CHAPTER VII

FINDINGS AND CONCLUSION

Many studies have been done on growth, development disparities and linkages between growth and human development. Yet, no detail and comprehensive studies have been done in Nagaland. Therefore, the basic objective of the study is to assess growth in various sectors and its spatial disparities among the districts, income and genders, also, the two-way linkages between economic growth and human development. Moreover, the socio-economic indicators, which are bearing direct relation to human well-being, have been empirically assessed. The important findings from the preceding chapters are highlighted below.

7.1: SOCIO-ECONOMIC PROFILE

The socio-economic profiles of Nagaland in general and Sample areas, which have been discussed at length in Chapter 3 are summarised below.

7.1.1: Demographic Characteristics of the State

(i) Population and its Density: According to 2011 census, the population of Nagaland is 19,80,602. The density of population is 119 per sq. km against the country’s average of 362 per sq. km in the same period.

(ii) Decadal Growth: During 1981-91 and 1991-01, the State has witnessed the highest growth rate of population in the country with 56.08% and 64.41% respectively. However, during 2001-2011, it has exhibited negative growth of -0.47%.

(iii) Rural-Urban Distribution: The proportion of rural population in Nagaland is 71.03%, which is higher than India of 68.84% in 2011. Correspondingly, the proportion of urban population in Nagaland is lower than India with 28.97% and 31.16% respectively.

(iv) Sex Ratio: The sex ratio in Nagaland is only 931 females per 1000 males as compared to India of 940 in 2011. Among the districts, the highest is Zunheboto and lowest is Mon with 981 and 898 respectively.

(v) Education: As far as literacy rate is concerned, the general education in Nagaland is better than India. The literacy rate for Nagaland in 2011 is 83.29%, which is marginally higher than that of India (82.14%). Also, the teacher-pupil ratio in Nagaland is lower than India with 1:19 (2006) and 1:40 (2004) respectively.
(vi) **Health:** The health status in Nagaland is better than India in respect of life expectancy and Infant Mortality Rate. The *life expectancy* for Nagaland in 2001 was 73.4 years as compared to 63 years of India, while for *Infant Mortality Rate*, it was 40 for Nagaland as compared to 69 of India in the same year.

**7.1.2: Economic Development**

(i) **Sectoral Contribution in NSDP during 1981 to 2006:** The main observations are as follows:

a. The share of tertiary sector in NSDP has declined marginally, but it has been the leading sector in the State’s economy, followed by primary and secondary sectors.

b. Among the sub-sectors, agriculture is still the major contributing sector in NSDP.

c. During the last decade, transport and communication has emerged as an important sector in the State’s economy.

d. Other major sub-sectors are (i) construction, (ii) public administration, (iii) real estate, ownership of dwelling and business services, (iv) other services and (v) trade, hotel and restaurant.

(ii) **Per Capita Income:** The Per Capita Income (PCI) in Nagaland during 2005-06 was only Rs. 18,318 as compared to India of Rs. 25,956 during the same period. This means that the PCI of Nagaland was only 70.57% to that of India. Moreover, the household survey has estimated that the PCI of Nagaland (for sample aggregate) during 2009-10 was even lower with only Rs.15,188.

(iii) **Sectoral Employment:** In Nagaland, workers constitute 42.47% of its total population in 2001. It is obvious that the State is predominantly an agrarian economy as 68.03% of the working force were engaged in agriculture and allied activities. The workers in household industries and other workers composed of only 2.20% and 29.84% respectively.

**7.1.3: Infrastructural development**

(a) **Physical Infrastructure**

(i) *Transport and communication:* It has been observed that during 2007-08, the total road length in the State was 14,648.68 Kms, out of which only 26% were surfaced. The State has only one *Railway* station and one *Airport*, both located in Dimapur. Besides, the road length per 100 sq. km in Nagaland was only 2.16 in 2008.

(ii) *Industrial Infrastructure:* There is no significant industrial development has been observed in the State. The State has 1 (one) medium scale Cement plant located at Wazeho with the capacity of producing 50 TDP, while paper mill at Tuli and sugar mill at Dimapur have become non-functional. Besides, the State had only 3.61 SSI units per 10,000 population during 2005-06.
(iii) **Electricity and Power**: Among various sources of energy, Nagaland has 24 MW Likimro Project and 75 MW Doyang Power Station. But, the State’s share in Doyang Power Station is only 12% (9MW), while additional 6% (4.5MW) is being purchased from NEPCO from the same Station. Besides, the State purchases power from other sources through National Grid system. Yet, load shedding becomes daily affairs in the State. During 2005-06, the per capita electricity consumption in Nagaland was 1.35 KWH.

(iv) **Banking**: The data showed that in 2006, *Banks per lakh population* in the State was only 4.69. There were 72 commercial banks operating across the State in 2008 with credit-deposit ratio of 1:4.07, whereas, the 10 Regional Rural Banks had the credit-deposit ratio of 1:0.91 during the same year.

(v) **Agricultural Infrastructure**: To facilitate agricultural development, the State has 1 (one) ICAR at Jarnapani, 1 (one) SARS at Yisemyong and 8 (eight) KVKs. During 2006-07, the proportion of total area under agriculture in the State was 30.08%, out of which, only 27.16% of the total cultivated area was covered with irrigated facility.

(b) **Social Infrastructure**

(i) **Educational Institution**: The State has 2624 educational institutions for various levels during 2007-08. It includes 14 Central institutions, 1878 State government and 732 Private owned institutions. During the same year, there were 2 Polytechnics, 3 Nursing Schools, 6 Teacher Training Institutes, 4 Industrial Training Institutes, 1 School of Music, 3 Law Colleges, 1 School of Engineering and Management and 1 School of Agriculture each for College and University levels.

(ii) **Health**: In 2006, there were 581 Medical institutions and 2335 medical personnel in the State medical service. In other words, there were 3.04 Medical Institutions per 10,000 population and 10.63 Medical Personnel per 10,000 population respectively.

(iii) **Housing**: According to NSHDR 2004, only 11.68% of the total households reside in pucca house, 42.51% households in semi-pucca house; while for the major proportion (44.14%) of the households reside in kutcha house.

(iv) **Water Supply and Sanitation**: The data showed that only 18.97% of the total villages were fully covered with safe drinking water supply in 2003, while 75.8% were partially covered and 5.23% of the total villages have not been covered. In the same year, 25.87% of the household in Nagaland do not have proper sanitation facility as compared to 30% of all India average.
7.1.4: Village Council and Village Development Boards

The Village Council (VC) is the overall authority of village administration, while VDBs are involved in all phases of developmental activities as a part of their responsibilities like allocation of funds, selection of beneficiaries or schemes, monitoring of work progress and completion of schemes. Hence, VCs and VDBs play key role in building up of all round development of the community especially in administering justice and implementing developmental programmes.

7.2: SOCIO-ECONOMIC PROFILE OF SAMPLE AREAS

7.2.1: Demographic Characteristics of Sample Areas

(i) Sample Population: The sample size in aggregate is 2999 people comprises of 1442 female and 1557 male.

(ii) Rural and Urban Distribution: The Rural and Urban population of sample areas comprises of 80.89% and 19.11% respectively. In rural area, Mokokchung consist of 28.61%, Phek-37.88% and Tuensang constitutes 34.05%. Among the urban area, Mokokchung consist of 17.45%, while Phek and Tuensang constitute 55.59% and 27.40% respectively.

(iii) Age-wise Composition: It is observed that at the time of survey more than one-fifth (22%) of the total sample population are children below 14 years of age. The same for rural area is higher than urban area with 22% and 21% respectively.

(iv) Sex-Ratio: The sex-ratio in sample aggregate was found to be 926 females per 1000 males, which lower than State’s average of 931 in 2011. The same for sample rural and urban areas were 933 and 897 as compared to that of State’s average of 942 and 905 respectively.

(v) Household Size: In rural areas, according to VCC and VDB’s records, the average household size was 6.82 members. However, household survey has revealed that the same was only 5.71 members. For sample urban area, it was 5.07 members, which was lower than that of the sample rural area of 5.89 members.

(vi) Educational Profile: In sample aggregate, 7% of the sample population have never been to school. The same in rural area was higher as compared to urban area with 8% and 5% respectively. Further, currently attending schools in sample aggregate consist of 36%. It was lower in rural than in urban areas with 34% and 42% respectively. On the other hand, attended but not currently attending schools in sample aggregate was 57%, the same in rural is higher than urban areas with 58% and 53% respectively.

