PROBLEMS AND PROSPECTS OF RURAL DEVELOPMENT IN NAGALAND

Abstract

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SUBMITTED IN PARTIAL FULFILMENT
OF THE REQUIREMENT OF THE DEGREE OF
DOCTOR OF PHILOSOPHY IN GEOGRAPHY

OF
NORTH-EASTERN HILL UNIVERSITY
SHILLONG
2003

1. Statement of the problem:

Rural sector is dominant in Indian economy, because more than two-third work force is engaged in rural areas. Nagaland, the trend of population is characterized by a fast growth rate and is dominated by rural population. The demographic features and occupational structural of the state are basically towards the expansion of primary sectors with very high decadal growth from 14.07% (1951-1961) to 64.41% (1991-2001). Population density has been increasing fast, which shows an increasing burden on the available resources. There is marginal growth of urban towns and, hence, less indication of transformation in economic sectors especially from primary sector to non-primary sectors. Dependency ratio is increasing with decreasing % share of workforce. Keeping these issues in mind, the state is obviously under pressure of fast increasing rate of population with less number of facilities and services with the limited resources. The geographical area of Nagaland is 16,579 sq. km. with a variety of topographic features of different elevations ranging from approximately 110m (the plain areas of the state) to about 3,826m in the eastern high ranges. As a result, only few limited areas of land along the foothills and river valleys provide ample opportunity for permanent agriculture. Jhum cultivation is widely carried out in many parts of the state. Forest areas are depleting and only few tribes of the state practice terraced/permanent cultivation. For how long, limited resources can hold the pressure of fast increasing population in the state. How much a labourer can produce from his one-acre/hectare of land? These are some of the interesting issues needed to know and to highlight the problems and also the prospects of rural development in the state.

Keeping the above rural development aspects in mind, it is obvious that the state has been enjoying a diverse frame of physiographic features as well as socio-economic parameters for development which are creating diversity and regional

disparities in the levels of development. On the other hand, problems and prospects of rural development are related to these conditions, the infrastructure available at village level and their accessibilities, the characteristics of development and their occupational structures where, the rural people are engaged. The rural economy is stagnant, in spite of various efforts, which are being implemented by Village Development Board by providing infrastructure for development. Thus, the present study would base on village level inquiries of the facts related to development issues.

2. The Objectives:

Keeping in mind the above discussion regarding the conditions of the demographic transition and socio-economic problems of rural areas of the state, the fallowing objectives have been put forward for pursuing the present study as:

1) to assess an overall performance of rural economy,
2) to study regional disparities in the levels of development and prioritization of the rural sectors of the economy,
3) to study the salient features and trends of development in its geographical frame, and
4) to identify the sectors of economy and areas of the state for proper development of the economy.

3. The Research Questions:

1. How does the transformation in rural economy taking place and what are the bases of such transformation?
2. How do the existing created infrastructural facilities and physiographic attributes influence the level of development?
3. Where are the most backward rural pockets in the state, and what are their most acute problems?

4. Sources of Data:

In order to test the validity of the above cited research questions and objectives, it is obvious that the study of physiographic factors is necessary like the topographical conditions, climate, soil, drainage and vegetation. The regional personality of physiographic attributes is highlighted for which the information is collected from toposheet (R.F.1/250,000 scale). The data related to climatic attributes as well as soil characteristics are collected from the Department of Soil and Water Conservation (Survey) and ICAR NERC. So far as block-wise and village-wise data of the various attributes of the development as well as demographic attributes are concerned, such data are collected from the secondary sources from the Directorate of Economic and Statistics, the Directorate of Agriculture, Horticulture, Rural Development Blocks and the Department of Planning and Coordination, the Census Operation, Kohima and Office of the National Informatics' Centre, Kohima.

Data related to the infrastructure variables like transport facility, electricity, health facility, educational facilities, agriculture, horticulture, animal husbandry etc. are collected from various concerned agencies.

6. The Methods:

It is specified that the availability of data and the situation in which the work is carried out are limited the results. However, scientific methods for getting the empirical results are used in the present piece of research. For example, the aggregations of developmental indicators/attributes, which are generated from the collected data at village level, are used to show the level of development. The composite index of development is prepared by using 'free-scale' technique.

The present study basically dealt with the three aspects of rural development such as;

(i) general performance of rural sectors, (ii) regional disparities and levels of development and (iii) transformation of rural economy. These aspects are methodologically dealt with the fallowing manner;

(a) The general performance of rural economy is based on the geographical personality. It is elaborated in which economy of the rural areas are emerging and, for the same, relevant cartographic methods are adopted to interpret the regional pattern of geographic phenomena as well as development levels.

