

CHAPTER I

INTRODUCTION

Sikkim, the valley of rice as known to the Sikkimese, has become a source of attraction to tourists in recent years. As far as the studies on hill areas are concerned, the Western Himalayas always enjoyed a special attention because of various historical, socio-cultural and economic reasons. Eastern Himalayas on the other hand remained neglected as field studies are scant and gaps in information are still to be filled. Good studies have been conducted on Western Himalayas on various aspects of geography and economy of the region, whereas Eastern Himalayas and particularly Sikkim Himalayas remained neglected even till recent decades, as compared to its western counterpart. In recent years, scholars and some leading organization have also started working on various aspects of Sikkim. As a matter of fact no comprehensive, accurate and scientific study of the land and its people at micro level has been conducted by scholars except a few that are mentioned in the review of literature in the following chapters. In other words, research work on Sikkim appears to be very thin and particularly on human geography that emphasizes the interplay

of man and environment relationship. Hence, the present study is an attempt to fill this void in understanding the region from the perspective of resources and their levels of socio-economic development.

In order to ensure unity and integrity of the nation, balanced regional development has been a key priority in all development strategies adopted by national plans as well as state plans. Since all parts of the state is not equally endowed with natural resources, or all parts of the state do not take advantage of growth opportunities, and since historical inequalities have not been eliminated, planned intervention is required to ensure that large regional imbalance do not occur. We also need to focus on the developmental task that has been taken by the government to reduce inequality in the state. Public sector enterprises play an important role in the development of backward regions in the country and hence their role has to be meticulously analyzed in the state.

The Tenth Five Year Plan, in order to address the problem of regional disparity launched *Rashtriya Sam Vikas Yojana* (RSVY). It aimed at developmental programmes, primarily to fill gaps, for backward areas which would help reduce imbalances,

speed up development and help these areas to overcome poverty, besides facilitating the States to move up the ladder of reforms.

REGIONAL DISPARITIES IN DEVELOPMENT

Problems related to economic development and undesirable regional disparities have attracted the attention of economists, planners, and regional scientists for several decades now. Regional disparities are common to all countries, i.e. whether the nation is in traditional stage or it is in the stage of high mass consumption, the only difference lies in its degree of inequality. What differentiates the problem of the underdeveloped countries from that of the developed countries is the fact that where as in the latter all inhabitants have an assured minimum level of subsistence and the concern of lagging region is just to "catch up" with the leading regions, in the former the question before the lagging region is a more basic one, i.e. how to provide a minimum level of subsistence to their teeming millions (Chand & Puri: 1983)¹. The latter case threatens the national integrity of a nation leading to political destabilization in the name of casteism, racialism and regionalism. Hence balance regional

¹ Mahesh Chand & V. K. Puri, (1983), Regional Planning in India. Allied Publishers Limited, p.165.

development has been incorporated as an important objective of planning in the developing countries.

There are a number of reasons that explains why there is a growing concern over regional disparity. Balance regional development strives to maintain parity in the standard of living across the districts and states. Moreover for sustainable development, regional inequality must be removed. As long as differences in regional prosperity or development persists, there prevails a tendency for people to migrate from relatively backward to the more prosperous areas, thereby leading to congestion, pollution health hazards and several other problems etc. These environmental and social evils can be contained through a balanced type of development across the regions. Balanced regional development is also required to maintain social security, order and harmony. If the inhabitants of one region continuously enjoy higher consumption standard and other amenities, it may lead to social unrest and disorder from the growing discontent of people residing in relatively deprived regions. The outcry of regional autonomy in the states of Uttar Pradesh, Madhya Pradesh, Bihar, Andhra Pradesh and West Bengal are some of the burning examples in India, which has a root somewhere in the differential standard of living across the

states. The notion of regional development thus may be described as a systematic and planned endeavour to bring balanced development and reduce the existing disparity between regions.

One of the reasons for regional disparity is the result of rural urban disequilibrium. This disequilibrium occurs in economic activities, employment, education opportunities, medical facilities and other services, there is a deep-seated polarization between metropolitan center and surrounding villages. As a result almost all development tends to be concentrated in a few major cities while rural areas remain basically underdeveloped. In India new economic centers are often developed with public investment, mainly heavy industries, and in the course of time, these centers attract other activities (Chattopadhyay & Raja: 1975)².

The question that arises here is how come some regions have turned into backward regions and the others are developed regions over time? It seems that the reason for the same can be attributed to both natural and historical causes to some extent. For example some regions have greater advantage because they

² Boudhayan Chattopadyay and Moonis Raja, (1975). Regional Development: Analytical Framework and Indicators, Indian Journal of Regional Science, Vol.7, No.I, 1975, pp.11-34.

have been endowed with rich natural resources over others, and hence the region has every possibility of growing into a potentially developed region. The occurrence of natural resources is not evenly poised and hence there always remains a possibility of developed regions and backward regions. However it is also noted that the richness in natural resources alone does not make sense, if a fair level of cultural attainment does not support it. The Bastar Tribal district in Chota Nagpur plateau is an example. Similarly the 2001 census figures shows that the state of Bihar and Orissa are endowed with rich natural resources but inhabited by poor people i.e. more than 40% of the people in these states are still below poverty line. It is evident from the fact that even the most advanced nations of the world have not been able to solve the problems of regional disparity. Of course, the problems of regional disparity cannot be wholly solved; the only way to fight against regional disparity is to minimize the gap between developed and backward regions. Since, the developed regions have the facilities of good transportation and communication network, uninterrupted power supply, market, raw material and so on, there is a tendency of industries to develop and concentrate in such regions which further widens the gap between the two. It has

been however observed that in many cases historical forces are more important than the natural forces in creating gap between regions. As Soja³, in his work notes "... Modernization has spread throughout the world, primarily as the byproduct of colonial expansion, and has triggered off a series of highly interrelated changes in non-western traditional societies. These changes are crystallized around the drive to build cohesive national communities within the state area, thereby creating nation states to occupy position of equality in the international state system and to provide organized institutional framework for further modernization".

