS during the agricultural session. The works under EAS are open to all rural people who are needy and in search of wage employment. The person above 18 years and below 60 years of age should register themselves as worker in the Gaon Panchayat where they reside. During the year 1997-98 and 1998-99, a total of 43.66 lakhs and 38.29 lakhs mandays of employment had been generated by investment of Rs 2586.93 lakhs and Rs 3530.41 lakhs respectively. Details given below:-

Table No. 11.4

| ITEM | UNIT | ACHIEVEMENT | |
|---|-------------|-------------|---------|
| | | 1997-98 | 1998-99 |
| (i) Mandays of employment generated under EAS | No in lakhs | 43.66 | 38.29 |
| (ii) Expenditure incurred under E.A.S | Rs in lakhs | 2586.93 | 3530.41 |

IAY&MWS

Indra Awas Yojana (IAY) and Million Wells Scheme (MWS) were sub components of JRY during 8th Plan till 1995-96 which were taken out of JRY and made two independent schemes from 1996-97.

The independent scheme IAY was introduced for construction of low cost houses for the rural poor within Rs. 22,000/- per unit for coverage of more households for improvement of their dwellings. The traditional housing pattern will be improved by revamping the existing foundation and providing CGI sheet roofing with adequate ventilation and improved sanitary facilities. During 1997-98, about 932 houses were constructed and Rs. 210.49 lakhs was spent. Nearly 470 houses were constructed in the year 1998-99 utilising Rs 157.19 lakhs.

The Million Wells Scheme (MWS) is being continued to provide assistance to BPL families for construction of irrigation sources and land development for permanent cultivation. The beneficiaries will engage themselves in undertaking construction through their own labour or by engaging local labourers on payment of wages. The scheme will be integrated with land

development project, and irrigation will be provided to land already developed. During the year 1997-98 and 1998-99, nearly 152 and 80 Nos. of MIC/other irrigation works completed respectively. An amount of Rs. 36.99 lakhs was spent.

WASTE LAND DEVELOPMENT PROGRAMME

The waste land development programme in non-forest areas was being implemented as central sector scheme till 1997-98 by providing 100% central Grants. But the scheme will be financed from 1999-2000 on 75:25 sharing pattern by the central and state to ensure effective participation from state Govt.

IMPROVED TOOL-KITS TO RURAL ARTISANS:

This is a Central Sector Scheme and cent percent fund is provided by the Ministry of Rural Development, Govt. of India. The Scheme aims at identification of traditional artisans and provide them necessary training to acquire improved skills in application of modern tools for increasing productivity. During 1997-98 and 1998-99 nearly 1600 and 1053 Nos. tool kits provided to Artisans. The scheme is discontinued now.

C.D.PROGRAMME.

A scheme has been launched since 1990-91 for all round development of villages by adopting an Area-cum-Community Development approach. The outlay under CD programme is under State Plan and meant for providing administrative support at State/District/Block levels, housing for office and staff, building up of rural infrastructure and physical facilities for implementation of various programme in the Blocks. The physical facilities like inter-village link road, suspension bridges, veterinary Aid Centre, Market Yards, Community Centre /Panchayat Ghar, transit camp for staff etc. are being created in the Blocks.

Besides, a new innovative scheme has been launched in 1996-97 for development of selected villages as "Model" for village development under Community Development Programme. The new scheme "Model Village Development Scheme" under which 60 villages one village in each Assembly constituency will be developed in each year as an ideal village complete with all infrastructural facilities, services and activities. The scheme is being planned and implemented by the Model Village Development Board following the approach of Participatory Rural Appraisal (PRA). Efforts are being made to make the village self-sufficient and self-reliant in terms of food production, health and education, services and basic amenities, economic activities, social welfare etc. Fund is being pooled for various programmes under RD sector for implementation of component schemes included in the Model Village Plan. Apart from this, some departments are being taken care of the activities which are not covered by the RD programmes. However the fund @ 2.00 lakhs for selected villages of 1996-97 was provided in the last week of March 1997. Rs 1.50 lakhs per village was provided in 1997-98 and during 1998-99, Govt. has selected 13 Model villages one each in each District for remote sensing and Rs 1124994.00 @ Rs 86538.00 per village have been provided to state Directorate of remote sensing Itanagar and at the rate of Rs 64583.00 per village for a total expenditure of Rs 3875000.00 provided for 60 selected villages to DRDAs against the total allocation of Rs 50.00 lakhs. With the amount only survey and planning as well as small schemes were taken up in selected villages during 1997-98 and 1998-99. Few selected indicator of the Block is given below:-

Table No. 11.5

| Items | Unit | 1997-98 | 1998-99 |
|--|--------------|---------|---------|
| i) Total Blocks functioning | No. | 56 | 56 |
| ii) Inhabited village covered | No. | 3639 | 3639 |
| iii) Population served (estimated) | No. | 285910 | 285910 |
| iv) Expdr. On commnity development programme | Rs. In lakhs | 411.00 | 265.00 |

PANCHAYAT RAJ

The Panchayat Raj system was introduced in the State in October, 1968 and had become operative since 1973. It is a three tier system. At the village level the body is known as Gram Panchayat, at Block level Anchal Samity and at the district level Zilla Parisad. The Gram Panchayat and Zilla parisad are functioning as advisory bodies and the Anchal Samities are vested with some executive and financial power. The Anchal Samities are generally co-terminus with the CD Blocks and BDOs are the Executive officers and Secretaries of the Anchal Samities. The Zilla parisad functions as District Planning body.

The constitution (73rd Amendment) Act 1992 envisages to establish strong, viable and responsible Panchayat at the village intermediate and district levels. The Act also envisages to evolve adequate powers, responsibilities and finance upon these bodies so as to enable them to prepare plans and implement schemes for economic development and social justice.

The last Panchayat Raj Election in the state of Arunachal Pradesh was held in sept, 1992 and its term allotted under NEFA Panchayat Raj Regulation, 1967 expired and also the President assent to the bill which was passed by the State Assembly in sept, 1994, had not been received, the Governor has resolved the Panchayat w.e.f 14th sept, 1997 Thus there is no panchayat at all at present in the state of Arunachal Pradesh.

CHAPTER - 12

CO-OPERATION

As early as in 1956 the Co-operative movement in Arunachal Pradesh was mainly confined to the field of consumer goods. Later, it rapidly spread to other fields like transport, agricultural marketing/processing, industry, credit and other functional spheres to achieve the objective of economic growth and social changes in the area. The movement plays a significant role in the social and economic development since the economy of Arunachal Pradesh being predominantly rural in character. The State had 258 co-operative societies with a membership of 55 thousand at the end of year 1998-99 as against 60 societies with a membership of 10 thousand at the end of year 1964-65. At present, there are more than 2000 personnel engaged on regular basis with different co-operative societies in the state.

A summary view of the level of attainment in terms of selected characteristics of co-operative movement in Arunachal Pradesh for last two years are reproduced as follow. It reveals that no. of co-operative societies of all types taken together in the State increased by 6.17 percent at the end of 1998-99 in comparison to 1997-98. The paid up share capital of the cooperative societies of all types has increased to Rs 466.71 lakhs during the year 1998-99 from Rs 431.22 lakhs in 1997-98 i.e. 8.23%. The working capital of the societies has also increased Rs 14066.08 lakhs during 1998-99 from Rs. 12511.89 lakhs of 1997-98 i.e. 12.42 percent. The short-term agriculture loan granted during 1998-99 rose to Rs 278.00 lakh from Rs 220.89 lakh in 1997-98 whereas the medium term loans granted during 1998-99 decreased to Rs 339.28 lakh from Rs 486.71 lakh in 1997-98 which is (-)30.18 percent. The marketing of agricultural produce increased to 45.10 percent during the year 1998-99 over the previous year 1997-98.

IMPORTANT INDICATORS OF CO-OPERATIVE MOVEMENT IN ARUNACHAL PRADESH :

Table No. 12.1

| Sl. No. | Item | Unit | 1997-98 | 1998-99 | Percentage increase/decrease over 1997-98 |
|---------|--|--------------|----------|----------|---|
| 1. | Number of co-operative societies. | No. | 243 | 258 | (+) 6.17 |
| 2. | Number of membership | No. | 53716 | 54980 | (+) 2.35 |
| 3. | Paid up share capital | Rs. in lakhs | 431.22 | 466.71 | (+) 8.23 |
| 4. | Working Capital | Rs. in lakhs | 12511.89 | 14066.08 | (+) 12.42 |
| 5. | Grant of loan | Rs. in lakhs | 220.89 | 278.00 | (+) 25.85 |
| | (a) Short term loan granted (Agril) | | | | |
| | (b) Medium term loan granted | Rs. in lakhs | 486.71 | 339.78 | (-) 30.18 |
| 6. | Marketing of Agril produce | Rs. in lakhs | 48.00 | 69.65 | (+) 45.10 |
| 7. | Consumer goods sale | Rs. in lakhs | 7658.98 | 8063.36 | (+) 5.28 |
| | a) Urban co-operative | Rs. in lakhs | 3063.59 | 3225.34 | (+) 5.28 |
| | b) Rural co-operative | Rs. in lakhs | 4595.39 | 4838.92 | (+) 5.30 |
| 8. | Annual turn over | Rs. in lakhs | 14626.32 | 15005.12 | (+) 2.59 |
| 9. | No. of Co-operative Fair Price Shop functioning. | No. | 267 | 267 | 0 |

In the development of co-operative sector, departmental role besides audit and over-checks, is mainly confined to provide financial assistance to the co-operative societies in the form of loan, share capital, subsidies for infrastructural facilities as per pattern of financial assistance approved by the Govt. and participation and strengthening of management. To cater such needs under Ninth Five Year Plan, an outlay of Rs.996 lakhs is approved tentatively and out of which plan expenditure were incurred Rs 220.69 lakh and Rs.152.95 lakh during 1997-98 and 1998-99 respectively. The main thrust was sought to be given to diversify the consumers activities so as to make available necessary requirements to the consumers located particularly in remote parts of the State. The growth of consumer co-operatives thus, gained popularity for retail distribution of consumer goods at reasonable rates to cater rising demands of villages and serving personnel.

The Apex Bank and the LAMPS are the most important vehicles in the Socio-economic development of the State. The State Co-operative Apex Bank with the support of 31 LAMPS provides agricultural loans to the farmers. Besides, the Bank also provides procurement loan to the LAMPS and marketing societies for undertaking marketing of agricultural produces as also cash credit to the districts wholesale societies for procurement and distribution of PDS items. The LAMPS in the State provide all sorts of assistance to the agriculturists and also function as main agent of PDS. In addition to LAMPS, some consumer co-operatives are also involved in PDS. Co-operatives shoulder the principal responsibility for the success of PDS in the State both as wholesaler as well as retailer. The involvement of the societies in the system is so deep that it is difficult to draw any distinguishing line between the Co-operative and PDS. As on date, the co-operatives are the district wholesale nominees in all districts and there are 267 Retail FPS (Fair Price Shop) run by the co-operatives.

The Co-operative super-market with self service facilities, established by the Arunachal Pradesh Co-operative Marketing and Supply Federation Ltd. has been widely appreciated by the consumer of the capital complex.