(b) The land and labour productivities and production growth are major parameters of rural development. Because of non-availability of agricultural production data at village level for two points of time, the production growth parameters does not include in the present study. However, land and labour productivities have been calculated at village level.

(c) Since productivity is a function of total production and total area of the village, the land productivity is, thus, simply measured by considering average yield of principal crops. Paddy is a determinant crop in the state. Yield of paddy crop is considered as true representative of land productivity for which total paddy production and total cultivated area is used village wise.

(d) Labour productivity is the total production per agricultural worker, which is also calculated for each village by using labour statistics and crop-production at village levels.

Preparations of productivity as well as development maps and their comparisions with the physiographic features to identify the most under-developed areas are the major aspects of the present study. Therefore, mapping tool is used to depict the visual pictures of regional patterns and areal differences of development phenomena.

7. The Findings:

Before elaboration of main findings of the present research, some salient features of the state within which the development is taking place are forwarded in the following paragraphs:

1. The state of Nagaland is hilly and mountainous in its physiography, except some very small pockets of valleys and plains in the foot hills towards the western

side of the state. The undulating topography and variations in altitude is ranging from 110m to 3826m (plain to the highest peak). Thus, the whole area of the state is hilly with deep gorges and narrow valleys. The soils are fertile and the climatic conditions are also favorable to crops, but due to undulating relief, intensive agriculture is not much favorable. Physiographic factors directly control the productivity of the land.

2. Fast growth rate of population is a concerned to everybody in Nagaland; population growth rate was recorded 64.41% in the last census report (1999-2001), which is the highest growth rate in the country. Urbanization processes in the state are very slow. The population density has been increasing fast with the fast growth of population. The density rose from 22 persons/sq. km (1961) to 120 persons/sq. km in (2001) during the last four decades.
3. In spite of the engagement of fairly high share of population in the work participation (i.e., 45.22% in 1991, which is significantly higher than the national average), the dependency ratio is recorded high with continuously increasing burden of non-workers in the demographic frame. The distribution of workforce in different sectors is also taking into account. It is found that there is a concentration of workforce in primary activities. The percentage share of workforce tertiary sector has been slightly increased. It means that there is a gradual shift in economy. However, heavy or medium industries are negligible in the state.
4. The State Net Domestic Product (SNDP) was recorded double during the last 10 years period of time and agriculture (including livestock) is the highest contribution towards SNDP. Construction is also another source of income contributing fairly good percentage share, and lately, transport is contributing a fast increasing percentage share towards NDP. Increasing infrastructure especially road network may increase fast the NDP of the state.
5. About one-third villages of the state are well connected with the surfaced (pucca) road. And 15% villages are under highly accessible (0-4 km) but one-

third area of the state falls under the category of highly remote (inaccessible) by surfaced/pucca road. Topography is the main constraint to road accessibility in these areas.

6. The Village Council, or in other words *'Council of Elders'* is an old traditional supreme decision making body in matters relating to people and the village. This Village Council is a local self-government and the oldest institution, found in all the recognized villages in the state. Village Development Board is an agency, which is purposely meant to take care of development schemes in the village and the village community; it is under the control of Village Council. Thus, village development is possible through village council.

Main Findings:

The study area is endowed with more or less diversified physiography, which provides possibilities and embodied with potentiality for agricultural as well as horticultural development. The nature of slopes in the area is steep to very steep in some cases and the agro-climatic conditions are not much favorable for intensive agriculture. The people have responded to the difficult environment by adjusting themselves to the situation through shifting cultivation on the slopes or terrace cultivation wherever topography permits. However, agricultural practices are oriented towards subsistence food production; cropping pattern is monoculture towards paddy crop, which is grown in the patches of permanent cultivable valley areas and on the hill slopes. The agrarian products are inadequate to meet the demands of the population. However, the people are traditionally depending on other natural resources to meet their requirements. The abundance of forest resources too has been an important source of livelihood and work for most people.

(a) Land Productivity: It is considered as average yield of the principal crops, which has been recorded very low (16 qu/ha) in the state; it is recorded even lower than the other hilly states of the north-eastern region. Low productivity indicates less

availability of food and the state does not have sufficient food to feed the local people. Lack of application of modern technology in agriculture, less expansion of land share under permanent cultivation and traditional means of irrigation are main reasons behind low land productivity. However, there are noticeable areal variations in the land productivity. Out of a total 1224 village, 459 villages (38%) are accounted for in the moderately high category of land productivity. These villages are located in the areas of Kohima, Kikruma, Mangkolemba, also small pockets in Wokha and Medziphema blocks.

The villages having low and very low land productivity (below 13.3 qu/ha) are located in a few pockets in the state especially in the high hills and most remote mountains areas like Kiphire, Noklak, Shamator, Tobu Chen, Mon, Meluri, Zunheboto, Akuluto, Ghathashi, Peren areas of Jalukie block.