(vii) Occupation of Household Head: The occupations of the household head showed that maximum of the household depend primarily on Agriculture, which was 42% of the sample
aggregate. The same for Salaried, Business, Pensioner and Social Activist were 36%, 13%, 6% and 3% respectively.

(viii) Gender-wise Household Head: It is observed that the household headed by female is still insignificant as in sample aggregate, as much as 90% households in aggregate are headed by male, while only 10% households are headed by female. In urban areas, the male headed household consists of 91.15% which is higher as compared to rural areas of 89%.

(ix) Educational Qualification of Household Head: In sample aggregate, 10% of the household heads have never been to school. Out of which, it was only 1% in urban areas as compared to 12% in rural area.

7.2.3: Infrastructure Profile of Sample Areas

(i) Transport and Communication: It is observed that half of the sample villages are linked with pucca road. Among the sample villages, 50% have transport facilities such as bus and private taxis based in their village for commuting. All the sample villages have access to telephone facility. However, only 16.67% of the sample villages have post office within their jurisdiction. Hence, post office per 10,000 population was only 0.30 in 2009-10 as observed in sample rural area.

(ii) Power: The survey has revealed that only 92.38% households have electricity connectivity during 2009-10, which was lower than that of the State’s average in 2003 of 93.75%. It is observed that the household electrification in urban area was better than in rural areas as the same for urban and rural were 97% and 91.17% respectively.

(iii) Banking: In banking, it is found that there are 11 banks in sample towns, whereas, none of the sample villages has banking facility in their jurisdiction.

(iv) Educational Infrastructure: The educational infrastructure of sample areas are summarised as below:

   a. Educational Institutions: There were 75 educational institutions in sample towns including 10 colleges, 11 Higher Secondary and 54 Schools. Whereas, 50% of sample villages have middle government school and 33% have private middle schools. Only 16% (1) of the sample village has Government secondary school, while 33% (2) had private secondary school.

   b. School-Pupil Ratio: The school-pupil ratio in aggregate for sample villages during 2009-10 was 1:156, which was lower than the State’s average of 1:178 in 2006. In sample aggregate, the same for government school was lower than that of the private school with 1:125 and 1:243 respectively.
c. Teacher-Pupil Ratio: The study showed that teacher-pupil ratio in aggregate for sample villages during 2009-10 was 1:18, which was marginally lower than the State’s average of 1:19 in 2006. The same for sample aggregate in public school was higher than private school with 1:16 and 1:25 respectively.

(v) Health Care: In health care, in spite of all efforts given by the government and NGOs, its services are yet to reach a satisfactory level. In sample towns, there are 3 (three) District Hospitals and 11 (eleven) Dispensaries. In sample rural area, it is observed that there was only 1.69 medical staff per 10,000 population in sample villages during 2009-10, which was much lower than the State’s average of 10.63 in 2006. Besides, there was only 1 Sub-centre which was manned by doctor in rural areas.

(vi) Water Supply and Sanitation: It is observed that only 70.84% households were covered with safe drinking water supply in sample aggregate, whereby it was higher in urban than rural areas with 75% and 66.57% respectively. This was much lower than the State’s average of 94.77% in 2003.

The household survey has also revealed that 85% households have access to proper sanitation facility, while the same in urban was higher than in rural with 92% and 82.33% respectively against the State’s average of 74.3% in 2003.

7.3: ANALYSIS OF GROWTH TRENDS IN NAGALAND ECONOMY

The important findings of growth in economic and human development in Nagaland which have discussed detail in Chapter 4 are summarised as follows:

7.3.1: Sector-wise Development: In sector-wise growth and development in the State, the main findings are highlighted below.

(i) Agricultural Sector: There has been an improvement in agricultural sector in the State as far as ADI value is concerned; it has increased from 71.31 to 97.06 in 1991 and 2006 respectively. The growth trend shows that the growth rate was 1.99% per annum during 1991-2006.

Among the districts, Dimapur had the highest growth rate with 3.18% per annum, followed by Zunheboto, Kohima, Mokokchung, Tuensang and Mon with 2.81%, 2.58%, 1.69%, 1.04% and 0.02% respectively. On the other hand, Wokha and Phek had exhibited negative growth with -0.03% and -0.23% per annum respectively.

In five yearly periodical analyses, the growth during 1991-96 was negative with -1.90% per annum. Thereafter, it has turned positive during 1996-01 and 2001-06 with 1.43% and 8.08% per annum respectively.
(ii) **Industrial Sector**: The Industrial sector showed an improvement over the period as IDI value has increased from 3.54 to 13.03 in 1991 and 2006 respectively. This shows that growth rate during the same period was 9.98% per annum.

Among the districts during 1991-2006, Dimapur has exhibited the highest growth rate with 18.13% per annum, followed by Zunheboto, Mon, Mokokchung, Kohima, Wokha, Tuensang and Phek with 11.28%, 8.36%, 7.24%, 6.72%, 5.75% and 5.02% per annum respectively, while Phek had the lowest with 4.35% per annum.

The inter-temporal analyses showed that during 1991-96 and 1996-2001, the growth of industrial sector was 11.35% and 38.81% per annum respectively. However, during 2001-2006 it has witnessed negative growth rate with -4.03% per annum.

(iii) **Infrastructural Sector**: The Infrastructural development as indicated by InDI value had marginally increased from 4.68 to 4.98 in 1991 and 2006 respectively. Hence, its growth rate was 0.86% per annum during 1991-2006.

Among the districts during the same period, the highest growth is exhibited by Dimapur with 1.11% per annum, followed by Kohima and Mokokchung with 0.86% and 0.81% respectively. On the other hand, Mon, Wokha, Tuensang, Phek and Zunheboto exhibited negative growth with -0.24%, -2.81%, -1.75%, -1.49% and -0.68% per annum respectively.

The periodical analysis showed that the growth in Infrastructural sector in Nagaland has fluctuated; during 1991-96, it was negative with -1.58% per annum, but it has turned positive during 1996-01 with 7.98% per annum and again, it has witnessed negative growth with -4.44% per annum during 2001-06.

(iv) **Educational Sector**: The development in educational sector has been consistent throughout the study period as EDI value has increased from 33.40 in 1991 to 39.29 in 2006. The growth in educational sector was 1.01% per annum during the period under consideration.

Among the districts, Mon has exhibited the highest growth rate with 1.96% per annum during 1991-2006, followed by Tuensang, Wokha, Dimapur, Mokokchung, Phek, Kohima and Zunheboto with 1.77%, 0.95%, 0.93%, 0.80%, 0.80%, 0.75% and 0.66% per annum respectively.

The growth in educational sector during 1991-96 in Nagaland was 1.29% per annum. Further, in 1996-01 and 2001-06, it has increased by 0.35% and 1.73% per annum respectively.

(v) **Health Sector**: The HeDI value showed that the health sector has been deteriorated over the period in the State as it has declined from 29.33 to 22.92 in 1991 and 2006 respectively. It is estimated that the health sector witnessed negative growth by -1.34% per annum during 1991-2006.
All the districts have witnessed negative growth during the same period, whereby the highest negative growth rate was Tuensang with -3.99% per annum, followed by Wokha, Mon, Zunheboto, Phek, Dimapur, Kohima and Mokokchung with -3.63%, -2.54%, -2.20%, -1.60%, -1.51%, -0.34% and -0.10% per annum respectively.

During 1991-96 and 1996-2001, the State has witnessed negative growth rate by -3.75% and -3.66% respectively, thereafter it has witnessed positive growth by 3.52% per annum during 2001-06.

Death Rate: The death rate per thousand population in Nagaland has shown a fluctuating trend during the period under observation. In 1991, it was 2.56, which has declined to 1.95 in 1996, but increased to 3.65 in 2001. Thereafter, it has declined again to 2.61 in 2006. Hence, it is estimated that the death rate per 1000 population has increased by 1.37% per annum during 1991-2006.

Among the districts, only Mon has showed negative trend value with -1.88% per annum during 1991-2006, whereas the highest positive growth has exhibited by Dimapur with 14.50%, followed by Tuensang, Kohima, Wokha, Mokokchung, Phek and Zunheboto with 9.83%, 1.66%, 1.02%, 0.93%, 0.93% and 0.09% per annum respectively during the same period.

It has been observed that during 1991-96, it has declined by -4.77% per annum, but increased during 1996-01 by 17.44% and declined again during 2001-06 by -5.67% per annum.