Regional variation within India is an aspect of her overall backwardness initially caused by capitalist Britain. The compulsion for continuous expansion of market to sustain profitability of capital is the main content for the drive for colonization, which is now called drive for globalization. To sum up, development of an area is best reflected in the quality of life of its people. The distribution of infrastructural facilities plays an important role in improving the quality of life along with a number of other factors like geographical, ecological, social,

³E. W. Soja, (1968), *The Geography of Modernization in Kenya: A Spatial Analysis of Social, Economic and Political Change*, Syracuse University Press, New York, 1968.

cultural etc., which are distributed in an haphazard manner all over the country and thus handicaps the development of relatively backward regions.

The study of economic development is of practical importance; no single definition of economic development is entirely satisfactory, for the process of economic development varies under diverse condition in space and time. Economic development is a process whereby an economy's real national income increases over a long period of time. If the rate of development is greater than the rate of population growth, then per capita real income will increase. However, there is a tendency to use the term economic development and economic growth interchangeably. Although it is possible to draw some fine distinction among these terms, they are in essence synonymous. Economic development process implies the operation of certain forces; these forces operate over a long period and embody changes in certain variables. Details of the process vary under diverse condition in space and time. But there are some basic common features. And the general result of the process is growth in an economy's national product – in itself a particular long run change. Thus, economic growth is an end product of developmental process. At the outset it should be

recognized that economic development is not equivalent to the total development of a society: it is only a part—or one dimension of general development (Meier & Baldwin: 1960)⁴.

Hemlata Rao, in her case study of Bangalore observes, “When we use the word development ... it implies an improvement in the material well being of its people. Material well being of a region can be identified with the increase in the real production, availability of amenities and services, infrastructure facilities, modernization, better condition of living, increased employment opportunities and so on. Any changes for betterment in these parameters indicate development” (Hemlata Rao: 1980).⁵ The term “developed” and “underdeveloped” cannot be defined precisely. In the Economist’s sense development means the maximization of all available resources. If this is the case, then no country can be termed as developed, because none can show fullest and efficient use of its resources. The United States, Russia and the Western European countries as well as Nigeria, all can be considered as “underdeveloped” in this sense. In the present

⁴ Meier, Gerald M, (1984), *Leading Issues in Economic Development*, New York, p.5.

⁵ Hemlata Rao, (1980), *Identification of Backward Taluks and Delimitation of Homogeneous regions: A Case study of Bangalore District*, Rural Economic Unit, Institute of Social and Economic Change, Nagarbhavi, Bangalore, p.1.

study we have used the term economic development in a loose way to mean the whole concept of development and in no way we have the intention of undermining the recent concept of development that has attracted academicians. Our purpose is to focus on some of the key indicators in the process of development that had a greater impact on her growth process. Growth is an economic process, a set of increases in quantities produced. Development goes beyond this to include changes in the composition of output and in the relative sizes of the contribution of various input to the productive process. Hence, economic development is usually conceived as a 'socio-economic process" in nature in which growth is an economic process operates in society by quantitative expansion.

Many writers have focused on the identification of the key factors in the development of a country or a region. Classical economics considers only three factors in production: Land, labour and capital. In the Eighteenth century Adam Smith, and following him, Ricardo in the nineteenth century had considered agriculture, or land, to be of fundamental importance for the increase of wealth (Chisholm: 1980, 1982). Later on more emphasis was given to the factor of capital, as seen by Marx and other writers. Labour was also acknowledged to be important.

Schumpeter recently has called attention to the role of technological innovation. It is generally observed that those countries and regions that have command over new technologies, and their technical know-how, have been great source of profit and wealth (Schumpeter: 1939).

Under development of a region can be attributed to some of the factors like improper utilization of resources, low savings, low output, high propensity to consume, high dependency ratio, large proportion of the population depending on agriculture and similar other reasons. In contrast a developed region has a greater potential for better use of capital, labour, and available natural resources to support its present population at a higher level of living and higher per capita income (Meier & Baldwin: 1966).⁶

“Although development has been a constant concern of government, policy makers, economists and other social scientists – and has touched the lives of more people than ever before – there has been little agreement on what constitutes development, how it is best measured and how it is best achieved. One reason for this lack of agreement is that

⁶ Meier Gerald M and Robert E. Baldwin, (1966), Economic Development: Theory, History, Policy, John Wiley and Sons, New York.

dissatisfaction with the pace and character of economic and social change has installed a desire to redefine the aims and measures of development" (UNDP: 1990, 104).

Interest in the thoughts on the pattern of regional disparities was observed in the 1940's and 1950's. However early thoughts on spatial economic variation were limited to location theories of Thunen (1826), Weber (1909), and Losch (1940). Theoretical generalization about the pattern of spatial variation and development over time and the process of transmission of growth of one region to another had been provided by Myrdal (1957) and Hirschman (1958) by explaining the concept of "spread" or "trickling-down" effect, and "backwash" or "polarization" effect. During the 1940s and 1950s the concept of development however meant purely for economic process, which was sometimes also referred to as economic development, wherein there was lack of discussion on social, personal and other aspect of development. During 1960s however the concept came increasingly to mean socio-economic development leaving behind the concept that per capita income alone can explain the concept of development. During this period it was quite clear that economic development was essential for all countries and particularly for the third world

countries it could be attained by a set of standard measures including a broad industrial plan to raise a country's level of production, its exports, and the diversity of products. Even in India during that phase a series of industrial development started with the Second Five Year Plan. Alonso (1968), supported the view that regional variation increases initially and decreases later as the economy develops. This hypothesis had been found empirically valid by Williamson (1965) by studying the economies of a large number of developed and developing countries, including India, taking per capita income as the indicator of development. Hirschman (1958), observed and analysed the picture of regional disparity in his famous "inverted -'U'- shape theory". This theory says that as an economy grows, regional disparity diverges at first only to converge later. He also advocates that in the process of development some "growth poles" emerge and spatial concentration of economic development clusters around those regions. Thus, in the geographical sense growth is necessarily imbalanced. Friedman explains that 'nations are not homogeneous' and that 'development does not affect all parts equally'. The third phase of thinking came during the 1980s, which further elaborated the concept of development from merely a economic process or

socioeconomic development, however it included a new range of thinking such as freedom to enjoy a healthy and a prosperous life that are also included in the concept of quality of life, prior to the concept of human development.