CHAPTER - 13

PUBLIC DISTRIBUTION SYSTEM

The Public Distribution System is focused as one of the national agenda under Basic Minimum Services. The PDS has spread over the whole of Arunachal Pradesh with a network of 940 Fair Price Shops to ensure regular supply of essential commodities to the people at an uniform and reasonable price. In the high altitude remote areas bordering International Boundary where surface communication is lacking, the supply system in those areas is maintained by air dropping under CPO Scheme. The State Govt. is making all out efforts to bring hitherto uncovered/partially covered areas under PDS and during 1998-99, 145 more new FP shops have been opened towards achieving this goal. Thirty four nos. of Mobile Van/Trucks have been procured up to the period of 1998-99 with the central assistance and pressed into service to ensure door to door delivery of essential commodities under PDS. Out of the total 1085 FPS by 1998-99, 982 are in rural areas and 103 are in urban areas, while 267 FPS are operated by co-operative societies and remaining 715 FPS operated by Private Entrepreneurs. The following table gives details of FPS (district-wise) as on 31-3-99 in the State :

NUMBER OF FAIR PRICE SHOPS IN ARUNACHAL PRADESH AS ON 31-3-99.

Table No. 13.1

| District | Rural | | | Urban | | | Combine | | |
|----------------|------------|------------|------------|-----------|-----------|------------|------------|------------|-------------|
| | Coop. | Other | Total | Coop. | Other | Total | Coop. | Other | Total |
| 1. Tawang | 30 | 25 | 55 | -- | -- | -- | 30 | 25 | 55 |
| 2. W/Kameng | 24 | 34 | 58 | 7 | 7 | 14 | 31 | 41 | 72 |
| 3. E/Kameng | 21 | 24 | 45 | -- | -- | -- | 21 | 24 | 45 |
| 4. P/Pare | 8 | 52 | 60 | 20 | 19 | 39 | 28 | 71 | 99 |
| 5. L/Subansiri | 7 | 99 | 106 | 7 | 14 | 21 | 14 | 113 | 127 |
| 6. U/Subansiri | 10 | 135 | 145 | -- | -- | -- | 10 | 135 | 145 |
| 7. W/Siang | 7 | 190 | 197 | 4 | 4 | 8 | 11 | 144 | 205 |
| 8. E/Siang | 25 | 35 | 60 | 3 | 3 | 6 | 28 | 38 | 66 |
| 9. U/Siang | 9 | 13 | 22 | -- | -- | -- | 9 | 13 | 22 |
| 10. D/Valley | 12 | 24 | 36 | 3 | 1 | 4 | 15 | 25 | 40 |
| 11. Lohit | 41 | 4 | 45 | 3 | 1 | 4 | 44 | 5 | 49 |
| 12. Changlang | 12 | 79 | 91 | -- | -- | -- | 12 | 79 | 81 |
| 13. Tirap | 10 | 50 | 62 | 4 | 3 | 7 | 14 | 55 | 69 |
| TOTAL : | 216 | 766 | 982 | 51 | 52 | 103 | 267 | 818 | 1085 |

In addition, a new scheme of free distribution of 15 kgs of rice, 2 kgs of iodised salt and 1 cake of Lifebuoy Soap for three months during pre-harvesting season to the families below the poverty line has been introduced in 1995-96 and total of 90,000 (approx.) beneficiary families have been covered.

At present there are 26 Petroleum/HSD outlets, 37 SKO outlets and 11 LPG distributors in different location of the State. Efforts are being made to open more Petroleum/HSD outlets, SKO outlets and LPG distributorship at important places in the State.

CHAPTER -14 TRANSPORT AND COMMUNICATION

Economic and social development of the people of Arunachal Pradesh depend mostly on efficient means of transport and communication. As scope of waterways being limited and air transport being too costly, road transport is considered as lifeline of the people of Arunachal Pradesh. Accordingly highest priority continued to be accorded for construction of roads and bridges since launching of five year plans. A total of Rs. 87058 lakhs has been provided as approved outlay during ninth plan (97-2000) for roads and bridges out of which Rs 63983 lakh is provided under PWD and Rs.23075 lakhs provided under RWD. An outlay of Rs. 12759 lakh including Rs. 9886 lakhs under PWD and Rs. 2873 lakhs under RWD was provided during 1998-99 for the construction of roads and bridges. The expenditure is likely to be Rs. 11861.69 lakhs during the year. The details of outlay and expenditure during ninth plan are given below:

Table No. 14.1

(Rs. in Lakhs)

| Head of Development | Ninth Plan Outlay | 1997-98 | | 1998-99 | |
|---------------------|-------------------|-----------|-----------------|-----------------|-----------------|
| | | Outlay | Expdr. | Outlay | Expdr. |
| (i) PWD Roads | 63983 | NA | 9556.21 | 9886.00 | 9085.63 |
| (ii) Rural Roads | 23075 | 2773 | 2762.25 | 2873.00 | 2776.06 |
| TOTAL : | 87058 | NA | 12318.46 | 12759.00 | 11861.69 |

It appears from available records that at the end of 1998-99, total road length in the State was about 13423.662 km of which under PWD 6592.535 km; under BRO 3756.127 km, under RWD 2016 km and under Forests 1059.000 km. The length of National Highways stood at 270.68 km at the end of 1998-99. At the end of 1998-99, the road density in the State was 16 Km per 100 Sqr.kms as against the all India average of 74.9 km per 100 Sqr. kms. as on 31st March 1997. Table below reflects district road length as on 31-3-99:

ROAD LENGTH AS ON 31-3-99

Table No. 14.2

(In Km.)

| Road under | Particulars of Road in Arunachal Pradesh | | | | | Total Length of Road |
|----------------|--|-----------------|---|-----------------|----------------|----------------------|
| | National Highway | Black Top | Surface (water bound Maccadam/ Gravelled) | Unsurface | Station colony | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| APPWD | - | 1814.701 | 1040.839 | 3157.532 | 579.463 | 6592.535 |
| BRO | 270.68 | 2579.706 | 475.117 | 430.624 | - | 3756.127* |
| RWD | - | - | 225.000 | 1791.000 | - | 2016.000 |
| FOREST | - | - | - | 1059.000 | - | 1059.000 |
| TOTAL : | 270.68 | 4394.407 | 1740.956 | 6438.156 | 579.463 | 13423.662 |

*Figure for 1997-98 since this year data is not available.

ROAD TRANSPORT

Road and rail transport constitutes surface transport system. Road transport is still virtually the only means of communication to the people of Arunachal Pradesh. Mechanised mode of the transport such as rail and airways are yet to gain pace up while waterways potential negligible in the State. An important achievement under surface transport system is that Arunachal Pradesh was brought under railway map of India with the opening of Balipara-Bhalukpong metre gauge line on 27-1-89.

In Dec, 1975, Arunachal Pradesh State Transport Department started operation of its maiden bus services with two buses only initially over the 'Khonsa-Naharkatia route' and then Naharlagun-North Lakhimpur route. The department is at present holding a fleet of 231 buses over 141 routes. This gives 81% fleet utilisation. Bus-staff ratio has been worked out at 5:30. The total revenue earned during the year 1998-99 is at the tune of Rs. 538 crores. Efforts are made to ensure increasing revenue by minimising losses to vehicle and increasing its fuel efficiency for reservation better mileage.

In order to provide basic passenger amenities 12 bus stations are constructed while construction of three Sub stations (i.e Palin, Yinkiong, and Hayuling) are nearing completion. In addition of above numbers of waiting sheds have been constructed in various places of the state for the comfort of wayside passengers. For advance reservation in long distance trains to the people of interior places of Arunachal Pradesh, 6(six) Railway out agencies are operating at Itanagar (Naharlagun) Along, Pasighat, Bomdila, Seppa and Tawang. The department has also set-up a central workshop at Kharsingasa for heavy body and mechanical repairing of buses. The department has got its own tyre rethreading plant in the central workshop. With a view to reduce loss and improve efficiency, the department has also taken a few steps like periodical training to the drivers and operational staff so that they can improve their driving habits and are made aware of road safety.

The principal operational features of the state transport may be read as follows for a closer view:

Table No. 14.3

| Indicator | Unit | Operational Statistics | | |
|--------------------------------------|--------------|------------------------|---------|---------|
| | | 1996-97 | 1997-98 | 1998-99 |
| 1 | 2 | 3 | 4 | 5 |
| Bus route coverage | No | 115 | 137 | 141 |
| Distance bus route coverage per day | Km in lakh | NA | 86 | 91 |
| Total bus km operated | -do- | 59.59 | 66.87 | 70.00 |
| Strength of bus fleet (No of buses) | Nos | 175 | 215 | 231 |
| Seat occupancy ratio | Percent | NA | 47.37 | 63.38 |
| Traffic receipt | Rs in lakh | NA | 529 | 538 |
| Bus fleet utilisation | Percent | 85 | 85 | 81 |
| Operational Expenditure | Rs in lakh | NA | 1085 | 1387 |
| Net loss (operational) | -do- | NA | 556 | 849 |
| Fuel efficiency | Km per litre | 3.29 | 296 | 2.88 |
| Tyre efficiency | In Km(000) | NA | 35000 | 28000 |
| Bus station | In No | 13 | NA | 12 |
| Railay outagency | -do- | 5 | NA | 6 |
| Average daily passengers carried | -do- | - | - | - |
| Average bus on road on any given day | -do- | NA | NA | 5833 |
| Total passenger carried | No in lakh | NA | NA | 21 |

CIVIL AVIATION

The state of Arunachal Pradesh did not have a place in the air-map of the country till 1995. In view of remoteness and long distance between capital and district headquarters and other important locations and due to communication bottle-neck in surface communication, there was a long felt requirement to develop the Civil air-communication network in the state. As a first step towards the effort for development of air-communication, the state govt. introduced Civil communication flight services through Pawan Hans Helicopters Ltd. (A Govt. of India enterprise) with effect from 9th December, 1995 and the affairs are entrusted with Civil Aviation Department.

In view of economic backwardness of the people of the state, the ministry of Home Affairs, Govt. of India has granted 75% subsidy on the cost of operation.

The passengers flight service was initially started with operation on two routes viz Naharlagan-Guwahati and Naharlagan-Mahanbari and it has been subsequently extended to other locations / district headquarters of the state over the years. At present 12 locations including Guwahati and Mahanbari of Assam are connected from Naharlagan base giving connectivity to 9 districts with optimum utilisation of the sole helicopter and for the fact that the Dauphin helicopter in operation is not feasible to operate in high altitude locations.

Govt. is also keen to purchase one helicopter with the aid of Central Govt. from non-lapsable pool resources. With the introduction of the second helicopter, it would be possible to extend the air-communication network and to cover almost all the district headquarters and important locations.

Apart from above, the helicopter service has also been extended to various locations on emergent situation like lifting of stranded passengers owing to disruption of road and surface communication due to natural calamities as well as for movement of VIPs to conduct aerial survey of flood affected areas etc.

The Department of Civil Aviation is also looking after the schemes of construction of landing grounds, helipads and repair-maintenance of existing ones. At present there exists 13 nos of LGs ALGs and 120 nos helipads in the state of which 11 nos and 27 nos of LGs /helipads are regularly used for operation of Pawan Hans passengers flight services and IAF ration sorties respectively.

The Civil Aviation Department is extending yeomen services for the benefit of the people in general and for the Govt. in particular by implementing Civil air-communication flights services and constructing & maintaining the helipads /ALGs for smooth operation of ration sorties by IAF air crafts for supply of essential ration commodities to the remote administrative centres.

POSTAL AND TELECOMMUNICATION SERVICE

Growth of Post and Telecommunication facilities under central sectors appears to be at low pace because of remoteness and inaccessibility of many areas. Now, however during the year 1998-99 number of post offices increased to 294 from 284 over the previous year due to increase of 10 nos. of E.D.P.O in the state. Out of the total 294 post office in the State one is Head Post Office with 45 Sub-post office and 248 EDBPO (Extra Departmental Branch Post Office). Telegraph facilities are provided in 20 post offices. The area served by one post office in Arunachal Pradesh is 296 sq. km whereas the all India average is 22 sq. km (1990-91).