Increasing percentage area under irrigation (which is considered as agricultural infrastructure) and increase in the literacy rate increase the level of land productivity. It means crop yield is positively influenced by these two factors.

(c) Labour Productivity: The labour productivity, which is calculated as agricultural production produced per person of agricultural labour force (in present case, qu/person), has a significant variations in the state. More than three-fourth area of the state falls under low and very low categories of labour productivity. The following areas are noticeable under these categories.

(i) Almost whole of the eastern parts of the state is found to be low labour productivity, except very small pockets in the blocks of Meluri, Noklak and Chen. Low labour productivity is also seen in pockets of Tseminyu, Ghathashi, Wokha, Akuluto, Changtongya, Longleng and Peren areas of Jalukie block.

(ii) There is only 16% of the total villages in moderate category of labour productivity; this is noticed in pockets of Medziphema, Kohima, Kikruma, Zunheboto, Akuluto, Sitimi, Longkhim, Baghty, Mangkolemba and Ongpangkong blocks of the state.

(iii) High labour productivity villages are few in number in the state (i.e., 7.84%); they produce 56.87 qu/labour and the availability of food grains is 880 kg/person. These high labour productivity areas are found in very small pockets of Medziphema, Kohima, Kikruma, Kiphire, Sangsangyu, Ongpangkong, Changtongya, Baghty and Wakching block.

Undoubtedly, the demographic features influence labour productivity, employment of workforce in agriculture and the level of education/literacy, which provide the mental efficiency to work. In the state, workers intensity and percentage share of agricultural workforce influence labour productivity in negative manner, While, literacy rate is positively related with labour productivity.

Level of development is conceived in the present case as aggregated index of multi-dimensional attributes of the village-economy, which is measured by calculating composite index of 16 variables and is compared with the productivity parameters statistically. The main findings are given below.

Preparing scatter diagram of development levels versus land productivity for the entire state where number of observations (i.e., villages) are 1224, it is obvious that the degree of scatterness of the distribution is significantly high rather than expectation and, consequently, the degree of determinant of the distribution is calculated very low (R^2<1.42%) even for all expected cases of 'best-fit' distribution.

The development level follows exponentially in the best-fit distribution with respect to land productivity (i.e., crop yield). It means that the development pattern is not perfectly in consonance with the pattern of land productivity in the state. The areas of very high levels of land productivity, which is determined by two factors of yield: the percentage share of irrigated areas and literacy as described earlier, are likely to influence the over all development of the state because the land productivity is placed in 'power function' with very small value of its coefficient in the exponential distribution. However, it may be inferred from regression analysis that land productivity is a significant attribute of development in the areas of high level of development,

namely, Kohima, Medziphema, Jalukie, Phek, Wokha, Ongpangkong, Changtongya and Sangsangyu.

Similarly, level of development follows the same best-fit statistics subject to the labour productivity, which is more influenced by the labour attributes like percentage share of agricultural labour force and labour intensity. However, its distributional pattern is more concentrated toward the origin of the graph. It shows more scatterness at lower level of labour productivity.

If the attributes related to agricultural labour is more influential for the development level in the state, the density of population is likely be the attribute, which would keep direct effect on development level. After analyzing the result of regression statistics of development versus population density of the state, it is found that the linear (or its advanced form, the polynomial with degree two) is the best-fit function. However, its degree of determinant is recorded only R^2=9.58% for the state. It means, the higher degree of scatterness of the distribution is owing to the variations in topographic features and tribal communities living in the different areas of the state. Such facts may be forwarded in another way saying that the areas of high population density have higher degree of development because population needs basically food and shelter and supplies labour to the system. As a result, the population density influences the labour and land productivities and, ultimately, it determines the level of development in the state. However, infrastructural attributes may contribute more to the development level.

Road network as basic attribute of infrastructure for the development is weak with less connectivity of points in the state. It concentrates the other infrastructural facilities/amenities like postal and bank services, educational and medical facilities. Infact, infrastructural development is 'road-based'. Since road accessibility is poor in the state, a few pockets developing along the road and on the main towns of the state is marked as the areas of high development. It means that road network has positive impact of development and influence socio-economic attributes in the state.

Most of socio-economic facilities like medical, banking and postal are concentrated in the urban areas. The developmental patterns are, thus, confined and are concentrated in a few pockets because of urbanization. The emergence of 'concentrated' pattern of development may only be allotted by adopting 'decentralized planning' through the expansion of road network and increasing the connectivity of road centers in the state.

In the end, it can be concluded that low level development areas are occupying a larger portion of the state and it is indicated that an urgent attention is needed to narrow down the gap between the high and the low level development areas of the state.