Over the years there has been concern and studies to find out the reasons or factors leading to regional economic underdevelopment. Some of the important factors leading to regional economic underdevelopment are, lack of natural resources, lack of capital, cultural resistance to change and vicious circle generated by circular and cumulative causation. During 1920s there was a growing consensus that development of a region has a casual relationship between natural environment and economic development. Until the end of the Second World War academicians held the view that capital was an important factor in a region's development, later it was realized that capital alone could not perform the desired result as expected. Sociologists and Anthropologists viewed that resistance to change was one of the important factors of underdevelopment. The theory that gained wide popularity related to underdevelopment was the theory of circular and cumulative causation. The geographical approach to the reason of underdevelopment was provided by the concept of

geographical determinism. The essence of this concept or theory is that the natural environment is more crucial a factor in the development of a society than any other single factor. This theory was based on pure logical deductions in the framework of a heuristic design of analysis, but it neither had strong empirical foundations nor sound rationale. Its author took only one element of the total environment, i.e. natural environment as variable and all other elements to be static.⁷ Disparity of regions occur because growth has a tendency to occur at certain centers which are favoured with various types of economies such as economies of scale, external economies, initial leadership, comparative advantages in terms of resource endowments, etc. Thus over time these areas gets polarized and agglomerated to create regional disparities. Rostow (1960), has developed growth theory in five different stages. The idea of such development has come from an analysis of economic history based on the European experience. According to him a region passes through the following stages:

⁷ E. Huntington, 1959, *Main Springs of Civilisation*, New York, The New American Library of World Literature, Inc. cited in R.P.Mishra, 1992, 2nd Ed., *Regional Planning in India; Concepts, Techniques, Policies and Case Studies*, Concept Publishing Company, New Delhi.

Traditional Stage: A region having a subsistence economy with very little for external trade.

Transitional Stage: The region enters into external trade with the opening and development of transportational network. Surplus generated are now exported.

Take Off Stage: Secondary and tertiary activities will develop owing to a well developed primary sector which is supported highly by transportational network leading to the next stage of development.

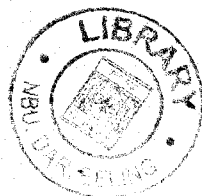
Drive to Maturity: Diversification of regional economy with balanced sectoral development, between the primary, secondary and tertiary sectors will lead to highly specialized activities.

The Stage of High Mass Consumption: In this stage there is a expansion of tertiary activity. The essential characteristics are the division of labour, diversification of the employment market and urbanization coupled with migration of people, creation of industrial clusters, territorial production and urban complexes.

Alonso (1980), has considered development in five bell shapes, they are (a) the economic growth rate; (b) the level of social inequality (between classes, occupations, races); (c) the level of regional inequality; (d) the level of geographic or spatial concentration (urban-industrial growth in a few big cities); and (e) the population growth rate, in demographic transition (from high birth and death rates to low birth and death rates). It is important to note that these five bell shapes do not occur at the same time, and that they are closely related, although the relationship will vary between countries and regions. Alonso's impression was that geographic concentration is a first process, followed by economic growth and then by social and regional disparities over time.

Myrdal and Nurkse, (1958) theory based on the concept of circular causation has a much wider response which implies;

...a circular constellation of forces tending to act and react upon another in such a way as to keep a poor country in a state of poverty... For example, a poor man may not have enough to eat; being undernourished his health may be weak; being physically weak, his working capacity may be low, which means that he is poor, which in turn means that he will not have



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enough to eat; and so on. Myrdal attacks the existing economic theories on the ground that they are based on false assumption about equilibrium conditions, particularly about the automatic self stabilization of the socio-economic system. Because of the circular causation, social forces tend to become cumulative and make a poor man or region poorer and rich one richer than before. This theory has been used in recent years to explain spatial variation in the economic development in the world. Some geographers have used this concept to explain both international and intra national disparities in economic growth. Myrdal argued that the vicious circle of poverty can be broken by initiating changes in any of the many crucial factors involved in the creation of the problem. The theory overemphasizes the positive reinforcing role played by various elements of a given socio-economic system. Expectation can be high from a non-traditional society but in a traditional society changes may not work since the responses to it may be poor and bringing change in any one of the crucial factors may not be forceful enough to change the whole system within a time period or may be too weak to influence the system significantly.

It was also observed that the law of diminishing return from land is a primary determinant in a progressive economy however it is evident that in the present context it appears that its influence has become quantitatively unimportant. There are instances of countries which do not have a strong agricultural base but are significantly doing well in the era of globalization. Similarly Schultz (1962)⁸, feels that the 'differences in land are not a strong explanatory variable of trends in agricultural production'. What is important then, is the capital, so that 'without capital, without massive savings, no programme of modernization is even conceivable'. Improved agriculture, power and transport, new industries, extended education, all are insatiable for capital; its availability... is the key to all development.

Hoover and Fisher has developed their theory on the basis of certain stages. They conceive that a region or a nation develops into a prosperous region with the passage of time. Their theory is based on the assumption that a self sufficient subsistence type of economy gives way to surplus production. With the development of economic infrastructure and

⁸ T.W. Schultz, 1962, "Investment in Human Capital in Poor Countries" , in Foreign Trade and Human Capital, edited by P.D.Zook (1962), c.f. Meir G.M. (1984), Leading Issues in Economic Development, Oxford University Press, New York.

transportation the region enters into trade with its neighbouring regions and starts specializing in some products. Multiplier effect generated from such surplus would raise income and employment level of the people. Diversification and specialization in some product will lead to higher level of economic development.

Morris (1979) work on physical quality of life index (PQLI) has a special relevance in recent years. The idea is to measure a country's provision of basic needs, such as health, nutrition as well as education. Morris, constructed PQLI on the basis of the following indicators and its components, they are i] longevity, as measured by life expectancy at birth ii] infant mortality at age one, and iii] adult literacy. Any country's PQLI is measured on the basis of the scores, where the weights to all indicators are provided equally. The scale is from 0 to 100 where a higher score represents a higher level of development. The importance of growth lies in the fact that when it takes place in a region at a given point of time with the increase of GNP it not only brings changes in the production techniques but also changes the consumer behavior pattern. This change brings in interrelated social benefits which are realized as indicators such as nutrition and healthcare, birth and death rates, literacy and higher

education, life expectancy, civil liberty etc. Thus we find a link between growth and development, though growth is an economic process but it sets in changes in certain variables.