(vi) Overall Growth: The overall growth has exhibited a downward trend in the early nineteen nineties as the ODI value was declined from 26.42 to 24.79 in 1991 and 1996 respectively. Since then, it has started to increase, whereby its value in 2001 and 2006 were 25.96 and 32.31 respectively.

The growth trend of overall development during 1991-2006 was 1.30% per annum. Among the districts, Dimapur has exhibited the highest growth with 3.08% per annum, followed by Zunheboto, Kohima, Mokokchung, Mon and Tuensang with 1.59%, 1.48%, 1.17%, 0.40% and 0.07% per annum, while Phek and Wokha had witnessed negative growth rates with -0.47% and -0.33% per annum during the same period.

The inter-temporal analyses showed that the entire districts have exhibited negative growth during 1991-96 with -1.24% per annum. Thereafter, it has increased by 0.95% and 4.89% per annum during 1996-2001 and 2001-2006 respectively.

7.3.2: Annual Exponential Sectoral Growth of NSDP during 1980-81 to 2005-06

The main observations of annual exponential growth rates of sectoral contribution to NSDP in Nagaland are as follows:
(i) The growth rate of NSDP in Nagaland during 1981-2006 was 15.84% per annum, while that of PCI was 11.13% per annum.

(ii) The decadal decomposition of growth rate has shown that the State has witnessed the highest growth rates in NSDP and PCI as well as population during 1990-91 to 2000-01 with 22.38% and 17.22% per annum respectively. However, in the last decade (during 2000-01 to 2005-06), the growth rates in both NSDP and PCI have reduced to 14.33% and 9.36% per annum respectively. Therefore, in the last decade, there has been a decline in growth rate of the economy in respect of NSDP and PCI in Nagaland.

(iii) Among the sectors, the growth of Primary sector was highest with 16.09% per annum, followed by Tertiary and Secondary sectors with 15.85% and 14.62% per annum respectively.

(iv) Among the Primary Sub-sectors, the highest growth during 1981-2006 was Fishery with 19.25% per annum. However, it is observed that during 2001-06, Mining and Quarrying became the fastest growing Primary sub-sector with 19.74% per annum. This could be due to developmental activities being taking place in the State. However, the agricultural sub-sector has remained the major contributing sub-sector to NSDP over the period.

(v) In Secondary Sector, Construction continued to be the dominant sub-sector during 1981-2006 with a growth rate of 13.78% per annum. It may be mentioned that till 1993-94, sectors like Electricity, Water Supply and Gas have witnessed deficit in their contribution to NSDP.

(vi) Among Tertiary Sub-sectors, transport and communication has witnessed the highest growth rate during 1981-2006 with 28.17% per annum. But, in the last decade (2001-2006), Real Estate, Ownership of dwelling and Business services has emerged a major sub-sector with a growth rate of 10.56% per annum.

7.3.3: Public Spending and Level of NSDP

The study showed that public spending is positively associated with the level of NSDP in Nagaland. It has shown that the elasticity of public expenditure on overall level of NSDP is 0.996.

Among the sectors, the highest impact is on social service sector such as education and health with an elasticity of 0.989, followed by secondary sector, infrastructure and agriculture with 0.973, 0.950 and 0.878 respectively.

The findings of changing pattern in sectoral contribution to NSDP and occupational structure in the economy of Nagaland during pre-reform and post-reform periods are given below.

i) **Primary Sector**: The contribution of Primary sector to NSDP in pre-reform period was declined by -1.01% per annum. But, it was increased during post-reform period by 1.23% per annum. During the same period, the proportionate share of workforce has marginally increased in pre-reform period by 0.09% per annum, but declined in post-reform period (1991-2001) by -0.68% per annum.

ii) **Secondary sector**: The proportionate share of secondary sector in NSDP has increased in pre-reform period by 8.2% per annum, but declined in post-reform period by -3.31% per annum. During the corresponding periods, the proportionate share in Employment has continuously increased by 0.41% and 4.11% per annum.

iii) **Tertiary sector**: The Tertiary sector’s contribution to NSDP has declined during pre-reform period by -1.56% per annum, but increased in post-reform period by 0.94% per annum. Similarly, its percentage share of Employment has reduced in pre-reform period by 0.26% per annum and increased in post-reform period by 1.69% per annum.

Hence, with the advent of the new economic policy in the country in 1991, the structure of the State’s economy has been changing in such a way that (a) the contribution of Primary sector to NSDP have increased, although it has declined in proportionate share of workforce, (b) the share of Secondary sector in NSDP has declined, but its share in employment has increased, (c) in Tertiary sector, its share in both NSDP and employment have increased.

Further, it is observed that the structural change in the economy of Nagaland has led to an increase in the contribution of primary and tertiary sectors to NSDP with a matching decline in the contribution of secondary sector, while the decline in proportion of workforce in primary sector has a matching increase in secondary and tertiary sector.

7.3.5: Growth of Human Development Index in Nagaland and India during 1981 to 2001

As far as HDI is concerned, the human development in the State was better than the country’s average over the observed period. The HDI in Nagaland has increased by 89% during 1981-2001 as compared to that of 35.76% of India during the same period. In 2001, among the districts in Nagaland, it is observed that the HDI was highest in Dimapur, while the lowest was in Mon with 0.733 and 0.450 respectively.
7.4. INTER-DISTRICT DISPARITIES IN ECONOMIC HUMAN DEVELOPMENT

The important findings of inter-district disparities in economic and human development have been analysed in detail in Chapter 5 are summarised below.

7.4.1: Sector-wise Disparity in Economic and Human Development

(i) Agricultural Sector: The inter-district disparity in development of agricultural sector has been significant throughout the period under observation. The extent of disparities estimated by Coefficient of Variation (CV) has revealed that it has increased from 43.58% to 49.18% in 1991 and 2006 respectively, which shows that it has widened by 0.84% per annum. The ADI value showed that in 2006, the relatively most developed district was Dimapur, while the least was Mon with its value of 182.39 and 47.72 respectively.

The study has shown that there is convergence in indicators such as Land Productivity (MT/Hectare), Per Capita Production (in KG) and Total Cultivated Area (in Hectare) per 1000 Population by 1.01%, 0.14% and 2.65% per annum respectively during 1991-2006. But, in Percentage of Cultivated Area to Total Area and Percentage of Gross Irrigated Area to Total Cultivated Area, the disparity has widened by 4.10% and 1.36% per annum respectively during the same period.

The inter-temporal analyses showed that the inter-district disparity in agricultural sector during 1991-96 has declined by -0.05% per annum, but has increased during 1996-01 and 2001-06 by 1.16% and 1.39% per annum respectively.

(ii) Industrial Sector: The Industrial development in the State has experienced vast inter-district disparity over the period. The disparity has widened by 3.92% per annum during 1991-2006 as its CV value has increased from 35.92% in 1991 to 66.27% in 2006. Among the districts, Dimapur has been relatively developed among as far as its IDI value is concerned in 2006, while Tuensang showed the least as their IDI value were 36.05 and 5.75 respectively.

The disparities have widened in all the indicators except ITC per Lakh Population, which has declined by 0.89% per annum. It is estimated that the disparities in SSI Unit per Lakh Population, Employees per SSI units and Veterinary Hospitals/Dispensary per 100 Sq. Km have widened by 6.81%, 7.36% and 0.78% per annum respectively during 1991-2006.

During 1991-96, the disparity has widened by 9.05% per annum, while during 1996-01 and 2001-06, it has widened by 2.64% and 2.44% per annum respectively.

(iii) Infrastructural Sector: The inter-district disparity in infrastructural sector has initially widened and then narrowed down over the observed period, but it has remained significant. The disparity has widened from 59.75% in 1991 to 69.54% in 1996, thereafter, it has narrowed down
to 57.14% and further to 53.68% in 2001 and 2006 respectively. Hence, the growth trend of disparity in infrastructural sector showed that it has narrowed down by -0.31% per annum during 1991-2006. It has observed from the study that in 2006, Dimapur was the most developed district as revealed by InDI value, while the least developed was Tuensang. Their InDI values were 6.94 and 2.77 respectively.