GROWTH OF POST OFFICES IN ARUNACHAL PRADESH:

Table No 14.4.

| Indicator | Unit | Growth as on 31 st March | | | | | |
|--------------------------------------|---------------|-------------------------------------|------|------|------|------|------|
| | | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
| 1. Post offices | No. | 283 | 283 | 283 | 283 | 284 | 294 |
| (a) Head post office | No. | 1 | 1 | 1 | 1 | 1 | 1 |
| (b) Sub-post office | No. | 44 | 44 | 44 | 45 | 45 | 45 |
| (c) E.D.B.P.O. | No. | 238 | 238 | 238 | 237 | 238 | 248 |
| 2. Telegraph office | No. | 17 | 18 | 19 | 20 | 20 | 20 |
| 3. Population served per post office | Person in No. | 3055 | 3055 | 3055 | 3055 | 3055 | 3055 |
| 4. Area served by one post office | Sq. km | 296 | 296 | 296 | 296 | 296 | 296 |

Telecommunication facilities in the State have been growing steadily over the recent years. The State is now divided into 7 telephone sub-division viz. Itanagar, Naharlagun, Bomdila, Tezu, Pasighat, Anini, Khonsa with 81 telephone exchanges and total capacity of 33700 connections, out of which 22066 nos. working connection has so far been provided as on 31-3-99

GROWTH OF TELECOMMUNICATION FACILITIES FOR THE PUBLIC FOR LAST FIVE YEARS

Table No. 14.5

| Indicator | Unit | As on March | | | | |
|-----------------------|------|-------------|-------|-------|------|-------|
| | | 1995 | 1996 | 1997 | 1998 | 1999 |
| 1. Telephone Exchange | No. | 49 | 56 | 64 | NA | 81 |
| 2. Working Connection | No. | 8961 | 10054 | 11752 | NA | 22066 |
| 3 S.T.D Facilities | No. | NA | NA | NA | NA | 54 |
| 4 Total capacity | No. | 12558 | 13832 | 17844 | NA | 33700 |
| C.C.D connection | No. | NA | NA | NA | NA | NA |
| P.C.O Provided | No. | NA | NA | 251 | NA | 310 |
| Telephone Offices | No. | NA | NA | NA | NA | 83 |

Radio Stations at Tezu, Pasighat, Itanagar and Tawang are functioning. VLPT tower have been set up almost in every District Headquarter and a low power TV transmitter had been set up in the State Capital at Itanagar.

POWER

Arunachal Pradesh which has been endowed with innumerable natural resources is today one of the richest state in terms of hydro-power potentialities. The total hydro-power potential available in the state is estimated to be 1/3rd of the entire hydro potential of the country. Arunachal Pradesh though endowed with immense hydel potential, but nothing much could be done to exploit this potential, due to its limited resources. During 8th Five Year Plan and subsequent annual plans, emphasis was given on hydel generation and mini/micro hydel schemes.

The total hydro potential of the state is estimated in the order of 30,000 MW. Even if a part of the available hydro-power potential is explored, the state will not only be self sufficient in meeting the power demand of the state but at the same time it can take care of power demand of the region as a whole. The department of power so far has successfully commissioned 35 numbers of small hydel stations in various parts of the state with an installed capacity of 30.735 MW which are main sources of power in the state. Besides the micro/mini hydel projects, there are also large hydel projects which are either already investigated or in the final stage of investigation in the order about 26565 MW installed capacity. As the state's financial resources is inadequate for implementation of these large hydel projects, possibility of exploration through Central government agencies or Private power developers are being explored. However, Ranganadi Hydro Electro project with an installed capacity of 405MW is already in the stage of completion by North East Electric Power Corporation.

The present peak demand of power in Arunachal Pradesh is about 75 MW which is partially met from isolated micro/mini Hydel Station and Diesel Generating sets with an installed capacity of 55.505 MW only and import of state's share from central sector projects in the region and from neighbouring states. The generating capacity has been increased to some extent by the end of 8th Five Year Plan. To reduce the gap of demand and generation, priority is being given for completion of on-going micro/mini hydel project having total installed capacity of 48.25 MW since the commissioning of major Hydel Electric project would take some time.

Under Rural Electrification Programme, the state has so far achieved 64% level of electrification by electrifying 2334 Nos. of villages by the end of 1998-99 out of 3649 villages as per 1991 census.

The achievement made during 1998-99 under various items of power sector are indicated in the following table :-

ACHIEVEMENT UNDER POWER SECTOR DURING 1998-99

Table No. 15.1

| Sl. No. | Indicators | Unit | Achievement during 1998-99 |
|---------|--|------|----------------------------|
| 1 | 2 | 3 | 4 |
| 1. | Installed capacity | MW | 55.505 |
| 1.1. | Hydel | -do- | 30.735 |
| 1.2. | Diesel | -do- | 24.770 |
| 2. | Annual Generation | MU | 66.8983 |
| 2.1. | Hydel | -do- | 54.350 |
| 2.2. | Diesel | -do- | 12.543 |
| 3 | Imported from ASEB/Central sector (out side State) | MU | 77.431 |
| 4 | Annual Consumption | MU | 342.27 |
| 4.1. | Domestic | MU | 163.06 |
| 4.2. | Commercial | -do- | 34.72 |
| 4.3. | Industrial | -do- | 3.22 |
| 4.4. | Public lighting and water works | -do- | 45.13 |
| 4.5. | Agriculture (any other category) | -do- | 96.14 |
| 5 | Villages electrified during the year | No. | 196 |

INDUSTRY

Arunachal Pradesh is endowed with bountiful natural resources like forests, hydropower/water and minerals for industrial development, but lack of infrastructural facilities like roads, bridges, transport, communication, institutional finance stood as hindrance for exploration of the natural resources. Ever since the planning era in the country, the Departmental efforts were mainly confined to the promotion of traditional handicrafts, handloom, village and cottage industries. With the setting up of District Industries Centres (DIC) during 5th Five Year Plan; efforts have been made for setting up of forest and mineral based industries. Of late, efforts are being made for gearing up industrial activities in the state through the establishment/opening of APIDFC, Arunachal Pradesh Khadi and Village Industries Board and Arunachal Pradesh Mines and Mineral Development Trading Corporation limited. Besides, Industrial Policy of Arunachal Pradesh (1994-95) has been announced which is expected to provide a framework for the future development of industries in the State. It is expected that these efforts would push up industrial growth in the state to a considerable extent in near future. The Department of Handloom and Handicrafts was formed during 1995-96 separating from the Industries department. Since then separate funds were allocated for Handloom and Handicrafts sector.

Outlay and expenditure during last three years since 1996-97 under Industry and Handloom & Handicrafts are shown below :-

Table No. 16.1

(Rs. in lakhs)

| Sectors | 1996-97 | | 1997-98 | | 1998-99 | |
|---|---------------|---------------|---------------|---------------|---------------|---------------|
| | Outlay | Expenditure | Outlay | Expenditure | Outlay | Expenditure |
| 1. | 2. | 3. | 4. | 5. | 6. | 7. |
| 1. Village and Small Scale Industries (VSI) | 244.00 | 234.34 | 289.00 | 283.92 | 253.00 | 223.29 |
| 2. Industries (other than VSI) | 99.00 | 85.18 | 101.00 | 103.05 | 260.00 | 243.00 |
| 3. Labour & labour welfare | 56.00 | 54.71 | 65.00 | 63.06 | 52.00 | 44.18 |
| Sub- Total | 399.00 | 374.23 | 455.00 | 450.03 | 565.00 | 510.47 |
| 4. Handloom and handicraft and Sericulture | 352.00 | 334.29 | 322.00 | 321.27 | 282.00 | 243.83 |
| Grand Total | 751.00 | 708.52 | 777.00 | 771.13 | 847.00 | 754.30 |

The small scale industries contribute substantially to the industrial production and in generating employment in the state. At present the state is having 18 numbers of registered Medium Scale Industries and 4546 numbers of registered SSI units, in addition to one Mini Cement Plant, a Fruit Processing Plant, a Citronella Oil Industry and one Tea Industry. As many as 14539 persons are employed in these Industries as on 31-3-99.

In order to start new SSI units and to assist existing SSI units for industrial growth, the State Govt. has taken number of steps such as:-

(a) Local youth being sponsored to MBA and other PG course in industrial management to motivate them to set up different industries. Besides, two number of ITI one at Roing and another at Taborijo are functioning in the State to provide technical education. The Rural Industrial Development Centre (RIDC) at Dirang in West Kameng District has been established in collaboration with the HMT Limited, Bangalore for imparting training to rural youth under Skill Development programme. Apart from this, 83 number of Craft Centres are also functioning in the State which provides training to different trades such as Weaving, Knitting, Tailoring, Carpet making, Cane and Bamboo, Carpentry, etc. During 1998-99 about 602 trainees were trained.

(b) Raw material Banks are opened in all the districts in order to assist small scale and village industrial units to meet up raw materials timely and at reasonable cost.

(c) In Arunachal Pradesh where banking facilities are not available in many areas, it is very difficult for entrepreneurs to obtain loan from the bank. The Department of Industries has been extending loans to the entrepreneurs for establishment of small projects of their own. Besides, APIDFC which is fully owned by the State government engaged in development of industries and providing financial assistance under the refinance scheme of Industrial Development Bank of India. So far the corporation has financed 130 Nos. of industrial units in medium and small scale industries with an amount of Rs. 70.00 crores. The number of units and amounts of loan advanced by the corporation during 1998-99 and last two previous years are shown in the following table:-

AMOUNT DISBURSED BY APIDFC TO VARIOUS TYPES OF INDUSTRIAL UNITS, DURING LAST THREE YEARS.

Table No. 16.2

(Rs. in Lakhs)

| Sl. No. | Type of industries | Amount disbursed during | | | | | | | | | | | |
|---------|------------------------------|-------------------------|--------|--------|--------|-------------|--------|--------|--------|-------------|--------|--------|--------|
| | | 1996-97 | | | | 1997-98 | | | | 1998-99 | | | |
| | | Small scale | | Others | | Small scale | | Others | | Small Scale | | Others | |
| | | Unit | Amount | Unit | Amount | Unit | Amount | Unit | Amount | Unit | Amount | Unit | Amount |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1. | Manufacturing | - | - | - | - | - | - | - | - | - | - | - | - |
| 2. | Cold storage & manufacturing | - | - | - | - | - | - | - | - | - | - | - | - |
| 3. | Textile | | | | | | | | | | | | |
| 4. | Miscellaneous | | | 24 | 66.39 | | | 24 | 66.39 | | | 12 | 30.30 |
| | TOTAL | | | 24 | 66.39 | | | 24 | 66.39 | | | 12 | 30.30 |

(d) Industrial Estates provide ready-built sheds to the entrepreneurs to start their own industrial venture at a very nominal rent where-in road, communication, power supply and water supply including other required infrastructure are made available. At present there are 13 Nos. of Industrial Estate with 196.48 acres of area acquired in the state.

(e) Four Industrial Areas (earlier indicated as Growth Centre) one at Tezu and remaining three at Dirang, Pasighat and Miao are functioning in the state.

(f) A centrally sponsored Export Promotion Industrial Park (EPIP) at Niglok Ngarlung in East Siang District has been formulated with a view to involve State Government in export efforts.