THE PROBLEM

Immediately after her merger to India in 1975, Sikkim started her journey in achieving all round development that had thwarted her for long. Various policies were directed towards the underprivileged section of the society and also policies were framed at encouraging investment in the state. A number of rural development schemes have been launched to reduce disparities and inequalities in Sikkim but they have widened even though these schemes were biased in favour of the underprivileged, have tended to work to the advantage of the better-off section of the society. In spite of the policies adopted by the government, the state has showed a skewed development that is centered on the state capital i.e. Gangtok and some other small towns of the state. The effort to reduce regional disparity among regions or inequality in the levels of development is not achieved to its full potential since the development effort of certain selected areas has not *tickled down* to the backward areas as expected. Inequitable distribution of wealth between the rich and the poor remains the greatest problem of the state

in the recent years that is evident from the fact that its per capita income is measured as Rs. 12,128⁹ as against the national average of Rs. 10,771.00¹⁰ which is better than the national average and still the percentage of people living below the poverty line is 38% which is fifth highest in the country, according to the 2001 census figures. One can assume from the above scenario that the backward regions have become poorer as the *backwash effect* has been effective in terms of the flow of manpower and resources to the already developed regions. The population pressure of the state is growing which is not supported by employment generation for her population that has accentuated the divide between the rich and the poor. The backwardness of the state in her demographic and social development is evidently seen. The growing gap between the males and females and between the urban and rural areas has posed a major area of concern for the government.

OBJECTIVES OF THE STUDY

The study basically deals to determine the degree and causes of spatial variation or regional disparity in the state of Sikkim. The study attempts to provide some insight into the inter-

⁹ Sikkim ranks thirteenth among the Indian states

¹⁰ Per Capita NNP at current prices-National Accounts Statistics 1997, 1998, CSO.

district and intra-district disparities in the state. It also aims to identify the backward, developed and highly developed areas with respect to agriculture, infrastructure and overall development. After identifying the spatial disparity in the development of various districts of Sikkim we shall also determine the factors responsible for such disparities. It will also reveal and examine the pattern of development in the East, North, West and South district of Sikkim.

The proposed study is an honest attempt to portray a macro level perspective to the overall development of the state by considering selected demographic, economic, social and infrastructure indicators in the four districts of Sikkim. The major objectives behind this investigation are to:

To outline in brief, the basic objectives of the study are:

1. To understand the complex relationship between the physical environment and socio-economic structure of the region so as to determine the personality of the region in its entity;
2. To identify the spatial structure of socio-economic development of the study area.

3. To analyse various geographical and economic aspects that are responsible for the persistence of regional disparity;
4. To find out the degree of regional variations in the level of economic development and its causes.
5. To unravel the spatio-temporal trends of regional disparities of the study area and to analyze the position of the districts in the composite indices (separate index shall be computed for demographic, economic, Social and infrastructure indicators), by categorization of these districts into high, medium and low levels of development.
6. To present the typology of backward or developed regions and to delineate them.
7. To identify the backward, developed and highly developed areas with respect to Agriculture, Industry, Infrastructure and overall development. To suggest a blueprint in order to plan for reducing spatial variation in the state of Sikkim.

RESEARCH QUESTIONS

Considering the objective of the study that we have delineated above we seek to make an in depth study of several aspect of the states socio-economic condition. We select some specific research question to answer, which are as follows:

1. What is the extent/degree of spatial variation in the state of Sikkim?
2. What are the factors that had led to such spatial variation or regional disparity in the state?
3. Did historical factors played any role in accentuating spatial variation in the state of Sikkim? If so how far?
4. Geographical factors have always played a vital role in the backwardness of a region. How far these factors if so have dominated for the backwardness of the state as a whole and within the state of Sikkim?
5. What are the reasons for high/medium/low levels of development in the different districts or regions of the state?
6. What steps have been taken by the government to raise the levels of development in the different districts of the state?

7. What are the steps that are being taken by the government for reducing the existing regional disparity in the districts?
8. How far agriculture and industries responsible for raising the levels of income of the people in the state?
9. Education plays a vital role in the development of human capital. Are there regional variations in the levels of educational development?
10. Educational development of a society is best judged by the development of its disadvantageous group. What is the level of education among the disadvantageous group of the society in Sikkim i.e. the Schedule cast and Schedule Tribe population?

METHODOLOGY

The study is based on secondary data collected from the census of India 2001, Statistical Abstract of India (1971, 1981, 1991 & 2001), Economic Survey (1971, 1981, 1991 & 2001), National Health Bulletin 2001 and other publications of Directorate of Economics, Statistics, Monitoring & Evaluation, Government of Sikkim, Gangtok, to find out the levels of overall development and trends. The design of the questions is made on

the basis of the indicators chosen to accomplish the objective of the study for the chapter.

One of the techniques that is widely used in social research not only to facilitate comparison but also for the purpose of combining information on different variables or scores on different tests is the Standard Score or the Z-Score. The Standard Score (Z-Score) is a method of data transformation that involves standardizing different sets of observations in a way which makes two important properties of their distributions same for all variables – the Mean and Standard Deviation. The Mean are set at zero and the Standard Deviation at unity. The Standard Score is simply another version of the linear transformation. The Standard Score allows comparison between sets of scores obtained from different measuring processes, in units which are independent of the original units. However scale transformation by standardizing has a major drawback i.e. the range can be made quite unrepresentative of the general spread of values by a single extreme occurrence.

The main objective of the present thesis is to find out the disparities in the levels of development in the districts of the state of Sikkim. The first step was to select the indicators that could provide a better picture of the district and then the selected indicators were computed from the raw data. In the second stage, indicators for each of the sections have been ranked to view the position of the district. Thirdly, separate composite indices have been constructed for demographic, economic, social and infrastructural facilities, which are followed by an aggregate composite index of development. Thirty-two key parameters from various sections have been used to calculate the overall composite index.