Among the indicators during 1991-2006, the disparity has converged in Post Office per Lakh Population, Post Office per 100 Sq. Km, Road Length (Km) per 100 Sq. Km and Per Capita Electricity Consumption (in KWH) by -0.12%, -0.14%, -0.66% and -14.56% per annum respectively. On the other hand, the disparity has diverged in Bank per Lakh Population, Banks per 100 Sq. Km, Telephone per 1000 Population and Surfaced Road per 100 Sq. Km by 0.04%, 0.93%, 0.44% and 1.46% per annum respectively during the same period.

The inter-district disparity in infrastructural sector during 1991-2006 has widened by 3.28% per annum, but it has narrowed down by -3.57% and -1.21% per annum during 1996-2001 and 2001-06.

(iv) Educational Sector: The study has revealed that there was convergence in educational sector during the period under consideration. The disparity has reduced from 34.85% to 25.61% in 1991 and 2006 respectively, which shows that it has narrowed down by 1.88% per annum during 1991-2006. In 2006, the EDI value showed that in education, Dimapur has witnessed the highest value, while Mon has witnessed the lowest with 46.88 and 34.25 respectively.

The convergence has been observed in all the individual educational indicators, where the highest and lowest convergence rate was in Children Enrollment Ratio and School per 1000 Population with -9.93% and -0.87% per annum respectively during 1991-2006.

The pace of convergence during 1991-96 was -2.07% per annum, it continued to converge by -0.30% and -3.36% per annum during 1996-01 and 2001-06 respectively.

(v) Health Sector: The inter-district disparity in health care services has narrowed down over the time, but it has remained significant. The disparity was reduced from 36.61% in 1991 to 32.46% in 2006, which shows that it was narrowed down by -0.75% per annum. The analysis has revealed that the health sector is relatively most developed in Mokokchung among the districts in 2006 as its HeDI value was highest with 30.91, while the extreme bottom was witnessed by Dimapur with its value of 4.23 during the same period.

Among the health indicators, three have witnessed divergence namely; Medical Institution per 100 Sq. Km, Bed per 10,000 Population and Nurse per Lakh Population by 1.17%, 3.26% and 2.68% per annum respectively. On the other hand, the fastest convergence is observed to be
Death Rate with -3.83% per annum, followed by Compounders per Lakh Population, Medical Officers per Lakh Population and Medical Institutions per 10000 Population with -0.70%, -1.80% and -1.85% per annum respectively during the same period.

The inter-district disparity in health sector during 1991-96 has narrowed by -0.82% per annum, further, it continued to reduce by -0.26% and -1.26% per annum during 1996-01 and 2001-06 respectively.

(vi) Overall Inter-District Disparity: It has been observed that the overall inter-district disparity has widened from 42.14% to 45.44% in 1991 and 2006 respectively, which shows that it has widened by 0.42% per annum during the same period.

The study has revealed that among the districts in 1991, Wokha has the highest ODI value with 40.14, followed by Phek, Dimapur and Zunheboto with 36.69, 33.32 and 28.50 respectively. All these districts were above the State’s average of 26.42. On the other hand, the lowest was Mon with 19.07, followed by Tuensang, Kohima and Mokokchung with 20.77, 24.07 and 25.61 respectively.

There were changes in the ranks of ODI values among the districts in 2006. Dimapur became the top in ODI value with 50.84, followed by Wokha, Zunheboto and Phek with 39.88, 37.85 and 34.40 respectively. All these values were above the State’s average of 32.31. On the other hand, Mon remained at the lowest with 20.74, followed by Tuensang, Kohima and Mokokchung with 21.87, 29.31 and 30.21 respectively.

Hence, (a) ODI values have improved for all the districts except for Wokha and Phek, (b) Dimapur has improved in ranking, while Wokha and Phek have deteriorated in their ranks, (c) Dimapur, Wokha, Zunheboto and Phek have remained above the State’s average and (d) Mon and Tuensang have remained at the lowest spectrum.

In periodical analysis, the overall inter-district disparity during 1991-96 has widened by 1.98% per annum. Thereafter, it has marginally declined by -0.34% and -0.04% per annum during 1996-2001 and 2001-2006 respectively. However, in general, it is estimated that the inter-district disparity over the period 1991-2006 has widened by 0.42% per annum. Therefore, the hypothesis which states that there is no tendency to converge inter-district disparity in Nagaland is accepted.

Among the sectors, the widest disparity in 1991 as well as in 2006 was infrastructure. On the other end, the least disparity during the corresponding period was educational sector. There is divergence in industrial and agricultural sectors, which have been widened by 3.92% and 0.84% per annum during 1991-2006. On the other hand, the fastest convergence was in educational
sector with -1.88% per annum, followed by health and infrastructure with -0.75% and -0.31% per annum respectively.

7.4.2: Plan Outlay and Sector-Wise Inter-District Disparity

(i) The study shows that the correlation between plan outlay and inter-district disparity is negative in sectors such as infrastructure, education and health during 1991-2006. It is estimated that 1% increase in plan outlay in corresponding sectors has an impact in reducing the inter-district disparity by -15.5%, -17.8% and -0.54% respectively.

(ii) In economic indicators such as agriculture and industry, 1% increase in plan expenditure lead to an increase in inter-district disparity by 11.1% and 33.1% respectively.

(iii) It is estimated that in overall development, the impact of plan outlay on disparity is positive in Nagaland that 1% increase in plan outlay would increase disparity by 9.6%, but it is statistically not significant.

Hence, plan expenditure in Nagaland did not make significant impact in reducing inter-district disparity in the past except in education and health sectors.

7.4.3: Disparity in Income Distribution in Nagaland

(i) Income Distribution in Sample Districts during 2009-10: The income inequality in Nagaland during 2009-10 as measured by Gini Coefficient was 0.401 in sample aggregate. Among the sample districts, income inequality was highest in Phek, followed by Tuensang and district Mokokchung with corresponding Gini coefficient values of 0.412, 0.391 and 0.363.

(ii) Income Distribution in Sample Rural and Urban Areas during 2009-10: It is found that the inequality in income distribution was higher in rural than in urban areas as their GiniC value are estimated to be 0.392 and 0.309 respectively.

In rural areas, the richest 12% households receive more than 9 times income higher than that of the poorest 12% households. For urban areas, the richest 23% household shared 5 times income higher than that of the poorest 23% households.

(iii) Disparity in PCI during 2001 to 2009-10: The inequality in income distribution has increased from 20.65% to 31.37% in 2001 and 2009-10 respectively in Nagaland. The annual average growth rate showed that the disparity has widened by 4.65% per annum during 2001 to 2009-10.

Hence, the hypothesis which states that there is no tendency to converge in income disparity in Nagaland is accepted.
7.4.4: Gender Disparities

The important findings of gender disparities in Nagaland are summarised below.

(i) Education: The gender disparity in literacy rate has narrowed down in the State over the time by -9.80% per annum during 1981 to 2011. Also, the same in children enrolment ratio has converged by -4.41% per annum during the same period.

(ii) Health: The gender disparity in health as reflected by IMR during 1981-2001 has been converged by -4.20% per annum as its CV value has increased from 19% in 1981 to 8.21% in 2001.

(iii) Workforce Participation: The gender disparity in workforce participation has widened by 0.12% per annum during 1981-2001 as its CV value has increased from 13.94% to 14.27% in 1981 and 2001 respectively.

(iv) Gender-related Development Index (GDI): As far as GDI is concerned the gender gap in the State was narrower than the country’s average in 1981 and 1991. But, it became wider than country’s average in 2001 as the GDI for Nagaland was declined to 0.410, compared to 0.540 of country’s average. Moreover, the GDI values for Nagaland, which continued to reduce since 1981 shows that the gender disparity has widened over the period.

(v) Gender Differential in Human Development Indices: The gender disparity in HD indices has widened since 1981. The Gender Differential (GD) in human development indices (i.e. difference between HDI and GDI) has increased as its value has turned from negative to positive with -138.72 to 32.58 in 1981 and 2001 respectively.

(vi) Gender Time Allocation: The study showed that the gender disparities in time allocation for social activities, leisure and preparation of meals are highly significant as their corresponding coefficient of variation values are 90%, 85.44% and 93.52%. It has also revealed that women spent marginally more time than men in agriculture, yet household chores are exclusively done by women, while men enjoy much higher leisure than women.