With a view to develop rich heritage of Handloom/Handicraft items of Arunachal Pradesh, the Department has taken up number of schemes viz. Participation and organising of Exhibition to create awareness amongst the local entrepreneurs and artisans of the state. At present the Department has been running 13 Emporia and 5 nos of show room in the State for marketing the products of Departmental Crafts/production Centres and also to help the poor craftsmen and local artisans by procuring their products for selling through 13 Emporia. In addition of it there are 2(Two) nos of Emporia functioning at Delhi and Calcutta. More over the Department has already acquired a plot of land in New Mumbai for establishment of a Guest house and a Emporia of Arunachal Pradesh to project the state traditional craft out-side state.

ARUNACHAL PRADESH KHADI AND VILLAGE INDUSTRY

The Arunachal Pradesh Khadi & Village Industries Board is a statutory body of the Govt. of Arunachal Pradesh working under the administrative Control of the Department of Textile & Handicrafts. This statutory Board is created by an Act of Legislature viz, the A. P. Khadi & Village Industries Board-Act, 1989. The Act was further amended during the year 1998 as per Govt. of India's directives, which has interalia, ensured the state Govt's exclusive control over the administrative affairs of the Board

The objectives behind constitution of the Board, which is purely a promotional body, is to plan, organise and develop Khadi and Rural Industries in the State.

The Board has started its function since 1991 and till time, i.e. upto 1998-99, the total fund provided by the State Govt. amounts Rs. 87.86 lakhs being establishment expenses. For developmental activities total fund received from KVIC amounts Rs 337 lac which includes subsidy component Rs 144.29 lac. Till time the Board has financed 248 rural industries unit to the local entrepreneurs with the above fund. The Board has also implementing KVIC's margin money scheme through Banks, for which subsidy @30% of project cost are provided by the KVIB. other than this, the KVIB also has been implementing central sector scheme on bee-keeping with funding from Ministry of Agriculture, Govt. of india.

Under the Board training programme the local youths are sent to different training institutes of KVIC, which are 54 in numbers. Total Expenditure for such training are borne by the G.O.I./KVIC.

Following table reflects the Physical Achievement during 1997-98 and 1998-99

PHYSICAL ACHIEVEMENT DURING 1997-98 AND 1998-99

Table No. 16.3

| Sl. No. | Indicator | Unit | Achievement | |
|---------|--|--------------|-------------|---------|
| | | | 1997-98 | 1998-99 |
| 1 | HANDLOOM INDUSTRY | | | |
| 1.1 | Production of cloth | 000 mtr. | 16300 | 150000 |
| 1.2 | Persons employed | No | 1016 | 1146 |
| 2 | HANDICRAFT & OTHER VILLAGE INDUSTRY | | | |
| 2.1 | Value of Production | Rs in Lakhs | 58.49 | 28.00 |
| 2.2 | Persons employed | No | 1000 | 1500 |
| 3 | CRAFTS TRAINING-CUM PRODUCTION | | | |
| 3.1 | Crafts production /training centre | No | 88 | 88 |
| 3.2 | Persons trained | No | 886 | 1016 |
| 3.3 | Value of Production | Rs. in lakhs | 41.54 | 23.00 |
| 3.4 | Annual sale proceed | -do- | 66.43 | 41.38 |
| 4 | SERICULTURE INDUSTRY | | | |
| 4.1 | Sericulture Centre | No | 31 | 31 |
| 4.2 | Village rearers | No | 6000 | 6000 |
| 4.3 | Plantation area | In Hect. | 205.18 | 205.18 |
| 4.4 | Production of Row Silk | Kg | 1375 | 1100 |
| 4.5 | Production of Eri cocoons | Kg | 16400 | 13600 |
| 4.6 | Production of Muga Cocoons | No | 1200000 | 1050000 |
| 4.7 | Production of Oak Tasar Cocoons | No | 95000 | 100900 |
| 438 | Employed | No | 7985 | 3000 |

CHAPTER - 17

EDUCATION AND HUMAN RESOURCES DEVELOPMENT

Education and Human Resources Development is of paramount importance to improve the socio-economic status of people. In this respect, till independence, Arunachal Pradesh lagged extremely behind as with only 4 primary school to name for education facilities and literacy less than 1%. A modest beginning, however, could be made right from first Five Year Plan despite formidable constraints like inaccessibility of territory, peoples' unawareness of the need of education and traditional dependence on children for domestic and field work. With increasing emphasis through successive plans, commendable progress could be made over the past few decades. The census record reveals progressive growth of literacy as 7.23% in 1961, 11.29% in 1971, 20.79% in 1981 and 41.59% in 1991. As per 1991 census data, male and female literacy rate in Arunachal Pradesh is 51.45% and 29.69% respectively as against All India rate of 64.13% and 39.29% respectively. Also, by the end of second year (98-99) of 9th Five Year Plan (1997-2002), the number of General educational institutions have risen upto 1782 excluding pre-primary and university with enrolment of about 231 thousand.

Efforts were made for providing facilities for primary education to achieve the constitutional objective of universalisation of elementary education. The 9th Plan strategies also made in such a way to achieve the national objective of universalisation of elementary education, complete eradication of illiteracy among the people of age group 15-35 years, expansion of vocational education and youth service facilities to reduce dropout rates. Besides, efforts are being continued on higher and university education with qualitative improvement at all levels. The 9th Plan outlay and year-wise financial achievement under education is reflected as under:-

Table No.17.1

(Rs. inLakh)

| Head of development | 9 th Plan agreed (1997-2002) outlay | Achievement(Actual Expenditure)During the year | |
|---------------------------|---|---|---------|
| | | 1997-98,, | 1998-99 |
| GENERAL EDUCATION | 46138.00 | 6069.66 | 6144.23 |
| 181. Secondary education | N.A | N.A | N.A |
| (.ii) Adult education | N.A | N.A | N.A |
| (iii)Vocational education | N.A | N.A | N.A |
| 2.Sport and youth service | 1250.00 | 250.00 | 181.49 |
| Total | 47388.00 | 6319.66 | 6325.72 |

The trend of growth of educational institutions in the state over the last two years is effected in the table below:-

Table No.17.2

(In numbers)

| Educational Institutions | At the end of 8 th Plan (1996-97) | During First two years of 9 th Plan | |
|-----------------------------|--|--|---------|
| | | 1997-98 | 1998-99 |
| 1. Pre-primary schools | 137 | 95 | 46 |
| 2. Primary schools | 1256 | 1264 | 1277 |
| 3. Middle schools | 309 | 311 | 326 |
| 4. Secondary schools | 92 | 93 | 103 |
| 5. Higher Secondary schools | 68 | 69 | 69 |
| 6. College | 6 | 7 | 7 |
| 7. University | 1 | 1 | 1 |

Note :- * No. of Pre-primary schools decreased due to merger with other primary and Middle schools.

It appears from the above table that there is a steady growth of educational institutions in the state over years. In addition to above institutions, there are one Teachers Training School and one school for Handicapped persons functioning in the state. With a view to provide educational facilities in the habitations below 200 population, one Community school to each such locations are established in phase manner since 1990-91. Till 1994-95, 266 such community schools were opened. In Community schools, pre-schooling, primary education from class I and II, non-formal education and adult education are being provided. No regular teacher is appointed against these community schools. Each community school is run by an educational worker on honorarium basis. The educational worker is being appointed from locally available youths on the basis of recommendation of the Village and Block Education Committee.

The trend of enrolment of students during last few years is shown in the table given below:-

Table No.17.3

(In '000 numbers)

| Stage | 1996-97 | 1997-98 | 1998-99 | % increase in 1998-99 over 1996-97 |
|---|---------|---------|---------|------------------------------------|
| 1. Pre-primary | 30 | 36 | 33 | 10.00 |
| 2. Elementary (I - VIII) | 182 | 194 | 201 | 10.44 |
| 3. Secondary (IX - X) | 17 | 19 | 20 | 17.65 |
| 4. Higher Secondary (XI - XII) | 6 | 7 | 8 | 33.33 |
| 5. Graduation | 3 | 3 | 3 | - |
| 6. Post graduation | 0.4 | 0.4 | 0.5 | 25.00 |
| A. Total Enrolment | 238.4 | 259.4 | 2655 | 11.36 |
| B. Enrolment of students belonging to AP scheduled tribes | 170 | 179 | 183 | 7.65 |
| C. Percentage of APST enrolment to total enrolment | 71.31 | 69.01 | 68.93 | - |

The enrolment of students during last three years indicates that a remarkable growth as from 238.4 in 1996-97 to 265.5 thousand in 1998-99 registering a 11.36 percent rise to total enrolment over two years.

The number of teachers and enrolment of students in the institution during 1997-98 and 1998-99 are reflected below The teacher pupil ratio in different stage during 1997-98 and 1998-99 is given in the following table.

Table No.17.4

| Stages | Number of Teachers | | Enrolment of Students In thousand | | Pupil per Teacher | |
|----------------------------------|--------------------|---------|--------------------------------------|---------|-------------------|---------|
| | 1997-98 | 1998-99 | 1997-98 | 1998-99 | 1997-98 | 1998-99 |
| 1 Pre primary and Primary School | 2982 | 2949 | 186 | 185 | 1:62 | 1:63 |
| 2.Middle | 2381 | 2338 | 44 | 49 | 1:19 | 1:21 |
| 3.Secondary | 1266 | 1525 | 19 | 20 | 1:15 | 1:13 |
| 4. Higher Secondary | 1663 | 1654 | 7 | 8 | 1:4 | 1:5 |
| 5. Degree college | 172 | 194 | 3 | 3 | 1:16 | 1:13 |
| 6. University | 48 | 53 | 0.4 | 0.5 | 1:8 | 1:9 |
| Total | 8512 | 8710 | 259.4 | 265.5 | | |

Adult Education Programme has received the special attention in the state at the instance of National Literacy Mission to cover illiterates in the age group of 15-35 years with thrust on literacy, social awareness and functional literacy.. The achievement of physical target under Adult Education is moderate. Efforts are continued to be made to give higher emphasis on area approach rather than centre based programme under Adult Education Programme. Accordingly few blocks have been taken up during 1998-99 for achieving 100% literacy.

In respect of technical education, Arunachal Pradesh is yet to have institutional facilities except the lone Regional Institute of Science and Technology(NERIST) with limited seats for the state. There is no college for study in medicine, veterinary, forestry, agriculture, fishery etc. and hence students are sent to study these disciplines in the institutions of other states of the country. On completion of their courses most of these students return to the state catering Technical Manpower needs in various fields. The table below shows the total number of students sent for Medical, Veterinary and Engineering colleges outside the state from 1991 onwards.

Table No. 17.5

| Year | Medicine | | | Agriculture | Veterinary | Horticulture | Engineering | | Pisciculture | Handloom Technology and Sericulture |
|------|----------|-----|------|-------------|------------|---------------|-------------|----------|---------------|-------------------------------------|
| | MBBS | BDS | BHMS | BSC(Agri) | B.V.SC | Degree course | Degree | Diplo ma | Degree course | Degree course |
| 1991 | 27 | 5 | 2 | 20 | 25 | - | 69 | 99 | 1 | - |
| 1992 | 27 | 5 | 2 | 32 | 16 | - | 72 | 115 | - | 2 |
| 1993 | 27 | 5 | 2 | 31 | 15 | 1 | 72 | 115 | 1 | 4 |
| 1994 | 31 | 6 | 4 | 44 | 14 | 1 | 70 | 104 | - | 2 |
| 1995 | 32 | 5 | 3 | 45 | 14 | - | 130 | 108 | 3 | 1 |
| 1996 | 31 | 5 | 3 | 25 | 9 | 1 | 131 | 123 | 1 | 5 |
| 1997 | 36 | 5 | 2 | - | 11 | - | 131 | 126 | - | 4 |
| 1998 | 39 | 5 | 3 | 25 | 7 | - | 142 | 132 | 1 | 3 |
| 1999 | 41 | 6 | 4 | 10 | 6 | 1 | 150 | 161 | - | 4 |

In addition, the North Eastern Regional Institute of Science and Technology (NERIST) established in the state in 1986 has also started producing Engineering Diploma holders from 1990 and Degree holders from 1992. As such, availability of Engineering Manpower at least to meet such needs of government departments appears enough in the state as some of the passed-out Engineers could not be absorbed in government job as on date.