In the analysis of spatial variation over the districts we have selected suitable indicators related to demographic, economic, social and infrastructural facilities to show an overall scenario of development. To represent the statistical analysis spatially, we have used the choropleth method in mapping.

SELECTION OF INDICATORS

The most commonly used indicator in the measurement of development is per capita income, which is, the value per person in a given country or region of all goods and services produced

in one year, by its total population that used to dominate in most of the research works till 1960's and 1970's. The per capita income shows the general well being of the people in a region or state, thus it has become a very important and widely used common indicator for measuring levels of development (as in the studies of Dandekar and Rath:1971, Sarupriya:1975 and others). However, per capita income as a measure of development suffers from a number of weaknesses. Besides, there are innumerable problems while calculating income. Again income figures at micro level like villages, taluks are very rarely available.

Per capita incomes are collected by states on the basis of prices ruling therein. Since (1) price levels are different in different states; (2) commodities included in the compilation of price levels by different states are different and (3) weights assigned to different commodities in the compilation of price levels are not the same in all states, per capita income of different states are not comparable.

Meier & Baldwin (1966), suggest economic growth is a better indicator than per capita income. He notes that if an increase in per capita income were taken as the measure of

development, we would be in the awkward position of having to say that a country had not developed if its real national income had risen, but population had also risen at the same rate. For instance, if over a given period, country 'A's national income quadrupled, and country 'B's national income had doubled, but population growth prevented per capita income from rising in their country, then by the per capita criterion we would have to say that neither country had developed. Yet it does some violence to our ordinary notion of development to deny that country 'A' developed more than country 'B'. Moreover, per capita income in no way reflects the even distribution of income of a country or a region. There are countries like Brazil that has a very uneven distribution of wealth. United Nations figures shows that 20 percent of the population in Brazil controls 80 percent of the nation's wealth, and according to government statistics the wealthiest one percent of the populace accounts for half of the national income. Well endowed with natural resources, Brazil, the biggest country in South America, has the ninth largest Gross Domestic Product in the World. Similarly, Kuwait and United Arab Emirates, has the highest GNPs per capita in the world but China is much better than both the countries in terms of income distribution. Similarly in terms of

income distribution Bangladesh is well placed ahead of Brazil though it has the ninth largest Gross Domestic Product in the world. Hence, we can say that rise in the national income do not necessarily reflects the well being of the masses, for whom the concept of development has been introduced. Development must include equity otherwise it can be simply argued that the region or country has wealth without equity and can be considered non-prosperity. Yet another dimension to the study of regional development is some group actually resists the development policies of national governments or of any outside agencies. There seems to be a conflict of national and local aims, which is needed to be resolved amicably, or otherwise the whole development process comes into question. We can site example from West Bengal in India where in Singur and Nandigram the acquisition of land has created a lot of problem for the state government for the purpose of establishment of industries. The question of acquiring land sometimes creates problem since the remuneration that they receive is inadequate and are not at par with the market rates, moreover there is also political angle to any development process that comes to the state. However, there seem to be a lack of consensus on the development process though it is quite clear that economic development is

desirable aim for all country and to achieve it the standard measure usually is to include broad industrial plan to raise country's level of production, its exports, and the diversity of product. One of the important designs of the development process is the adoption of technological advancement, which accumulates in the big cities, and then it spreads out to the periphery that leads to the technical advantage of the whole region. Thus per capita income cannot be considered to be a sufficient indicator of development. There are certain other indicators for example difference in industrial growth, disparity in agricultural growth, levels of literacy in different states, percentage of workers in manufacturing industries to total workers, percentage of urban population to total population in different states, total road length, infant mortality rate etc. can all be considered indicators for purposes of studying imbalances and inequalities in regional development. The choice of indicator is again a difficult task. The sets of indicator chosen in the present study do not claim it, to be exhaustive and covers all the aspects of development but certainly represents our presumed causes.

In analysing the economic development of the South, West, North and East district of Sikkim, we have selected the

following variables, which can be categorised under economic development, Demographic development, Infrastructure and amenities and social development. The indicators selected below are not self-sufficient. The work faces serious lacuna for the non-inclusion of some indicators. Moreover, there exists deficiency in the availability of district and village level data.

Demographic Indicators

- 1.Total Literacy % (X₁)
2. Male literacy % (X₂)
3. Female Literacy % (X₃)
4. Rural Literacy % (X₄)
5. Urban Literacy % (X₅)
6. Rural Birth Rate (X₆)
7. Rural Death Rate (X₇)
8. Rural Infant Mortality Rate (X₈)

Economic Indicators

9. % of total workers (X₉)

10. Dependency ratio	(X ₁₀)
11. % of female workers	(X ₁₁)
12. % of irrigated Area	(X ₁₂)
13. % of Cardamom field	(X ₁₃)
14. % of workers to total workers	(X ₁₄)
15. % of female workers to total workers	(X ₁₅)
16. Yield of rice per hectare	(X ₁₆)
17. Yield of cardamom per hectare	(X ₁₇)
18. Un-irrigated Land	(X ₁₈)
19. No. of registered Industries	(X ₁₉)
Social Indicators	
20. Schedule Cast Sex Ratio	(X ₂₀)
21. Schedule Tribe Sex Ratio	(X ₂₁)
22. % of forest cover	(X ₂₂)
23. No. of health institution	(X ₂₃)
24. No. of Govt. School	(X ₂₄)
25. Primary Health & Sub-centers	(X ₂₅)

Infrastructure and Amenities

26. Population/Bed	(X ₂₆)
27. Population/Doctors	(X ₂₇)
28. Population/Nurse	(X ₂₈)
29. No. Telephone Exchange	(X ₂₉)
30. No. of Electronic Telephones	(X ₃₀)
31. No. of Post Office & Sub post office	(X ₃₁)
32. No. of Hospital Beds	(X ₃₂)

The above indicators are studied carefully with the help of certain advanced statistical tools and on the basis of which the regions will be identified as:

- I) Advanced regions
- ii) Moderately developed regions and
- iii) Backward regions

One should keep in mind that since there is no unanimity with regard to choosing of indicators, no set of indicators could claim to be self-sufficient. Hence, the above set of indicators too

does not claim itself to be exhaustive but definitely do justice to the present study.