(vii) Participation in Household Expenditure Decision Making: The main observation in household expenditure decision making between the genders are as follows:

   a. It is observed that the household’s expenditure decision making is generally made jointly in Nagaland. Study has confirmed that the household expenditure made jointly is 44.19%, while that of male is 34.15% and female is only 20.57%.

   b. Among the sample districts, the household’s expenditure decision taken by male alone was highest in Phek with 53.54%, followed by Tuensang and Mokokchung with 34.15% and 14.11% respectively.
c. The household where its decision household expenditure is done by female was highest in Tuensang with 27.44%, followed by Mokokchung and Phek with 22.70% and 13.13% respectively.

d. On the other hand, the jointly decision in household expenditure in Mokokchung (63.19%) and Tuensang (38.41%) were higher than that of male and female alone. While the same for Phek district was only one-third of total sample households. Hence, female participation in household decision making is trivial.

It is confirmed from the study that the gender disparity in respect of education and health tend to converge. But in respect of workforce participation both at macro and household levels, it has widened.

7.5: TWO-WAY LINKAGES BETWEEN ECONOMIC GROWTH AND HUMAN DEVELOPMENT

The two-way linkages between Economic Growth (EG) and Human Development (HD) which have been analysed in two chains in Chapter 6 are summarised below.

CHAIN A

MACRO LEVEL

7.5.1: PCI, Public Expenditure in Educational Sector (PEES) and Educational Development

The study has estimated that 1% increase in PCI has positive impact on Literacy Rate (LR) and Enrolment in Higher Education (EnHE) by 1.76% and 9.76% respectively in Nagaland. The impacts are statistically significant at 1% and 5% levels respectively. Hence, the higher the level of PCI, the higher is the LR and EnHE in Nagaland.

Further, it is estimated that 1% increase in public spending in education lead to an increase in LR by 2.5%, which is statistically significant at 5% level. Hence, the higher the level of PEES, the higher is the level of LR.

An interesting finding is that, the impact of PEES on adult LR is greater than the impact of PCI on LR by 0.74%. This implies that government spending in education like better infrastructure, mid-day meals and other related facilities are more attractive than the level of income for children to enroll them in school, which is the base for increasing literacy rate. Further, the impact of PCI on EnHE is higher than that of PCI on LR by 8%. It implies that the level of income is more effective on higher studies than on general enrolment in lower level of schooling, which generally raises (mere) literacy rate.
7.5.2: PCI, Public Expenditure in Health Sector (PEHS) and Health Development

The study has revealed that 1% increase in PCI and PEHS will reduce IMR by -1.70% and -1.30% respectively in Nagaland, but it is statistically not significant at 5% level. Therefore, the hypothesis which states that the higher the level of PCI and PEHS, the lower is the level of IMR may not be accepted, though the impacts are negative.

MICRO LEVEL

7.5.3: Household Expenditure Pattern by Levels of Income

The proportion of household expenditure in Human Development related Items (HDriIs) is highest in Low Income Household (LIH) with 74% (food is 36%, education - 28%, sanitation - 6% and medicine - 4%), followed by Middle Income Household (MIH) and High Income Household (HIH) with 72% and 53% respectively. Hence, poorer household allocates comparatively higher proportion of income on HDriIs than the richer households.

The impacts of additional income on expenditure in various items among the different levels of income households are as follows:

(i) In sample aggregate as well as for all sample districts and for all the household categories, the impact of additional income on expenditure in HDriIs is higher than on the other items. Among the household categories by levels of income it is highest in LIH with 66%, followed by MIH and HIH with 58% and 51.3% respectively.

(ii) The impact of additional income on education is highest in LIH. It is higher than that of middle and high income households by 3.9% and 16.13% respectively. Further, the impact on medicine is also highest in LIH, which is higher than that of middle and high income households by 2.68% and 1.11% respectively.

(iii) In sanitation, the impact is highest in MIH, which is higher than that of LIH and HIH by 0.49% and 1.52% respectively.

(iv) In food items, the impact is highest in HIH, which is higher than that of low and middle income households by 4.2% and 5.5% respectively. Also, in other items, it is higher by 14.1% and 6.7% respectively.

Hence, it is evident that the impact on HDriIs is higher in poorer households (LIH) than the richer households (MIH and HIH). Therefore, the hypothesis which states that the impact of additional income on expenditure in HDriIs is higher in lower than higher income households is accepted.
7.5.4: Household Expenditure Pattern by Gender

The household expenditure pattern has revealed that when female controls household income, the proportion of expenditure towards HDRIs (food with 34%, education - 26%, medicine - 5% and sanitation - 6%) is higher than that of male and jointly controls households by 9% and 4% respectively.

The impacts of household additional income on expenditure in various items when it is control by male, female and jointly are summarised below.

(i) In general, the impact of additional income on HDRIs is highest when female control household expenditure with 66%, followed by JCH and MCH with 65.6% and 65.4% respectively. It is also higher in food, medicine and sanitation than male and jointly controls household. In food, it is higher than male and jointly controls households by 3.6% and 12.8% respectively; on medicine, it is higher by 1.75% and 3.17% respectively and in sanitation, it is higher by 0.07% and 2.3% respectively.

(ii) When male controls household income, the impact of additional income on education is higher than that of MCH and FCH by 1% and 6% respectively.

(iii) Whereas, when the household income is control jointly by male and female, the impact of additional income is higher than that of male and female alone by 0.5% and 0.01% respectively.

Thus, it is obvious that when female controls household income, the impact of additional household income towards HDRIs is higher than male and jointly controls households.

Hence, it is observed (in Chain-A) that there is positive linkage from economic growth towards enhancement in human development in Nagaland.

CHAIN-B

MACRO LEVEL

7.5.5: Education and PCI

(i) Literacy Rate (LR) and PCI: The analysis has shown that 1% increase in LR (adult) increases PCI by 8.37%, which is statistically significant at 1% level. Hence, the higher the level of literacy rate, the higher is the level of per capita income.

(ii) Enrolment in Higher Education (EnHE) and PCI: It is empirically evident that 1% increase in higher education lead to an increase in PCI by 11.9%. The impact is statistically significant at 5% level. Hence, the higher the level of education, the higher is the level of PCI.

Hence, although both literacy rate and higher education have positive impact on PCI, the impact of higher education on PCI is higher than that of literacy rate by 3.53%.
7.5.6: Health and PCI

The study found that the relationship between improvement in health condition increases PCI in Nagaland. It is estimated that 1% reduction in IMR lead to an increase in PCI by 7.57%, but it is statistically not significant.

Hence, at macro-level analysis, the impact of education on LR is greater when compared to that of health on PCI in Nagaland.

MICRO LEVEL

7.5.7: Education and Income

Study showed that individual who have never attended formal schooling have earned an average income of Rs. 1,823, while for those who have primary, middle, secondary, higher secondary and graduate & above levels of education receive an average income of Rs. 2,041, Rs. 4,448, Rs. 6,571, Rs. 8,944 and Rs. 9854 respectively. Hence, there is positive relationship between level of education and income.

The study at micro-level showed that an additional year of schooling lead to an increase the level of income by 12.8% in Nagaland, which is statistically significant at 1% level. Hence, additional year of schooling is positively associated with higher level of income.

Further, the impact is higher in relatively lesser developed district Tuensang than that of the relatively more developed districts Mokokchung and Phek by 7.61% and 5.7% respectively. Hence, an inference can be drawn that in less developed district, educated persons are relatively fewer. Therefore, when one obtains higher level of education, they have relatively higher earning opportunities.

7.5.8: Education and Agriculture

(i) Level of Education and Uses of Improved Method: The uses of improved method in agriculture is found to be highest with those who have attended primary and middle levels of education. The analysis has shown that additional year of schooling would increase the uses of improved methods by 3.17% in Nagaland, but it is statistically not significant. Thus, the higher the level of education, the higher is the use of improved methods may not be applicable in the State.

Further, it is found that the highest uses of improved method in cultivation among the sample districts was Phek, followed by Mokokchung and Tuensang. It is estimated that the impact is also highest in Phek with 8.96%, followed by Mokokchung and Tuensang with 4.70% and 2.10% respectively. The impact in Phek district is statistically significant at 5% level, but in Mokokchung and Tuensang, it is statistically not significant, though positive.
This may be due to the fact that shifting cultivation is the dominant agricultural system in Nagaland particularly in Mokokchung and Tuensang, where the scope for application of modern technology and inputs are limited. On the other hand, Phek district practices terrace cultivation where uses of modern tools and inputs is relatively convenient than shifting cultivation. Hence, it may be concluded that adoption of improve methods in cultivation is predetermined by agricultural system in practice rather than the levels of education in Nagaland.