As regards drop-out rates in educational institutions, there has been high rates of drop-out at various level. The following table shows drop-out rates from class I-V, I-VIII and I-X in the state for last 15 years.

Table No 17.6

| Year | Primary level(I-V) | | | Middle level(I-VIII) | | | Secondary level(I-X) | | |
|---------|--------------------|-------|-------|----------------------|-------|-------|----------------------|-------|-------|
| | Boys | Girls | Total | Boys | Girls | Total | Boys | Girls | Total |
| 1984-85 | 67.46 | 63.57 | 66.14 | 81.49 | 80.33 | 81.13 | 85.92 | 85.70 | 85.86 |
| 1985-86 | 60.74 | 63.15 | 65.45 | 79.23 | 79.15 | 79.20 | 86.75 | 87.79 | 87.08 |
| 1986-87 | 65.55 | 62.56 | 64.46 | 38.06 | 75.53 | 77.25 | 83.43 | 85.23 | 83.99 |
| 1987-88 | 58.05 | 58.43 | 58.19 | 75.20 | 75.91 | 75.44 | 83.03 | 85.75 | 83.92 |
| 1988-89 | 62.33 | 61.49 | 62.00 | 75.88 | 73.91 | 75.17 | 82.76 | 84.29 | 83.25 |
| 1989-90 | 61.61 | 60.60 | 61.20 | 76.49 | 76.00 | 76.34 | 80.49 | 81.83 | 80.94 |
| 1990-91 | 60.71 | 60.78 | 60.74 | 75.97 | 75.84 | 75.92 | 79.10 | 82.49 | 80.22 |
| 1991-92 | 58.76 | 60.66 | 59.53 | 73.78 | 76.65 | 74.91 | 78.45 | 82.37 | 78.88 |
| 1992-93 | 50.72 | 60.02 | 60.54 | 66.82 | 69.94 | 60.07 | 77.74 | 80.02 | 78.60 |
| 1993-94 | 50.10 | 61.09 | 60.52 | 64.62 | 67.44 | 67.72 | 77.59 | 79.11 | 78.52 |
| 1994-95 | 54.97 | 55.22 | 55.07 | 63.08 | 66.69 | 64.88 | 76.43 | 78.93 | 77.68 |
| 1995-96 | 55.49 | 52.46 | 54.19 | 61.49 | 66.30 | 63.78 | 75.96 | 78.74 | 77.11 |
| 1996-97 | 53.73 | 48.59 | 51.54 | 67.87 | 66.64 | 67.34 | NA | NA | NA |
| 1997-98 | 51.26 | 46.98 | 49.41 | 14.21 | 11.86 | 13.20 | 6.67 | 13.05 | 9.20 |
| 1998-99 | 51.74 | 46.69 | 49.50 | 11.80 | 13.02 | 12.34 | - | - | - |

From the above table, it is evident that drop-out rates are gradually in reducing trend in the state. The probable reasons of drop-out at various levels of education in Arunachal Pradesh are summarised below:-

- i. Topographic and demographic situation.
- ii. Socio-cultural heritage.
- iii. Lack of providing proper infrastructure facilities to the schools
- iv.

In order to reduce these high drop-out rates further, the Department of Education has been taking a number of incentives/schemes like free supply of text books up to class VIII and at 25% subsidised cost from class IX onwards, free supply of school uniforms from class I-VIII, stipend in lieu of ration, providing hostel facilities etc.

CHAPTER-18

MEDICAL AND PUBLIC HEALTH/FAMILY WELFARE

India being a signatory of the Alma Ata declaration, is committed to the goal of "Health for All" by the year 2000 A. D. With a view to fulfill this commitment, the State Government is providing comprehensive health care services to its people. Improved health care facilities made a significant changes on public health over the years as noticed in the following changing public health indices.

BIRTH AND DEATH RATE IN ARUNACHAL PRADESH

Table No.18.1

| Sl. No | Particular | Unit | 1995 | | | 1998 | | |
|--------|-----------------------|-----------|-------|-------|-------|-------|-------|-------|
| | | | Rural | Urban | Total | Rural | Urban | Total |
| 1. | Birth Rate | Per" 000" | 24.5 | 15.8 | 23.8 | 23.3 | 13.6 | 22.5 |
| 2. | Death Rate | -do- | 6.3 | 1.9 | 6.0 | 6.5 | 1.8 | 6.1 |
| 3. | Infant Mortality Rate | -do- | 65 | 9 | 61 | 46 | 10 | 44 |

The health care services are extended to the people through a wide net work of various type of Health and Medical Institutional facilities particularly 3 General Hospitals, 11 District Hospitals, 6 Health Units, 30 Dispensaries, 16 Community Health centres, 59 Primary Health Centres and 343 Health Sub-Centres. Besides, 3 Institutions on Ayurvedic system of Medicine and 30 Homeopathic Institutions are also functioning as on 31st March, 1999. In addition to above, there are 43 other institutions such as LEP/VD/STD/HD/T.B' etc. functioning for specialised treatment on the line. Apart from this, Voluntary Organizations like R. K. Mission, Donyi Polo Mission and Sankar Deb Mission are playing considerable role by extending Institutional Medical facilities for treatment of the sick. The number of beds available in Medical Institutions is 2412 in 1998-99. It appears that Doctor-Population ratio is 1:2330 and Hospital bed and population is 1:461 in Arunachal Pradesh. The detail net work of various type of Health and Medical Institution facilities in Arunachal Pradesh as on 31st March, 1999 is given in the following table:

DISTRICT-WISE MEDICAL FACILITIES AVAILABLE IN ARUNACHAL PRADESH AS ON 31-3-99

Table No.18.2

| Sl. No | District/ State | Hospital (Gen/ Dist.) | Community Health centres (CHC) | Primary Health Centre (PHC) | Health Unit | Dispensary | Health Sub-Centre | Other institutions LEP/ VD/SDT/ HD/TB etc | Ayurvedic dispensary | Homeopathic dispensary | Bed available |
|-------------------|-----------------|-----------------------|--------------------------------|-----------------------------|-------------|------------|-------------------|---|----------------------|------------------------|---------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1. | Tawang | 1 | - | 2 | - | 1 | 16 | 4 | - | 3 | 72 |
| 2. | W/Kameng | 1 | - | 6 | - | - | 28 | 2 | - | 1 | 137 |
| 3. | E/Kameng | 1 | 1 | 4 | - | 1 | 20 | 3 | - | 2 | 117 |
| 4. | P/Pare | 2 | 1 | 3 | - | 1 | 21 | - | 1 | 3 | 307 |
| 5. | L/Subansiri | 1 | 2 | 8 | - | 1 | 50 | 7 | - | 2 | 156 |
| 6. | U/Subansiri | 1 | - | 2 | - | 1 | 27 | 5 | 1 | 3 | 126 |
| 7. | W/Siang | 1 | 5 | 6 | - | - | 34 | 6 | - | 4 | 352 |
| 8. | E/Siang | 1 | 1 | 14 | 1 | - | 23 | 4 | - | 2 | 411 |
| 9. | U/Siang | 1 | - | - | 1 | - | 14 | - | - | 1 | 53 |
| 10. | D/Valley | 1 | 2 | 2 | 2 | 11 | 15 | 1 | - | 1 | 108 |
| 11. | Lohit | 1 | 2 | 5 | 1 | 6 | 36 | 3 | - | 4 | 225 |
| 12. | Changlang | 1 | - | 4 | 1 | 8 | 26 | 3 | 1 | 2 | 178 |
| 13. | Tirap | 1 | 2 | 3 | - | - | 33 | 5 | - | 2 | 170 |
| Arunachal Pradesh | | 14 | 16 | 59 | 6 | 30 | 343 | 43 | 3 | 30 | 2412 |

DISTRICT-WISE REGISTERED MEDICAL AND PARA MEDICAL PERSONNEL AND POPULATION RATIO IN ARUNACHAL PRADESH, DURING 1998-99

Table No. 18.3

| Sl.No. | District | Doctors | Population per Doctor | Midwives (ANM) | Population per midwife | Nurses | Population per Nurse |
|-------------------|---------------|---------|-----------------------|----------------|------------------------|--------|----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1. | Tawang | 12 | 2357 | NA | NA | NA | NA |
| 2. | West Kameng | 24 | 2351 | NA | NA | NA | NA |
| 3. | East Kameng | 14 | 3600 | NA | NA | NA | NA |
| 4. | L/ Subansiri | 28 | 2970 | NA | NA | NA | NA |
| 5. | U/ Subansiri | 19 | 2636 | NA | NA | NA | NA |
| 6. | West Siang | 45 | 2000 | NA | NA | NA | NA |
| 7. | East Siang | 53 | 1356 | NA | NA | NA | NA |
| 8. | Dibang Valley | 12 | 3589 | NA | NA | NA | NA |
| 9. | Lohit | 40 | 2743 | NA | NA | NA | NA |
| 10. | Tirap | 33 | 2591 | NA | NA | NA | NA |
| 11. | Changlang | 31 | 3082 | NA | NA | NA | NA |
| 12. | Papum Pare | 41 | 1774 | NA | NA | NA | NA |
| 13. | Upper Siang | 19 | 1462 | NA | NA | NA | NA |
| Arunachal Pradesh | | 371 | 2330 | 351 | 2436 | 158 | 5472 |

FAMILY WELFARE PROGRAMME

As many as 17 Family Welfare Centres/Clinics are functioning of which 11 Family Welfare Centres/Clinics are in urban areas and 6 Family Welfare Centres/Clinics in rural areas. From the available information of Medical Department, it reveals that 1983 Nos. of Sterilisation and 2601 Nos. IUD insertion were performed during 1998-99 against the target of 2860 Nos. of sterilisation and 4492 Nos. of IUD insertion. Details of family welfare programme and district-wise No. of family welfare centres for the year 1998-99 are shown below:

Number of Family Welfare Clinics/Centres and Family Welfare Programme in Arunachal Pradesh During the year 1998-99.