SCHEME OF CHAPTERS

The thesis is divided into six chapters. The first chapter deals with the introduction of the thesis with emphasis on the concept of development and the problem of regional disparity as a whole and with particular reference to Sikkim. This chapter also deals with the relevant literatures available so far on spatial variation and the levels of development. The second chapter deals with introducing the state of Sikkim with particular reference to land use, a short political history of Sikkim, planning, Power sector, administrative divisions and demographic attributes etc. The third chapter deals with the historical background of regional disparity in Sikkim. It deals elaborately about the roots of regional disparities that have begun in Sikkim from the time of the '*Chogyi*' and later on during its merger to India. The fourth chapter deals with the levels of educational development in Sikkim. This chapter also analyses the role of education in the overall development of the state. The educational development for the state of Sikkim has been analysed for the year 1981, 1991 and 2001 with the help

of Sopher's Index with modification of Rao and Kundu. The fifth chapter looks at the levels of development in Sikkim, focusing on Economic, Social, Demographic and Infrastructure development. The overall development of the state has been analysed for the year 2001 with the help of Z-score technique. The Sixth chapter deals with the conclusion of the present study with suggestions for development.

REGIONAL DISPARITIES IN DEVELOPMENT: REVIEW OF LITERATURE

We now attempt to review the literature on regional variation and disparities in development. A review of literature will enable us to know the different approaches to the problem of variation in socio-economic development among regions. It will clarify the position of the present study relative to other theories and empirical findings. It will be also clear that there are gaps in the studies that the present study is going to fill up. There exists a vast amount of literature on regional disparities. It seems that some studies are descriptive and the others are analytical.

Since there is very little contribution from geography to this debate on development, the information and theories have

been drawn from almost every division of social sciences, ranging from political economics and sociology and demographics to human ecology. Initially highly intimidated by the sheer amount of material available, the author was hardly unaware of the hubris of venturing out of his own field of geography into the lion's den of other disciplines. But what is realized is that the world is of a piece, and the process of dividing it arbitrarily into multitudes of disciplines, seems increasingly artificial since various perspectives fit together rather nicely and constantly reinforcing each other (Pal:2005)¹¹.

The growth of regional economic variations and disparities started with the commendable works of Perroux (1955), "backwash and spread effect", Myrdal (1958), "Polarisation and Tickle-Down effect" and Hirschman (1958), "Inverted U shaped development" that are briefly discussed in the earlier chapter. Therefore discussion in this chapter has been confined to major empirical findings that have been conducted in India and abroad that is relevant to the present study. The survey covers the study conducted on spatial variation, regionalization, regional development and regional disparities. We have tried to

¹¹ Pal, Saroj, K., [2005], *Lexicon on Geography of Development*, Concept Publishing Company, New Delhi.

discuss the empirical findings of the relevant works with the objective to understand the patterns and trends in spatial variations and regional disparities in India and Sikkim's development process.

Ashok Mitra¹² conducted a pioneering study on "levels of regional development in India". The study was based on the census of 1961. It was the first study that used district level data and included a huge wealth of data. Mitra used six blocks of indicators for each districts of India. Block I consisted data's related to geology, rainfall, house type, language, soil crops, and yield of rice etc. Block II pertained to Agricultural infrastructure including area under double crop, percent of net area sown, gross area irrigated percent of gross area sown, cultivators and agricultural labourers per 100 acres of net area sown, pure tenancy holding percent of all cultivating household etc. Block III includes data related to participation rates in traditional sectors like male participation rate, female participation rate, workers in household industry, percent of rural working population etc. Block IV includes data related to potential human resource, which includes data's like persons per sq. km.,

¹² Asok Mitra, Levels of Regional Development in India, Government of India, 1965.

females per thousand males, rural population per thousand of total population, percentage increase of population in the decade 1951-61, crude literacy rates, schedule tribe and schedule caste population percent of total population. Block V includes distributive trade, manufacturing and infrastructure including workers in retail trade per 1000 of population, census house used as business houses or offices, rest houses, school houses, medical institution per 1000 of all census houses, miles of surfaced roads per 1000 square miles of area.

Block VI includes organized industrial activities in the modern sector, which include establishment run on electricity percent of all industrial establishments, degree of congestion in housing, workers in registered factories percent of all workers etc.

Block I was however left out for computation, as the data were largely descriptive and qualitative. As stated earlier that Mitra's work was based on a simple method of "assigning of ranks" to highlight regional disparity.

After final ranking Mitra's calculation showed that out of the total 327 districts in India, 79 were at the lowest levels of development, 84 districts of India were classified as the highest

level of development. It further added that 30.72% of the total population lived in districts in the highest level of development and 19.66% of the total population lived in districts at the lowest levels of development. Maharashtra the most advanced industrial state of India had two districts out of 26 in the top level of development. Similarly, Gujarat had 7 districts out of total 17, West Bengal had 8 out of 16, and Punjab had 13 out of total 19 in the top level of development. The relatively less advanced states were Uttar Pradesh, Madhya Pradesh, Rajasthan, Odisha and Bihar.

The methodology adopted by the Census Commissioner for classification is to arrange the districts in quartile order of their observed values for 35 indicators of development and then to divide each quartile into two equal halves. The eight values for each indicator are then added up for each district, and finally, the districts are arranged into four categories in order of their development, on the basis of their total rank scores. Category I is the lowest and category IV is highest in order of development.

The classification as attempted by the then Registrar General of India faces two serious lacunas. Firstly the variable included range widely, from area under double cropping to

number of factories to houses used as restaurant, such a wide selection might reduce the error because with the inclusion of anyone of them, the number non significant variables might be very high; secondly, each one of the 30 variables is given equal importance in constructing the index of districts development.