(ii) Level of Education and Productivity: The analysis has shown that additional year of schooling lead to an increase in the level of productivity by 2.84%, which is statistically significant at 1% level.

Among the sample districts, the impact is highest in relatively most developed district Mokokchung with 3.65%, followed by Phek and Tuensang with 2.06% and 1.83% respectively. The impacts in Mokokchung and Phek are statistically significant at 1% level and the same for Tuensang is significant at 5% level. Hence, the level of education of farmer is positively associated with the productivity in agriculture.

Thus, it is obvious that there exists a strong inducement from Human Development to Economic Growth (chain-B) in Nagaland.

Hence, there is two-way positive linkages between EG and HD in Nagaland. Therefore, the hypothesis which states that there is two-way positive linkage between Economic Growth and Human Development is accepted.

7.6: Female Education and Human Development

Followings are some of the effects of female education on human development.

(i) Female Literacy Rate and PCI: It is estimated that 1% increase in female LR has positive impact on PCI by 7.25%, which is statistically significant at 1% level.

(ii) Female Literacy Rate and IMR: The study has found that the correlation between female LR and IMR is negative. Further, it is estimated that 1% increase in female LR lead to a reduction in IMR by -8.95%, which is statistically significant at 5% level.

(iii) Female Years of Schooling and Family Size: The correlation between female LR and family size is found to be negatively correlated. Further, the regression analysis has confirmed that additional year of schooling of mother reduces family size by -14.1%, which is statistically significant at 1% level.

Among the sample districts, the impact is highest in Phek with 18.6%, followed by Mokokchung and Tuensang with 8.24% and 1.08%. The impacts in Phek and Mokokchung are
statistically significant at 1% level and at 5% level in Tuensang. Hence, additional year of schooling of mothers is associated with the lower family size in Nagaland.

Thus, female education has positive impact on human development particularly in income, health and population growth in Nagaland. Hence, the hypothesis which states that the female education has positive impact on human development is accepted.

7.7: CONCLUSION AND POLICY IMPLICATIONS

The State is predominantly inhabited by rural population (71.03%), whereby its economy is mainly based on agrarian culture. It may be pointed out that more than two-thirds (68.03%) of the working population engaged in agriculture and allied activities, where the income generation is comparatively lower in this sector. Consequently, the PCI of Nagaland is low, as it is only 70.57% of all India’s average. The living condition of the people in the State is poor as major portion (44.14%) of the population lives in kutcha house, while only 18.97% of total villages are fully covered with potable safe drinking water supply. The infrastructural facilities like banking, power, road condition, education, health, potable drinking water supply and sanitation need to be improved. This will enable to enhance the standard of living and improve the quality of life.

It is empirically shown that the overall development (among 28 selected indicators) of the State has increased by 1.30% per annum during 1991-2006. However, it is also observed that there was no uniformity in the growth rates among the districts, whereby Dimapur has the highest overall growth rate with 3.08% per annum during the same period. On the other hand, Wokha and Phek have witnessed negative growth rates with -0.33% and -0.47% per annum respectively. In economic indicators such as agriculture, industry and infrastructure, Dimapur has the highest growth rates with 3.18%, 18.15% and 1.1% per annum respectively during the afore mentioned period. In human development indicator, particularly in education, despite low in ODI rankings, the relatively lesser developed districts Mon and Tuensang have exhibited the highest growth rates with 1.96% and 1.77% per annum respectively during the same period.

It is empirically evident from the study that there has been spatial imbalanced development among the districts in different sectors in the State. Among the districts, Dimapur is the most developed district, which ranks the top (first) among the district in ODI throughout the period under study (1991-2006). On the other hand, the relatively less developed districts are Mon and Tuensang, which remained at rank 7 (seventh) and 8 (eighth) respectively during the same period. Hence, the relatively lesser developed districts such as Mon and Tuensang are unable to advance in their ranks over the time.
The study has revealed that inter-district disparity in the State does not only persists but it has been increasing significantly over the period that the disparity in Overall Development Index has widened by 0.42% per annum during 1991-2006. In economic indicators such as industrial (3.92% per annum) and agricultural sectors (0.84% per annum), the disparity have widened during the same period. Also, the disparity in income has widened by 4.65 per annum during the last decade (2001-2009/10). On the other hand, there has been significance convergence in sectors such as education (-1.88% per annum) and health (-0.75% per annum) during 1991-2006. This is due to the fact that the relatively less developed districts especially Mon and Tuensang, which are unable to catch up in terms of economic development could make significant improvements in human development indicators.

It is also found that the government spending stimulates the growth of the economy in the State significantly. The impact of State expenditure on NSDP is found to be 0.996 in Nagaland. Among the sectors, the impact is highest on social services (0.989) such as education and health, followed by secondary sector (0.973), infrastructure (0.950) and agriculture (0.878). On the other hand, it is empirically found that increased in plan outlay has increased inter-district disparity with an elasticity of 0.096. However, among the sectors, public spending reduces disparities in education (-17.8%), health (-0.54%) and infrastructure (-15.5%), while there has been positive impact on agriculture (11.1%) and industry (33.1%).

In the State’s economy, it has been observed that the growth of NSDP and PCI were 15.84% and 11.13% respectively during 1981-2006. Further, it is observed that the tertiary sector remained the leading sector with 51.20% in 2006, followed by primary sector, while the contribution of secondary sector has remained low, which was only 13.94% in the same period. It is observed that there was no major change in the structure of the State’s economy.

Empirically, it is evident that there is gender disparity in socio-economic aspects. In human development indicators such as education and health, although the gender disparities persist, it has been declining over the observed period. But in economic indicator (workforce participation), it has been diverged by 0.12% per annum during 1981-2001. Further, in decision making at household level like the household expenditure, only 20.57% households have made its decision by female alone. Moreover, women engaged more time in economic as well as domestic activities, while generally men spent more time outside the household and enjoy leisure 3.61 times higher than female. Thus, there are clear indications that there is gender disparity in Nagaland. It may be purported that male folks occupy the headship of the household, but render less service for the household is in fact a matter of concern.
It is also evident that there exist two-way positive linkages between EG and HD in Nagaland. Improvement in EG by way of increase in the level of income and increase in public and household expenditure towards HD inputs raises education and health significantly. On the other hand, improvement in HD in the form of attainment of higher education and improvement in health condition significantly enhances the level of income and productivity in the State. An interesting finding is that the impact of literacy rate on PCI is higher than the impact of PCI on literacy rate by 6.61%. Further, the impact of higher education on PCI is greater than that of the reverse by 2.14%. Similarly, the impact of improvement in health condition (reduction in IMR) on income is higher than that of PCI and PEHS by 1.70% and 1.30% respectively. Also, study at household level shows that additional year of schooling increases the level of income and productivity (by 12.8% and 2.84% respectively) significantly. Hence, although, there exists two-way positive linkages between EG and HD, the impact of HD on EG is greater than that of the reverse in Nagaland.

There is also an evident that female education plays an important role in augmenting human development in the State. The study has revealed that female education enhance the level of income, improves health condition and reduces population growth. It is empirically found that 1% increase in female literacy rate increases PCI by 7.25% and reduces IMR by -8.95%, while additional year of schooling of female (mother) reduces family size by -14.1%. Thus, female education has significant impact on improvement in human development in Nagaland. Hence, it can be concluded that human development acts as a means as well as an ends in themselves.

Basing on the findings, following policy suggestions are put forward.

1. **Agriculture development need to be given priority as it is the backbone of the economy**

   (i) It is obvious that the economy of Nagaland is an agrarian as more than two-thirds of its labour force engaged mainly in agriculture. Moreover, agriculture alone contributes about one-third (31.28%) of the State’s NSDP in 2006. Hence, agricultural sector that needs to be strengthened is self explanatory. It is further observed that the impact of public spending on the level of output is not only high, but also highly significant with an elasticity of 0.878. Therefore, it is vital to enhance public spending in agriculture especially in its infrastructure like irrigations, credits, marketing facilities, storage facilities and develop modern technique that is appropriate for hilly area, which will augment agricultural produce in the State. Also there are needs to increase land use intensity by increasing double cropped area and adopt integrated farming (livestock and fisheries production) shifting from subsistence to commercial farming by introducing cash crops suitable to the climatic condition of each districts. Development of
Horticulture and Floriculture needs to be encouraged as it has market potentiality which enhances the level of income of the people. Activities like bee keeping, poultry etc. should be encouraged as it will generate additional income in the rural areas. Besides, Research and Development activities needs to intensify to develop improve methods of farming suited to the upland rainfed agriculture so as to increase productivity. This will ensure not only food sufficiency but it will also increase surplus produce, which in turn will enhance the level of income of farmers. Agricultural growth also contributes to urban economy by lowering food prices and providing food security.346

(ii) Further, the study has shown that the disparity in agricultural sector was as high as 49.18% in 2006, with Dimapur (182.39) as relatively the most developed district, while Mon (47.72) and Tuensang (53.47) are the least developed districts as indicated in ADI value. Moreover, the inter-district disparity in agricultural development has been increasing over the period (it has increased by 0.84% per annum). It is also found that the impact of plan expenditure on disparity in agricultural sector is not only positive, but also significant. Therefore, fiscal allocation needs to be reviewed that increase in public spending should target not only to raise production, but also to ensure equitable development among the districts.