Table No.18.4

| Sl. No | District | No. of family welfare centres | | | IUD insertion | | Voluntary sterilisation operation | |
|-------------|---------------|-------------------------------|-------|-------|---------------|-------------|-----------------------------------|-------------|
| | | Total | Rural | Urban | Targets | Achievement | Targets | Achievement |
| 1. | Tawang | 1 | - | 1 | NA | 190 | NA | 15 |
| 2. | West Kameng | 1 | 1 | - | NA | 302 | NA | 49 |
| 3. | East Kameng | 1 | - | 1 | NA | 9 | NA | - |
| 4. | L/Subansiri | 1 | 1 | - | NA | 112 | NA | 51 |
| 5. | Papum Pare | 2 | 2 | - | NA | 425 | NA | 583 |
| 6. | U/Subansiri | 1 | - | 1 | NA | 74 | NA | - |
| 7. | West Siang | 1 | 1 | - | NA | 260 | NA | 383 |
| 8. | East Siang | 2 | 2 | - | NA | 113 | NA | 325 |
| 9. | Upper siang | 1 | - | 1 | NA | 29 | NA | 135 |
| 10. | Dibang Valley | 2 | 2 | - | NA | 174 | NA | 13 |
| 11. | Lohit | 1 | 1 | - | NA | 364 | NA | 127 |
| 12. | Tirap | 2 | 1 | 1 | NA | 175 | NA | 98 |
| 13. | Changlang | 1 | - | 1 | NA | 374 | NA | 204 |
| TOTAL A. P. | | 17 | 11 | 6 | 4492 | 2601 | 2860 | 1983 |

As part of polio eradication effort, India establishes National polio surveillance project in 1997 in collaboration with WHO. Accordingly India launches Intensified PULSE POLIO Immunization from 24th Oct.1999 on recommendation by Global technical consultative Group(TCG) to eradicate polio by the global target date (2000AD). Arunachal Pradesh also launches National Immunization Days along with rest of the country from December 1995 immunizing 96 to 100 percent children (0-5 years) Details given in following table

**CHILDREN 0-5 YEARS IMMUNIZED BY PPI CAMPAIGN IN ARUNACHAL PRADESH
SINCE DECEMBER 1995(IN NUMBER)**

Table No.18.5

| YEAR | CHILDREN IMMUNIZED |
|---------|--------------------|
| 1995-96 | 102727 |
| 1996-97 | 154832 |
| 1997-98 | 168830 |
| 1998-99 | 179392 |

By intensified pulse polio Immunization, about 2 lacs children 0-5 years administered oral polio vaccine on 24th october1999, 21 Nov'99 and 19th December'99 by massive social mobilisation interdepartmental co-operation and establishing 1775 nos of IPPI Centres throughout the state

**CHAPTER - 19
WATER SUPPLY AND SANITATION**

The newly created Public Health Engineering Department (PHED) has taken over all water supply schemes both under urban and rural areas during the last part of 1995 from Public Works Department(PWD) and Rural Works Department (RWD). The following works are being looked after by Public Health Engineering Department.- (i) Rural Water Supply both under MNP and ARWSP, (ii) Rural Sanitation both under MNP and ARWSP and (iii) Urban Water Supply. The Achievement both Physical and Financial for last two years under Water Supply and Sanitation both Rural and Urban is given below:-

Table No.19.1

(Rs. in lakh)

| Head of Development | 1997-98 | | 1998-99 | |
|-------------------------------|-------------------------|---------------|-------------------------------|--------------|
| | Physical | Financial | Physical | Financial |
| 1 | 2 | 3 | 4 | 5 |
| 1. Rural Water Supply (MNP) | NCtoFC=37 PCtoFC=56 | 2337.58 | NC to FC=19 PC to FC=27 | 2466.93 |
| 2. Rural Water Supply (ARWSP) | NCtoFC=160 PCtoFC=64 | 2308.40 | NC to FC= 50 PC to FC = 16 | 1408.12 |
| 3. Sanitation (LCS)/ CRSP | 216 | 34.40 5.04 | 181 - | 4.99 4.49 |
| 5. Urban Water Supply | 11 | 65.20 | NIL | 26.52 |
| 4. Filtration and Treatment | 3320 KLD | 542.00 | 300 kld | 470.00 |

NC= Not covered.

FC= Fully Covered

PC=Partly covered

Under the Rural Water Supply and Sanitation, two main programme Viz- Minimum Need Programme(MNP) and Accelerated Rural Water Supply Programme(ARWSP) are being implemented by the Department. These schemes are also duly supported and backed by Filtration programme.

The State has 3649 Villages and 216 other habitation(hamlets) as per 1991 Census and 624 hamlets as per the survey conducted by the department. Thus, total 4298 habitations are to be provided with drinking water supply facilities. As per status position as on 1.4.98, there are as many as 666 NC (Not covered), 1248 PC (Partially Covered) and 2348 FC (Fully Covered) habitations. During the year 1998-99 total 19 NC (Not covered) habitation have been provided with water supply facilities and under MNP. Similarly, 50 NC habitation have been turned to FC and 16 PC habitation to FC under ARWS during the year 198-99. Augmentation and improvement of Water Supply in 10 Urban Centres (Towns) are also being taken up; As per basic minimum need programme, all the NC and PC including Urban Centres are to be covered with water supply facilities by 2000 AD.

In last two decades, there has been a phenomenal growth of population in all districts both in Rural and Urban areas in Arunachal Pradesh. The existing water supply system which were installed in 1960s and 1970s are not in a position to cater the need of water supply to the inhabitants particularly in township areas. Considering the degree of deficiency of existing water supply system, the various strategies/plans have been taken up by the Department of PHED to take up the comprehensive water supply systems with elaborate arrangements for treatment of water to be supplied to the consumers. Besides, the department has taken up some more schemes like- Low Cost Sanitation Programme, Garbage Clearance Programme, Slum Improvement Programme particularly in some township areas, liasioning with the Urban Development Department.

CHAPTER - 20

SOCIAL WELFARE

Various social welfare schemes are being implemented in the State by the Directorate of Social Welfare. Welfare of physically handicapped, Welfare of destitute people in the society, Welfare of Women etc., Old age pension, Welfare of Weaker section of the society and other welfare measures are the primary responsibilities of this Department. Drug addiction, opium addiction, drinking of alcohol, Child Marriage and other social evils are to be removed from the society by relentless persuasion through publicity and organization of various seminar and conferences.

Arunachal Pradesh Social Welfare Advisory Board (APSWAB) is implementing various social welfare schemes in the state through PIC Centres in each district and border areas of the state.

The following schemes are being implemented in the State:

1. Old Age Pension

The Old Age Pension scheme has been inducted to help the old people of the society above 60 years of age who cannot earn their livelihood owing to physical infirmity. An amount of Rs. 27.00 lakhs has been proposed for the year 1998-99 with a view to help 2346 such persons @ Rs. 150/- per month.

2. Resettlement and Rehabilitation of Handicapped Persons.

The Department proposes to re-settle and rehabilitate those people in the society who are physically handicapped and are unable to make out their living; During 1997-98, an

amount of Rs.17.08 lakhs was incurred for the said purpose. A sum of Rs. 400 lakhs has been proposed to rehabilitate 50 such handicapped persons during 1998-99.

3. Children in need of care and protection.

A provision for an amount of Rs. 8.00 lakhs has been made in 1996-97 to maintain 230 destitute children. Besides, voluntary organizations in the State are being given grants for maintenance of Destitute Children and for attainment of their proper education at free of cost.

4. Working Womens' Hostel and Juvenile Home

Working Women Hostel have been constructed in the State to meet the requirement of working women, working away from their homes. Construction of Juvenile Home at Pasighat has been taken up with 50% central share delinquents

5. Special Nutrition Programme(SNP).

This is a continuing scheme, SNP is essentially linked up with ICDS programme and is implemented in ICDS projects. 47 such programme will be operationalised during the year 1998-99 where the scheme will be implemented.

The scheme is basically concerned with child health and nutrition, the beneficiaries of this scheme are in the age group of 0-6 years, pregnant women and nursing mothers. Provision of Rs241.00 lakh has been made to cover 13446 beneficiaries in 2181 centres in the state during the year 1998-99.

The Scheme is also pertaining to women and child development programme like (a)Imunisation (b)Pre-School education (c)Health check-up and (d)Referral services through out the state in ICDS projects in all the CD Block

Apart from all the activities above, the Department releases grants-in-aid to the different voluntary organisations clustered all over the state who are imparting formal education to the children of the poor and low income groups.

CHAPTER-21

ECONOMIC CENSUS

The Fourth Economic Census (E.C.) was conducted in Arunachal Pradesh during Feb-March 1998 nearly one month ahead of national schedule for programme of Economic Census, owing to some unavoidable administrative difficulties. Similar to the 1st Economic Census conducted in 1977, this 4th Economic Census was also conducted independently and not along with Population Census as was case with other two Censuses conducted in between. The second (E.C.-1980) and the third (E.C.-1990) were carried out decennially with house listing operations of population censuses conducted in 1981 and 1991. The Fourth E.C.-1998 was planned to cover both agricultural (excluding crop production and plantation) and non-agricultural enterprises. Enterprises with at least one hired employment (establishments) and those without any hired employment (own-account enterprises (OAE) formed the target of the Survey. Information on nature of operation, type of activity, ownership, social group of owner, employment with hired component; employment by sex were also collected. Further, for establishments, some aspects of inputs and outputs were also collected. It conceived house to house inquiry through the two main schedules, viz. House list and enterprise list

As such provisional result of Economic Census, 1998 has been released (final result of Economic Census 1998 is yet to be released some relevant tables have been added for having a ready reference

FOURTH ECONOMIC CENSUS-1998.**SUMMARY OF PROVISIONAL RESULTS - ARUNACHAL PRADESH**

Table No. 21.1

| SL.NO | ITEM | RURAL | URBAN | COMBINED |
|-------|--|-------|-------|----------|
| 1 | 2 | 3 | 4 | 5 |
| 1. | Number of Enterprises | | | |
| | i) Agriculture | 355 | 35 | 390 |
| | ii) Non- Agriculture | 14120 | 6061 | 20181 |
| | iii) All Enterprises | 14475 | 6096 | 20571 |
| 2. | Number of Enterprises | | | |
| | i) Without Premises | 729 | 850 | 1579 |
| | ii) Without Power | 11475 | 4908 | 16383 |
| | iii) Perennial | 13897 | 5951 | 19848 |
| | iv) Under Private Ownership | 10021 | 5399 | 15420 |
| | v) Financed by either IRDP or other poverty alleviation programme | 354 | 5 | 359 |
| 3. | Number of persons usually working in Agriculture Enterprises | | | |
| | i) Adult Male | 1174 | 93 | 1267 |
| | ii) Adult Female | 218 | 15 | 233 |
| | iii) Total (Including Children) | 1395 | 108 | 1503 |
| 4. | Number of Persons usually working in all Enterprises | | | |
| | i) Adult Male | 41522 | 23343 | 64865 |
| | ii) Adult Female | 8993 | 4087 | 13080 |
| | iii) Total (Including Children) | 51069 | 27554 | 78623 |
| 5. | Number of Hired Persons usually working in all Enterprises | | | |
| | i) Adult Male | 30962 | 16946 | 47908 |
| | ii) Adult Female | 6577 | 3449 | 10026 |
| | iii) Total (including Children) | 37719 | 20592 | 58311 |
| 6. | Number of Enterprises with at least one hired worker (Establishment) | | | |
| | i) Agricultural Establishments | 155 | 19 | 174 |
| | ii) Non-Agricultural Establishments | 6796 | 3221 | 10017 |
| | iii) All Establishments | 6951 | 3240 | 10191 |

PROVISIONAL RESULTS ALL ENTERPRISES - RURAL AND URBAN
STATEMENT 1.0 : (i) NUMBER OF ENTERPRISES AND NUMBER OF PERSONS
USUALLY WORKING.