Dasgupta¹³ carried out levels of development of Indian districts with the use of more sophisticated statistical techniques than undertaken by the census commission's report of 1961. The paper examines the correlation matrix of the socio economic variables in order to sort out the less significant variables. Principal Component Analysis is carried out with the smaller set of variables as well as the original set of variables. The districts are then ranked into four stages of development according to the values of the Principal Component Analysis. In the next stage Discriminant Analysis method is applied in order to subject this classification to a more vigorous test. The results from these two analyses are then compared with each other. Dasgupta had chosen 24 set of variables to pursue his work which includes per capita income, percentage of schedule caste population, percentage of Scheduled Tribe Population, and land

¹³ Biplab Dasgupta, Socio economic classification of districts: A statistical approach. Economic and political weekly, Aug 14, 1971, pp.1763-1774

under double crop percent of net sown area, Gross area irrigated percent of gross area sown, percentage of workers in household industries, population density per sq. miles, females per thousand males and so on. In his concluding remark he describes '... in 120 cases out of 294, the classification given by the census commission do not agree with those given by the new classification. When the classification of the census reports are adopted in cases of doubtful districts the number of discrepancies is reduced to 107, which is still very large. A large proportion of these discrepancies are accounted for by cases where the census commission has allocated a district to category III when it should be (according to Dasgupta's classification) allocated to category IV or vice versa. That the difference between the census- category III and IV was not clear. It also shows that the adoption of census classification of Indian district for research purpose will produce doubtful result in view of so many discrepancies¹⁴ (Dasgupta: 1971). Dasgupta's classification showed Bihar and Orissa as the least developed states, with no districts in the most developed categories. The most developed states were Punjab, Kerala, Madras (now Tamil Nadu), West Bengal, Gujarat and Haryana, with no district in

¹⁴ Biplab Dasgupta op.cit.,

the least developed categories. In the intermediary position Maharashtra, Mysore (Now Karnataka), Assam and Andhra Pradesh were ranked. In the least developed category Rajasthan, Uttar Pradesh and Madhya Pradesh were ranked which had good proportion of districts in the two most developed categories.

Friedman¹⁵ discussed with the structure and process of regional development and applied it in a detailed investigation of regional developmental policy in Venezuela, with particular reference to the Guyana region. In the views of Friedman, the appropriate regional development policy is concerned with the transformation of the simple center peripheries and the gradual absorption of these peripheries into nearby metropolitan economies. Friedman also discusses about the socio political conditions, national policy objectives in terms of regional economic policy guideline, and strategies for action. He develops strategies for development under varying stages of economic growth.

¹⁵ John Friedman. Regional Development Policy: A case study of Venezuela. Cambridge, Massachusetts. MIT press 1966

Williamson¹⁶ identifies clearly the causes of regional inequality with the help of simple indices of regional inequality, in various countries of the world. Particularly he inquires about the developing nations of the world and analyses the effect of such inequalities. To portray inequality, he analysed a cross section of 24 countries by using simple equation and concludes that regional inequality is found more in agricultural sector than in the industrial sectors. He also concluded that the labour force participation rates contribute to regional incomes per capita differentials.

Soja¹⁷ analyses the interaction among social, economic and political characteristics of Kenya. He selected 25 Key indicators to find out the levels of development in Kenya. He employed Principal Component Analyses in search of the dimensions of the modernization processes. The spatial integration of Kenya was presented by cartographic- expression map.

¹⁶Jaffrey. G. Williamson "Regional inequality and the process of National development: A Description of Patterns", Economic Development and Cultural Change, 1965.

¹⁷ Edward W. Soja, "The Geography of Modernization in Kenya: A Spatial Analysis of Social, Economic and Political Change" Syracuse University Press, New York, 1968.

S. K. Rao¹⁸ had considered six variables in constructing an index of underdevelopment of a region in India for the early fifties. He has discussed the question of what indicators one should choose in building up a composite index of a regions development or underdevelopment. He had also suggested a method for constructing a composite index, and the result of applying the above method to classify regions of India. The indicators chosen are only six in numbers and for that he argues that the greater the number of variables considered, the greater are the chances that the proportion of non-significant to significant variables may arise. The six variables chosen were (a) Crop output per head (b) male workers in manufacturing other than household industries (c) per capita consumption of industrial power (d) per capita output from organised industry (e) infant death rate and (f) Literacy rate. Rao however admits himself that in choosing the variables it is biased in favour of industrialization since three out of six variables are indicative of industrialization. He adds that identification of backward regions in a developing country like India could be helpful in formulating plans to avoid regional disparities from getting further accentuated in the course of development.

¹⁸ S. K. Rao, "A note on measuring economic distance between regions in India". *Economic and Political Weekly*, Vol. 8, No. 17, April 28 1973, pp. 793-800.

The method used by S. K. Rao is based on the multiple factor analysis. In this technique new variables are formed which are linear combination of the above six variables, such that they are themselves uncorrelated. Each one of the new variable represents an independent stand that make up the total variation. After calculating the factor loading and employing the method used by Richard Stone, with some modification, S. K. Rao grouped the states into three categories- the most developed, not so developed and the least developed.

In discussing, the assignment of equal weights to all indicators Rao notes, "while this method has simplicity, it ignores the magnitude of variation between any two regions with respect to any one variable. For example, 'A' could be leading 'B' in literacy by a large margin, but 'B' might be leading 'A' in mortality by a very small margin: if one sums up the rank, both 'A' and 'B' might have the same rank score in such an instance. Thus rank ordering gives no weight to the magnitude of variation between any pair of states.

V. Nath¹⁹ attempted to highlight disparities between different regions of India by considering data for 14 states by taking the following indicators into account: (1) per capita income (2) proportion of urban population to total population (3) proportion of male workers in manufacturing industries to all male workers (4) proportion of population living in districts at the two higher levels of development and (5) Literacy rate for population in age group of five years and above. Nath, ranked the states according to the value of each indicators. Thus, Kerala having the highest literacy rate was awarded the first rank and Rajasthan with lowest literacy rate was awarded fourteenth rank as far as the Literacy rate was concerned. Similarly, Maharashtra was awarded first rank in highest proportion of urban population to total population and Assam was ranked lowest. Ranks awarded to a particular state on the basis of the above five indicators were then added up to obtain the total rank score of the state. The states were then arranged in an ascending order to total rank score of that state, the state having the lowest total rank score being the most developed states and the state having the highest rank score, being the least developed. In his study Maharashtra and Tamil Nadu were

¹⁹ V.Nath, "Regional development in Indian planning", Economic and Political Weekly, Annual Number, January 1970, pp.242-260.

considered the most developed states. However the method of using unweighted ranks is difficult to accept wherein per capita Income and proportion of workers in manufacturing industry can be assigned equal weights. Assigning equal weights to all indicators implies giving equal importance to all such indicators which are very different in nature and content and which have different levels of importance in any developmental process.