2. The secondary sector needs a strong base in order to boost up the economy

(i) Secondary sector which have both backward and forward effects, linking with primary and tertiary sectors, has the lowest contribution in the State’s NSDP over the time (only about 13% in 2006). Thus, secondary sector like agro-based industry needs to be established in rural areas so as to encourage and absorb the agricultural product. Moreover, a strong base of secondary sector will enable to support in sustaining primary and tertiary sectors in the long-run of an economy. The small scale and cottage industry like traditional handloom and handicrafts, which is an integral part of the culture, need to be strengthened with modern technology and required infrastructure as it will enable to equip with contemporary fashion and taste. This will create employment and earning opportunity; also it will boost up rural economy.

(ii) The study has revealed that the inter-district disparity in industrial development was as high as 66.27% in 2006, where Dimapur (IDI value - 36.05) was relatively the most developed and Tuensang (IDI value - 5.75) was the lowest as indicated in IDI value. It is empirically shown that the state’s spending in secondary sector was positively associated with its share contribution to NSDP. At the same time, it is observed that in the past years, the impact of plan outlay in

industrial sector was also positively associated with the level of disparity. This showed that increase in the share contribution of secondary sector to NSDP due to increase in public spending has accompanied by increasing inter-district disparity. Therefore, there is a need to re-look into the State’s investment planning, giving more emphasis to less developed districts.

3. **Infrastructure need to be strengthened as it plays a key role for overall development**

   (i) In order to accelerate an overall economic development as well as human development in the State, it is important to strengthen infrastructural sector as it is the basic input factor for all-round developmental activities of the economy. It is found that the level of development in infrastructural sector was very low (4.98 in 2006 as indicated by InDI). Moreover, the inter-district variation has remained highly significant (CV is 53.68% in 2006). Among the districts, Dimapur remained as the most developed (InDI - 6.94 in 2006), while Tuensang (2.56) and Mon (2.77) remained the least developed districts. A remarkable finding of current study is that the impact of States expenditure on sectoral share contribution to NSDP like transport and communication is highly significant (elasticity is 0.950). Also, it is empirically shown that the impact of increase in plan outlay of infrastructural sector reduces its inter-district disparity (elasticity is 0.155). Therefore, it is convinced that public spending in infrastructural sector should be increased in the State. However, if we look at the proportion of budget allocation, there has been a declining trend in recent years. Hence, fiscal allocation needs to be reviewed, giving higher importance in less developed districts. This will improve overall socio-economic development of the State. Moreover, this will enhance the level of development as well as it will enable to reduce inter-district disparity.

   (ii) In Nagaland, the total road length per 100 Sq Km is only 2.16 in 2006, while telephone (landline) per 1,000 population and post office per lakh population were only 4.68 and 16.53 respectively during the same period. Therefore, infrastructure like upgradation in the quantity and the quality of transport and communication facilities like all weather roads and constant telecommunication facilities need to be improved. Further, strengthening and improvement of agri link roads, air connectivity and railroads should be emphasised on priority basis. This will improve not only connectivity of rural people and mobility of goods with urban and advanced areas, but also it will accelerate the functioning of the entire economy. Such improvement will equip people with up-to-date knowledge and information, which in turn will improve standard of living and enlarge people’s choices.

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(iii) Power is one of basic needs for all round activities of the States. Therefore, electricity should be provided to individual household as well as industrial units in order to accelerate economic activities. In spite of irregular power supply, household survey has revealed that only 92.38% households have electricity connectivity in 2009-10, which was even lower than that of 93.75% in 2003 in Nagaland. Hence, electricity facility should be extended to entire household with regular power supply as it is one of the most important factors for individual as well as industry to boost up the economy in the state.

(iv) The study also found that Banks per lakh population is very low (only 4.69 in 2008) in Nagaland. Besides, the existing banks are mostly located in commercial hub Dimapur and State capital Kohima. Therefore, banking facilities need to be extended to rural areas as it is essential for facilitating financial assistance to the rural farmers, which in turn will enhance rural economy.

4. Investment in Education and Knowledge need to be prioritised as it stimulates growth

(i) The level of development in education in the State is most consistent among the sectors under consideration; though at a slow pace (1.01% per annum during 1991-2006). Also, the inter-district disparity in educational development has declined over the observed period. However, in area like schools per 100 Sq. Km, there is wide inter-district disparity as its CV value was 54.49% in 2006 with the highest in Dimapur (36.78) and the lowest in Tuensang (10.27). Thus, institutional infrastructure, both in quantity and quality needs to be developed, especially in the lesser developed districts like Mon and Tuensang.

(ii) It is also found that increase in public expenditure in educational sector in the form of improvement in infrastructure like buildings, teaching aids, providing meals in the schools attracts more children to school which raises literacy rate in the State. The impact of public spending in education on literacy rate (2.5%) is not only positive but also significant and the impact of budgetary allocation on the level of share contribution of service sector to NSDP is highest among the sectors with an elasticity of 0.989 during 1986-2006. Further, it is confirmed that the State plan expenditure on education reduces its inter-district disparity significantly (elasticity is 0.178). Hence, it is very clear that fiscal allocation for educational development need to be intensified in the State as it plays crucial roles like increases in educational attainment (literacy rate), enhances the level of output in NSDP and reduces inter-district disparity.

(iii) Also, there is enough evidence from the study that higher education, both at macro and micro levels, has positive impact on level of per capita income significantly. Therefore, establishment of institutions for higher education, especially professional education is extensively
required in the State, as it will reduce the economic constraints of parents for sending children outside the state to attain such education and also enhance the level of income, which in turn will enlarge people’s capabilities and choices. Also, Industrial Training Institutes need to be promoted with up-to-date courses and curriculums in imparting vocational education so as to generate and increase employable personnel in the State. Moreover, the level of education of farmers enhances the uses of improved methods and also increases productivity in agriculture. Therefore, investment in training and educational institutions and support to the farmers needs to be increasingly emphasised. This will enable to boost economic development, at the same time it will enable to enhance the overall well-being of individual and the society.

5. Investment in Health related services need higher priority, as it raises people capabilities

(i) The study showed that the level and trend of health related development in the State has been declining over the period 1991-2006 by -1.34% per annum. This is a major concern that needs to be seriously addressed. On the other hand, it is found that the inter-district variation in health sector has declined by -0.75% per annum during the same period. It is also empirically found that the State’s plan outlay reduces the inter-district variation significantly by -0.54%. More so, the study showed that increase in plan expenditure in health sector lowers IMR by -1.30%. Further, there exist negative correlation between IMR and PCI in Nagaland. Therefore, public expenditure plays important role not only in reducing inequalities, but also improves health condition, which in turn will enable to raise the level of income of the individual.

(ii) Study has revealed that better health care facilities in rural areas need to be improved as it is found that there was only 1 (one) medical personnel for 5,859 population and 1 (one) doctor for 14,648 population. Thus, proper health and medical facilities need to be widely extended in rural areas in terms of both material as well as medical personnel. Upgradation of health care facilities by investing in advanced medical equipments in urban areas. Also, the ongoing National Rural Health Mission (NRHM) needs to be strengthened. It will save time, money and health of the people, and hence, improve well being of the people.

(iii) According to NSHDR 2004, 94.77% and 74.3% of the households have access to safe drinking water and proper sanitation facilities. But, household survey (2009-10) has revealed that only 70.84% households have access to safe drinking water supply and 85% households have proper sanitation facility. Hence, providing safe drinking water supply and proper sanitary facility need to be emphasised especially in rural areas. The ongoing Total Sanitation Campaign (TSC) need to be strengthened by giving more awareness about its importance through rural base
workshops and public information system. This will enable to improve health status, which is the basic minimum necessity for enabling all round activity of human being.