Table No.21.2

| DISTRICT | ENTERPRISES | | | PERSONS USUALLY WORKING | | | |
|-----------------|--------------|---------------|-------------------|-------------------------|--------------|--------------|------------|
| | Total | Agri-cultural | Non-Agri-Cultural | Total | Male | Female | Children |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Tawang | 552 | 15 | 537 | 1412 | 1042 | 363 | 7 |
| West Kameng | 1772 | 15 | 1757 | 7022 | 5726 | 1296 | 0 |
| East Kameng | 722 | 6 | 716 | 2934 | 2356 | 455 | 123 |
| Lower Subansiri | 1309 | 9 | 1300 | 4863 | 3853 | 964 | 46 |
| Upper Subansiri | 809 | 8 | 801 | 3178 | 2571 | 582 | 25 |
| West Siang | 2713 | 9 | 2704 | 9180 | 7647 | 1509 | 24 |
| East Siang | 1860 | 58 | 1802 | 7592 | 6320 | 1128 | 144 |
| Dibang Valley | 1003 | 7 | 996 | 3618 | 3113 | 505 | 0 |
| Lohit | 3081 | 93 | 2988 | 10473 | 8887 | 1511 | 75 |
| Changlang | 2254 | 35 | 2219 | 7938 | 6467 | 1324 | 147 |
| Tirap | 1333 | 26 | 1307 | 6735 | 5651 | 1084 | 0 |
| Papum Pare | 2597 | 101 | 2496 | 10860 | 8858 | 1916 | 86 |
| Upper Siang | 566 | 8 | 558 | 2818 | 2374 | 443 | 1 |
| Total | 20571 | 390 | 20181 | 78623 | 64865 | 13080 | 678 |

ECONOMIC CENSUS - 1998 PROVISIONAL RESULTS

ALL ENTERPRISES - RURAL AND URBAN

STATEMENT 3.0 : (i) NUMBER OF OWN ACCOUNT ENTERPRISES, ESTABLISHMENTS AND NUMBER OF HIRED PERSONS USUALLY WORKING.

Table No 21.3 . .

| District | Enterprises | | | Hired persons usually working | | | |
|-----------------|--------------|--------------|----------------|-------------------------------|--------------|--------------|------------|
| | Total | Own Account | Establishments | Total | Male | Female | Children |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Tawang | 552 | 339 | 213 | 789 | 615 | 174 | 0 |
| West Kameng | 1772 | 850 | 922 | 5169 | 4312 | 857 | 0 |
| East Kameng | 722 | 216 | 506 | 2252 | 1921 | 311 | 20 |
| Lower Subansiri | 1309 | 568 | 741 | 3965 | 3184 | 757 | 24 |
| Upper Subansiri | 809 | 337 | 472 | 2603 | 2141 | 453 | 9 |
| West Siang | 2713 | 1608 | 1105 | 6681 | 5363 | 1304 | 14 |
| East Siang | 1860 | 673 | 1187 | 5907 | 4814 | 995 | 98 |
| Dibang Valley | 1003 | 464 | 539 | 2565 | 2123 | 428 | 14 |
| Lohit | 3081 | 1415 | 1666 | 7662 | 6349 | 1208 | 105 |
| Changlang | 2254 | 1291 | 963 | 5962 | 4902 | 1009 | 51 |
| Tirap | 1333 | 636 | 697 | 5657 | 4621 | 1036 | 0 |
| Papum pare | 2597 | 1694 | 903 | 6799 | 5668 | 1089 | 42 |
| Upper Siang | 566 | 289 | 277 | 2300 | 1895 | 405 | 0 |
| TOTAL | 20571 | 10380 | 10191 | 58311 | 47908 | 10026 | 377 |

CHAPTER - 22

MANPOWER AND EMPLOYMENT

Utilization of manpower is closely related with developmental plans and programmes. Before the planning era, no high or middle level manpower was available in Arunachal Pradesh (erstwhile NEFA). As a result, at the initial stages of development, manpower had to be brought from outside the state for administrative and development work. But with the passage of time, in the successive plan periods, the number of educational institutions has increased considerably and thereby sufficient number of educated manpower was created during the past three decades. The out-turn of students in Board/University examinations for the institutions in Arunachal Pradesh during the last few years is shown in the table given below:-

Table No.22.1

| Year | Matric (X) | H.S.S./P.U. | Graduation | Post graduation |
|---------|------------|-------------|------------|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| 1960-61 | 31 | - | - | - |
| 1965-66 | 47 | 14 | - | - |
| 1970-71 | 54 | 49 | 15 | - |
| 1975-76 | 60 | 53 | 43 | - |
| 1984-85 | 584 | 1092 | 92 | - |
| 1989-90 | 1679 | 1031 | 73 | 10 |
| 1995-96 | 1871 | 1757 | 422 | 28 |
| 1996-97 | 2316 | 1106 | 440 | 109 |
| 1997-98 | 2478 | 1287 | 560 | 34* |
| 1998-99 | 1879 | 1789 | 737 | 159 |

* Data for some Deptts. not received.

At the instance of North Eastern Council (NEC), Shillong, the Institute of Applied Manpower Research, New Delhi has conducted a study in all the North Eastern States of the region to assess the manpower requirement of these states during 8th and 9th plan period. The results revealed from this study in respect of the State of Arunachal Pradesh is summarised below:- Table No.22.2

| Educational level | Total Estimated Requirements | | Total Estimated outturn for each plan period. |
|--|------------------------------|----------------------|---|
| | 8 th Plan | 9 th Plan | |
| 1 | 2 | 3 | 4 |
| a) <u>First Degree or above</u> | | | |
| 1. First Degree or above in Arts/Science/Commerce & other general subjects | 2150 | 3058 | 1085 |
| 2. First Degree or above in agriculture. | 266 | 396 | - |
| 3. First Degree or above in Veterinary Science. | 12 | 15 | - |
| 4. First Degree or above in Medicine. | 100 | 149 | - |
| 5. First Degree or above in Enigg. & Tech. | 120 | - | - |
| 6. First Degree or above in other tech./Professional fields including chartered Act./Mgmt/Law/Comp. Sc./Lib. Sc./Nursing etc | 37 | 55 | - |
| Sub- Total : | 2685 | 3845 | 1085 |

Cont. Table No.22.2.

| | 1 | 2 | 3 | 4 |
|--|-------------|--------------|------------|---|
| b) Diploma (Below First Degree) | | | | |
| 7. Diploma in agriculture | - | - | - | - |
| 8. Diploma in Veterinary Science | - | - | - | - |
| 9. Diploma in Engg. & Tech. | 581 | 792 | - | - |
| 10. Diploma in Nursing & Midwifery | 160 | 238 | - | - |
| 11. Other Diplomas | 69 | 103 | - | - |
| Sub Total : | 810 | 1133 | | |
| (c) Certificate (below Diploma) | | | | |
| 12. III Certificate | 721 | 1026 | 235 | |
| 13. Certificate in Education | - | - | 152 | |
| 14. Other Certificate | 5 | 7 | 85 | |
| Sub Total | 726 | 1033 | 472 | |
| 15 Matric (including Higher Secondary or Equivalent) | 3229 | 4599 | - | |
| Total | 7450 | 10610 | | |

The North Eastern Council is associated with the programme of Manpower Development of the 7 States of which Arunachal Pradesh is one. The NEC is implementing two types of schemes for development of Manpower in this region.

(1) Reserving seats in different educational institutions in the country for education of persons of this region. The release of seats is tied with the need of the State.

(2) Providing financial support to the students for study in specified Colleges and institutions in selected subjects.

EMPLOYMENT

As per 1991 Census, about 46 percent of the total population of Arunachal Pradesh is classified as worker and 54 percent as non-worker. Out of this total worker, main worker constitute 97.79 percent and marginal worker constitute only 2.21 percent. Again out of total main workers, 60 percent are cultivators, 5 percent are agricultural labourer, 0.2 percent are engaged in household industry and the remaining 34 percent are in other activities.

The employment assistance to job seekers are rendered through 13 District Employment Exchanges. The consolidated number of job seekers as per live Register is given below for the past few years:

Table No.22.3

| Sl. No | Educational level | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|--------|----------------------------------|------|------|------|------|------|------|------|------|
| 1. | Primary | 313 | 225 | 168 | 90 | 99 | 88 | 64 | 65 |
| 2. | Below Middle | 740 | 476 | 362 | 272 | 307 | 412 | 255 | 160 |
| 3. | Under Matric | 1127 | 690 | 772 | 565 | 724 | 1107 | 572 | 720 |
| 4. | Matric | 777 | 945 | 841 | 555 | 489 | 680 | 1032 | 1033 |
| 5. | P.U/H.S.S.L.C. | 553 | 770 | 487 | 521 | 563 | 723 | 1148 | 817 |
| 6. | B.A./B.Sc./B.Com. | 140 | 127 | 133 | 110 | 125 | 160 | 366 | 515 |
| 7. | M.A./M.Sc./M.Com. | 26 | 19 | 31 | 14 | 26 | 12 | 40 | 47 |
| 8. | B.Ed/M.Ed | 18 | 9 | 18 | 20 | 32 | 16 | 2 | 25 |
| 9. | Engg. Trade Licence | 88 | 71 | 28 | 63 | 47 | 48 | 31 | 32 |
| 10. | Degree holder in Engineering etc | 1 | 16 | 31 | 28 | 34 | 64 | 31 | 61 |

In Arunachal Pradesh, State Govt. is till now, almost the sole authority for employment due to fact that private sector has not yet come up here to a reasonable extent. This situation will continue for some more years till more and more public sector and private sector enterprises are established in this State.

CHAPTER – 23

BANKING AND INSTITUTIONAL FINANCE

Banks and Financial Institutions are of vital importance in the modern process of economic development. But for extreme under-developed condition, Arunachal Pradesh obviously got late to have Institutional Financing facilities. It is only in 1970-71 that the State Bank of India started a branch here realising the urgency for deposits and credit mobilisation. The Government has since been endeavouring for popularisation and expansion of banking facilities in the State. Number of branches of different Banks thus could be raised to 88 at the end of Seventh Plan and to 99 by 1998-99.

The total deposits under savings, current and fixed accounts was Rs 47657.99 lakhs during 1996-97 which raised to Rs.55874 lakhs during 1998-99 registering a growth of 14.70 percent. The amount of total loans and advances granted was Rs.7479.40 lakhs during 1996-97 which changed to Rs. 10754 lakhs during 1998-99 showing a growth of 30.45%. Bank-wise position of deposits and advances as well as credit deposit ratio as on 31st March, 1997-98 and 1998-99 reproduced here under for closer view.

DEVELOPMENT OF BANKING AND INSTITUTIONAL FINANCE IN ARUNACHAL PRADESH

Table No. 23.1

(Unit in No. and Amount Rs in Lakhs)

| Bank | 1996-97 | | | 1997-98 | | | 1998-99 | | | Credit deposit ratio (%) | | |
|-----------------------------------|-----------------|----------|------------------|-----------------|----------|------------------|-----------------|----------|------------------|--------------------------|-------|-------|
| | No. of branches | Deposit | Advances granted | No. of branches | Deposit | Advances granted | No. of branches | Deposit | Advances granted | 96-97 | 97-98 | 98-99 |
| I | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1. SBI | 42 | 29982.00 | 3033.00 | 42 | 32455.00 | 3306.00 | 42 | 37034.00 | 3984.00 | 10.12 | 10.19 | 10.75 |
| 2. UBI | 2 | 623.65 | 160.73 | 2 | 5369.00 | 525.00 | 2 | 662.00 | 192.00 | 25.79 | 9.78 | 28.98 |
| 3. UCO | 2 | 1119.65 | 128.34 | 2 | 629.00 | 181.00 | 2 | 1196.00 | 156.00 | 11.46 | 28.78 | 13.04 |
| 4. VIJAYA | 2 | 5333.57 | 661.73 | 2 | 717.20 | 120.66 | 2 | 4470.00 | 645.00 | 12.41 | 16.82 | 14.43 |
| 5. C.B.I | 1 | 824.17 | 126.30 | 1 | 1071.77 | 116.90 | 1 | 880.00 | 132.00 | 15.32 | 10.90 | 15.00 |
| I. Sub-total (Nationalised banks) | 49 | 37882.69 | 4110.10 | 49 | 40241.97 | 4249.56 | 49 | 44242.00 | 5109.00 | 10.85 | 10.56 | 11.55 |
| Arunachal Banks | | 1437.66 | 774.46 | | 2019.44 | 1735.56 | | 2397.00 | 2348.00 | 53.87 | 85.94 | 97.93 |
| i) APRB | 19 | - | | 19 | | | 19 | | | | | |
| ii) AP Co-op Apex bank | 30 | 8337.64 | 2594.84 | 31 | 9022.93 | 2778.29 | 31 | 9235.00 | 3297.00 | 31.12 | 30.79 | 35.70 |
| II. Sub-Total (AP Banks) | 50 | 9775.30 | 3369.30 | 50 | 11042.37 | 4513.85 | 50 | 11632.00 | 5645.00 | 34.47 | 40.88 | 48.53 |
| Grand Total (I + II) | 99 | 47657.99 | 7479.40 | 99 | 51284.34 | 8763.41 | 99 | 55874.00 | 10754.00 | 15.69 | 17.09 | 19.25 |

CREDIT DEPOSIT RATIO IN ARUNACHAL PRADESH DURING LAST THREE YEARS

ASON 31-3-99

Table No. 23.2

| Sl. No | BANK | Deposit | Advance | Credit Deposit ratio (%) |
|--------|-------------------------|-----------|----------|--------------------------|
| 1 | S.B.I | 99471.00 | 10323.00 | 10.38 |
| 2 | U.B.I | 6654.65 | 877.73 | 13.19 |
| 3 | U.C.O | 2944.65 | 465.34 | 15.80 |
| 4 | VIJAYA | 10520.77 | 1427.39 | 13.56 |
| 5 | C.B.I | 2775.94 | 375.20 | 13.52 |
| 6 | A.P.R.B | 5854.10 | 4858.02 | 82.98 |
| 7 | A.P.C.A.B | 26595.57 | 7721.13 | 29.03 |
| 8 | National Banks (1 to 5) | 122367.01 | 13468.66 | 11.01 |
| 9 | A.P Banks (6 to 7) | 32449.67 | 12579.15 | 14.78 |

**BANKING AND INSTITUTIONAL FINANCE IN ARUNACHAL PRADESH
DURING 1998-99**

Table No. 23.3

(Rs. in lakhs)

| Sl. No. | Bank | No. of Branches | Deposit mobilised | Loan and Advance released |
|---------|----------------|-----------------|-------------------|---------------------------|
| 1 | 2 | 3 | 4 | 5 |
| 1. | S. B. I. | 42 | 37034.00 | 3984.00 |
| 2. | U. B. I. | 2 | 662.00 | 192.00 |
| 3. | U. C. O. | 2 | 1196.00 | 156.00 |
| 4. | VIJAYA | 2 | 4470.00 | 645.00 |
| 5. | C. B. I. | 1 | 880.00 | 132.00 |
| 6. | Sub-Total | 49 | 44242.00 | 5109.00 |
| 7 | A.P.R.B | 19 | 2397.00 | 2348.00 |
| 8. | A. P. C. A. B. | 31 | 9235.00 | 3297.00 |
| 9 | Sub Total | 50 | 11632.00 | 5645.00 |
| 10 | Total | 99 | 55874.00 | 10754.00 |

Evidently, credit ratio in aggregate is nearly 19 percent. The position is extremely poor in case of Nationalised Banks being 12% when considered exclusive of A. P. Banks in respect of which the ratio is about 49% during 1998-99. The Nationalised Banks have to endeavour for improving the Deposit-Credit ratios for due services to the state.

CHAPTER - 24

BUDGET AND PUBLIC FINANCE

The overall Budget Estimates for 1998-99 indicates that it is a surplus budget by Rs.100 lakhs whereas the revised estimate for 1997-98 also shows a deficit budget of Rs. 1848.24 lakhs.

The current year's (1998-99) budget shows a sum of Rs.20027.89 lakhs as surplus in Revenue Account while a deficit of Rs. 23381.89 lakhs in Capital Account.

OVER-ALL BUDGETORY POSITION: 1998-99

Table No. 24.1

(Rs. in lakhs)

| Sl. No | Items | Receipts | Expenditure/ Disbursement | Surplus(+) Deficit (-) |
|--------|--|----------|---------------------------|------------------------|
| A. | Revenue Account | 87153.50 | 67125.61 | (+) 20027.89 |
| B. | Capital Account | 10268.50 | 33650.39 | (-)23381.89 |
| a). | Public Account | 52938.29 | 49484.29 | (+)3454.00 |
| b). | Internal Dept | 4698.00 | 2920.00 | (+)1778.00 |
| c) | Loans & advances from central Govt. | 5429.50 | 1220.00 | (+)4209.50 |
| d) | Capital Expenditure out-side Revenue Acct. | - | 29350.89 | (-)29350.89 |
| e) | Loans and Advances by state Govt. | 141.00 | 159.50 | (-)18.50 |
| C. | Appropriation of contingency fund. | - | - | - |

RECEIPTS ON REVENUE ACCOUNT

The total receipt on Revenue Account for 1998-99 is estimated as Rs. 87153.50 lakhs wherein Tax revenue is Rs. 4055.50 lakhs, Non-Tax Revenue is Rs. 59930.00 lakhs and under the head "Grant-in-Aid and Contribution from centre" lion share of Rs. 77105.50 lakhs.

RECEIPT ON REVENUE ACCOUNT

Table No.24.2

(Rs. in lakhs)

| Sl. No. | Items | 1996-97(a) | 1997-98(RE) | 1998-99(BE) | 1998-99(% to total) |
|---------|--|------------|-------------|-------------|---------------------|
| 1. | Tax Revenue | 3155.80 | 3588.00 | 4055.00 | 4.65 |
| a) | Share in centrally collected tax | 2302.00 | 2667.00 | 3067.00 | 3.52 |
| b) | Tax collected by state | 853.80 | 921.00 | 988.00 | 1.13 |
| 2. | Non-Tax Revenue | 6497.77 | 5435.65 | 5993.00 | 6.88 |
| a) | Interest receipts | 652.78 | 699.00 | 748.00 | 0.86 |
| b) | Dividends & profits | 0.73 | 1.00 | 1.00 | 0.00 |
| c) | Other non-tax revenue | 5844.26 | 4735.65 | 5244.00 | 6.02 |
| 3. | Grant-in-aid & contribution from centre | 71243.00 | 79125.29 | 77105.50 | 88.47 |
| 4 | Total receipts on Revenue Account (Net) | 80897.29 | 88148.94 | 87153.50 | 100.00 |

CAPITAL RECEIPTS AND DISBURSEMENT

Table No. 24.3

(Rs. in Lakhs)

| Items/Particulars | 1996-67(a) | 1997-98(RE) | 1998-99(BE) | 1998-99 (% to total) |
|--------------------------------|------------|-------------|-------------|----------------------|
| Capital Receipts | | | | |
| a) Public Debt | 8319.89 | 10048.32 | 10268.50 | 16.25 |
| b) Public Account | 445964.73 | 50664.00 | 52938.29 | 83.75 |
| c) Capital Disbursement | 31527.36 | 35868.41 | 34000.39 | 40.73 |
| d) Public Account Disbursement | 447755.00 | 47570.00 | 49484.29 | 59.27 |

DETAILS OF CAPITAL EXPENDITURE OUTSIDE REVENUE ACCOUNT

Capital Expenditure outside Revenue Account is divided into two parts. These are (i) Development Expenditure and (ii) Non-Development Expenditure. The Gross Capital Expenditure outside Revenue Account during 1998-99 (BE) is estimated as Rs.29700.89 lakhs and after adjusting a recovery of Rs.350.00 lakhs, it is Rs. 29350.89 lakhs (Net). An amount of Rs. 27936.39 lakhs is proposed for Development Expenditure whereas Rs.1764.50 lakhs has been kept for Non-Development expenditure.

Details of Capital Expenditure outside Revenue Account

Table No.24.4

(Rs. in lakhs)

| Item/Particulars | 1996-97(a) | 1997-98(RE) | 1998-99(BE) | 1998-99 (% to total) |
|---|------------|-------------|-------------|----------------------|
| I. Development Expenditure (a+b) | 27181.09 | 30730.65 | 27936.39 | 94.06 |
| a) Social Services | 6251.53 | 6013.81 | 5858.29 | 19.72 |
| b) Economic services | 20929.56 | 24716.84 | 22078.10 | 74.34 |
| II. Non-development expndr.(a+b) | 896.40 | 1422.76 | 1764.50 | 5.94 |
| a) General services | 893.24 | 1168.76 | 1168.50 | 3.93 |
| b) Other non-development expenditure | 3.16 | 254.00 | 596.00 | 2.01 |
| III Capital expenditure outside revenue account (I +II) | 28077.49 | 32153.41 | 29700.89 | 100.00 |
| Less recoveries | 384.65 | 430.00 | 350.00 | - |
| Total Expenditure (Net) | 27692.84 | 31723.41 | 29350.89 | - |

Note:- (a) = Actual Account, (RE) = Revised Estimate, (BE) = Budget Estimate

Per-Capita Receipt And Expenditure on Revenue And Capital Budget

The per-capita receipts on Revenue Account during 1998-99 (BE) is estimated as Rs. 963.00 while it was Rs. 887.00 and Rs. 973.00 during 1997-98 (RE) and 1996-97(a) respectively.

The per-capita receipts on Capital Account during 1998-99 (BE) is estimated as Rs. 985.00 while it was Rs. 988.00 and Rs. 893.00 during 1997-98 (RE) and 1996-97(a) respectively.

The per-capita total receipts (Revenue + Capital) during 1998-99(BE) is estimated as Rs. 1948.00 while it was Rs. 1875.00 and Rs. 1812.00 during 1997-98(RE) and 1996-97(a) respectively.

The per-capita expenditure (Gross) on Revenue Account during 1998-99(BE) is estimated as Rs. 6445.00 while it was Rs. 6667.00 and Rs. 6079.00 during 197-98(RE) and 1996-97(a) respectively. The per-capita expenditure on Capital Account (Gross) outside Revenue Account during 1998-99(BE) is estimated as Rs. 2848.00 While it was Rs. 3162.00 and Rs. 2830.00 during 1997-98(RE) and 1996-97(a) respectively.

The per head total expenditure (Revenue + Capital) is expected to be Rs. 100776.00 during 1998-99(BE).

Per Capita Receipts and Expenditure on Revenue and Capital Budget

Table No.24.5

(In Rs.)

| Particulars | 1996-97(a) | 1997-98(RE) | 1998-99(BE) |
|--|------------|-------------|-------------|
| i. Receipts on Revenue Account | 80897.29 | 88148.94 | 87153.50 |
| ii. Receipts on Capital Account | 8319.89 | 10048.32 | 10268.50 |
| iii. Total Receipts (i + ii) | 89217.18 | 98197.26 | 97422.00 |
| iv. Expenditure(Gross) on Revenue Account | 60222.76 | 67701.09 | 67125.61 |
| v. Capital Expenditure (Gross) outside Revenue Account | 31142.71 | 35438.41 | 33650.39 |
| vi. Total Expenditure (iv + v) | 91365.47 | 103139.50 | 100776.00 |

Note:- (a) = Actual Account, (RE) = Revised Estimate, (BE) = Budget Estimate

#####

NIEPA DC



D10943

LIBRARY & DOCUMENTATION CENTRE

National Institute of Educational

Planning and Administration.

17-B, Sri Aurobindo Marg,

New Delhi-110016

DOC, No. D-10943

Date 04-01-2001