6. Overall Development need to be accelerated, with the target to reduce inequality

(i) The study showed that increased in public spending has significantly increased the level of NSDP during the observed period (elasticity is 0.996). Also, the level of overall development in the State has increased by 1.30% per annum during 1991-2006. However, it is observed that the overall inter-district disparity has widened by 0.42% per annum, whereas the State plan expenditure has positive impact on overall disparities (with an elasticity of 0.096). Further, districts like Mon and Tuensang continued to remain at the lowest spectrum in overall development among the districts throughout the period. Hence, while improvement in the level of development is worth mentioning, increasing disparity in the State is a matter of concern.

Therefore, it may be suggested that since public spending stimulates growth, the state expenditure need to be enhanced so as to increase the level of output. At the same time, there is a need to reallocate the state expenditure targeting to improve the less developed districts so as to ensure equitable development as it has positive impact on increasing inter-district disparity in past years. The present government effort to raise the backward areas through budgetary allocation and employment opportunities need to be strengthened. Also, it may be suggested that special economic zone specifically for Mon and Tuensang (including Longleng and Kiphire) be established so as to reduce the development deficits in those regions.

(ii) It is also evident that there was no uniformity in the growth rates among the districts as well as in various sectors within the district. For instance, despite, the highest growth rate in economic indicators, Dimapur has highest declining rate in health care development (HeDI) and therefore has been witnessing the highest increase in death rate. Wokha and Phek districts, although higher in the level of agricultural development (ADI), they have witnessed negative growth rates in this sector. Districts such as Tuensang, Phek, Zunheboto, Wokha and Mon witnessed negative growth rates in infrastructural sector over the observed period. Hence, it is imperative for policy planners to address the issues in those poor sectors of lesser developed districts. For instance, health care in Dimapur, agriculture in Kohima and Mokokchung and infrastructure in Tuensang, Phek, Zunheboto, Wokha and Mon.

7. Female education need to be intensified, as it is vital for fuller realisation of human development

(i) It is empirically evident that female education plays an important role in advancing human development. For instance, female education contributes significantly to socio-economic
development of the State by raising PCI (by 7.25%), improves health condition by reducing IMR (by -8.95%) and reduces family size (by -14.1%). However, it is observed that women are more deprived in receiving education as compared to men as the proportion of illiterate female (23.31% in 2011) is higher than that of male (16.31%). Therefore, female education needs to be given importance, starting from primary education to providing skills and vocational trainings that can create employment avenues (other than household chores). This will improve standard of living, better health and stabilize population growth, which in turn will enable to enlarge capabilities and choices. Short term training courses and awareness programme for women especially on sanitation, child care, nutrition, health etc. should be given regularly covering the entire State even the remotest rural villages.

(ii) Nagaland has witnessed a continuous decline in GDI value since 1981, which implies that the gender disparity has been continuously widened. It is found that male workforce participation (macro-level) is higher than female over the period in the State for which the gender disparity has been increased by 0.12% per annum during 1981-2001. Similarly, at micro level, study showed that women renders almost equal time (relatively higher) with men in agriculture and allied activities, yet, domestic chores are almost done by women, while male enjoy leisure much higher than female (CV is 93.52%). This constraint female to attend productive programmes that can equip her with knowledge and information which can lead to avail opportunities like earning income, well-being of herself, family and society. Thus, time allocation of male and female needs to be reconsidered so as to reduce not only imbalances between the two, but also to enhance economic as well as human development aspects in the State.

(iii) The study reveals that in decision makings, women participation is still very low in Nagaland as men has almost full control (about 80%) over household decisions especially in its expenditure. The study further reveals that when female control over household income and expenditure, the impact of additional income on expenditure in HDriIs is higher than male and jointly control households. Therefore, it is convinced that female participation in decision especially in expenditure is important as this will enable to steer up their political will power; also it will enable to maximise the fuller objective of human well-being.

Thus, it is important to address gender inequality with disaggregated data and that the policy intervention needs to be gender sensitive, which will promote gender equality in all aspects. Further, both men and women should be given equal opportunity in policy formulation. This will enable to reduce gender disparity at the same time; it will enhance all round development of the society.
8. Income generating opportunities need to be enhanced as it enlarges people’s choices

It is observed that the growth rate of PCI during 2001-2006 has been 9.36% per annum in Nagaland. Also, inequality in PCI has increased by 4.65% per annum during 2001 to 2009-10. This shows that increase in PCI has been accompanied by increase in its inequality. Further, it is estimated that income inequality in Nagaland as measured by Gini Coefficient is 0.401, where 29.9% of the lowest income households receive only 8.19% of total income. The situation is worse in rural than in urban areas as the estimated Gini coefficient value for the same are 0.392 and 0.309 respectively. Therefore, income earning opportunities need to be extended to rural areas as the incomes of the rural areas are lower than that of urban areas. The ongoing scheme NREGA which is providing supplementary income opportunities to rural people irrespective of skilled or unskilled need to be strengthened. This is one way to increase the level of income and reduce income inequality in rural areas. It is also evident that when income increases in poorer households, the impact of additional income on human development related items is higher than that of richer households. Therefore, income and job-oriented skill development programmes which are suitable for poorer and illiterate people need to be intensified specially in rural area. Subsidiary income generating activities such as bee keeping, animal husbandry, poultry, mushroom cultivation etc. should be promoted especially in rural areas by giving training on technical skill, marketing information and credit facilities. The benefits of ongoing government programmes like bamboo mission, medical herbs cultivation etc. must reach the rural artisans and farmers. Further, strengthen the Self Help Groups by giving technical, marketing and credits supports will boost up the rural economy.

9. Human Development need to prioritise as it has significant impact on growth

There is empirical evidence that increase in the level of income and increase in government and household expenditures raise the level of education and health condition, on one hand, while increase in the level of education and improve health condition raises the level of income and productivity significantly, on the other. Study at macro-level shows that the impact of LR on PCI is higher than that of PCI on LR (by 6.71%). Also, the impact of higher education on PCI is greater than that of the reverse (by 2.14%). Similarly, study at household level shows that additional year of schooling increases the level of income and productivity (by 12.8% and 2.84% respectively). Further, the impact of improvement in health condition (reduction in IMR) on income is higher than that of PCI and PEHS by 1.70% and 1.30% respectively. Hence, it is obvious that although there exist two-way positive linkages between EG and HD, the inducement of HD on EG is higher than that of the reverse in Nagaland. Therefore, while balanced approach
to economic growth and human development has to be emphasised, it is imperative to emphasise on human development from the very outset, so as to ensure optimum sustainable growth of the State.

10. Village Councils and Village Development Boards need to be strengthened to accelerate development progress at the grassroots level

VCs and VDBs play key role in all round development of the community especially in administering justice and implementing developmental programmes. However, bottlenecks like lack of adequate infrastructural facilities, poor resources base and dearth of technical know-how have handicapped the VDBs in the developmental progress. Therefore, there are needs to provide an alternative means to the rural people to avail credits and loans as this can generate income required for the rural economy. Moreover, VCs and VDBs need to be strengthened by giving up-to-date information and knowledge through workshops, seminars and educative exposures. This will enhance not only the administrative capacity of the members but it will also enable to accelerate the development progress at the grassroots (villages) in the State.

To conclude, there are lots to be done especially in development of infrastructural sector like roads and communication, both in quantity and quality. The potential rural base small scale and cottage industries need to be accelerated so as to boost up the economy. Also, establishment of institutions for higher and professional education, health centres and provide medical facilities and personnel need to be addressed with utmost concern in the State. Nevertheless, the economic and human development is the major objective in planning; there is a need to establish a strong policy framework for overall development, which would be adequate to reduce the disparities in the State. Also, the village based institution “VDB” need to be strengthened as it plays a key role in developmental activities at the grassroots. As public spending stimulates growth, there is a need to enhance the level of investment both public and private, targeting to reduce the present regional imbalances in growth and development of the State. It is an undeniable fact that the female contribution to society has been immense in terms of socio-economic aspect; hence, female participation needs to be encouraged in these respects. In quest, whether human development or economic development need to be prioritised, it is important that balanced development approach needs to be emphasised, yet, it is imperative to prioritise human development approach, as the same has greater impact on economic growth. Moreover, human development is the means as well as an ends in themselves.