The study of Hemlata Rao²⁰ depends exclusively on the technique of Principal Component Analysis. In her study she had attempted to answer whether regional disparities have been reduced over time. She had selected 14 states of India using the data for 1956, 1961 and 1965. Hemlata Rao selected 24 variables from the following four specific sectors namely agriculture, industry, education and banking. Five indicators selected related to agriculture, eight to industry, six to banking and five to education. Her study of agriculture sector shows that there has been a slight rise in the level of agricultural development in the states but their relative position has not registered any noticeable change. Disparities in industrial sector are also seen between advanced states of India and the

²⁰ Hemlata Rao, "Identification of backward regions and the trend in regional disparity in India", *Artha Vigyana*, June 1977, Vol. 19, No.2, pp.93-112.

backward states. However, disparities in industrial sectors have gone down over the years. Disparities existed in banking and educational sectors as well and have shown decreasing trend overtime. To form an overall view of regional disparities, Rao has combined the indices obtained from the cultural, industrial, banking and education sectors into a composite index of development. The composite index shows West Bengal as the most developed state in all the three years- 1956, 1961 and 1965, Maharashtra, Tamil Nadu and Gujarat in second, third and fourth position respectively. The index value for the states of Odisha, Rajasthan, Madhya Pradesh, Assam and Bihar was below the national average in all the three years, hence they are classified as less developed states. She concludes that there has been a general decline in absolute differentials between the developed and less developed states. The national average of composite index has also registered an upward trend over time.

Ganguly and Devendra Gupta²¹ have constructed levels of living Indexes for 15 states of India employing Principal Component Analysis and a number of other techniques. The time period taken in their work is around 1955, around 1960

²¹ B.N.Ganguly and Devendra B. Gupta, (1976), Levels of Living in India-An Inter State Profile, New Delhi; S. Chand &Co Ltd.

and around 1965. The components used to construct levels of living indices are nutrition, housing, medical care, education, clothing, leisure, security and environment. The first five are primary components and the later three are the secondary components. In his findings the states of Punjab, Tamil Nadu, Maharashtra, Kerala and West Bengal are placed at the highest levels of living as far as the primary aspects of levels of living index are concerned. Bihar, Odisha, Uttar Pradesh, Madhya Pradesh and Andhra Pradesh are placed at the lowest levels. Punjab leads in nutrition levels, West Bengal and Tamil Nadu in respect of medical care and Kerala in housing and education. Ganguly and Gupta used the method of Principal component Analysis and concluded that the disparities in the overall levels of livings between the states declined during the period 1955-1965.

Arthur Morris²² book on "Geography and development" reviews development theories. The author also treats common points between the development experiences of the less and more developed countries. He had stressed on the case studies of less developed countries, Developed countries and the Newly

²² Arthur Morris, 1998 Geography and Development, University College London Press, London.

Industrialized Countries. He believes that in the diversity of development, each country has a tale to tell. The case studies done on developed countries are; the United Kingdom and Spain for developing countries Argentina, India and the Soviet Union and he conducted the case studies of South Korea, Taiwan and Indonesia in the newly industrialized countries. He had also discussed about Geographers and development.

Lalit K. Sen and Abdul L. Thaha²³ conducted a case study of Pauri Tehsil in Pauri Garhwal District. The Rural Electrification Corporation sponsored the study and its immediate purpose was to examine the extent to which rural electrification can contribute to the development of a backward area of this nature. The authors emphasized the need of a balanced development of Pauri Tehsil. A detailed analysis of the existing and potential resources of the area was made, and they have found that economic backwardness and vast natural wealth exist side by side in the Tehsil. A broad recommendation has been made to develop the following sectors namely; agriculture, horticulture, forestry, sericulture, Animal Husbandry, industries, transportation and electricity. For an

²³ Lalit K. Sen and Abdul Thaha, 1976, "Regional Planning for a Hill Area; A Case Study of Pauri Tehsil in Pauri Garhwal District, The National Institute of Community Development, Hyderabad.

effective and balanced development of the area, the plan envisages two types of integration in the overall strategy. Firstly, the functional integration of the various sectors such as agricultural, Horticulture, forestry, industry, social facilities and so on. Secondly, existing and potential urban centers have been utilized in the plan for the development of rural areas.

Chakraborty²⁴ in his paper entitled 'The Causes of Economic Underdevelopment in Sikkim', analyses that Sikkim's economic activities reveal that she is a backward and underdeveloped state. The paper was written prior to Sikkim's merger with India. He notes that economic domination by technically advanced societies is revealed in the domination of (i) foreign market; (ii) capital accumulation; (iii) capital goods and (iv) money capital. On the pretext of these factors in mind he has listed a multitude of criteria to determine the level of economic development of any country. Some of these determinants are total population, cultivated land, energy consumed and produced, foreign trade, urbanization, transportation, motor vehicles owned, telephones used,

²⁴ P. K. Chakraborty,(1967), The Causes of Economic Underdevelopment in Sikkim. Geographical Review of India, Vol. 29, pp.141-143.

newspaper circulation, domestic and international mail flows etc.

He observes that inaccessible location is the most important reason for her economic underdevelopment. Absence of railway network, airstrips and water communication is noted in the land locked enclosed state. The road to Tibet was sealed off after China's aggression. The only motorable road, which linked India, is via Rangpo. He also notes that too much concentration of labour force in Agriculture (75%) has led to low soil fertility as well as low productivity. Thirdly, he mentions about the dearth of foreign markets for disposing off her agricultural commodities and forest products and fourthly, the absence of adequate energy resources. The retarded growth of Sikkim's economy has been attributed to the paucity of local raw materials, energy, capital, transportation network, skilled and technical personnel and others. The absence of modern, complex facilities for rapid industrialization, absence of urbanization etc. are some important factors discussed. Finally, he emphasizes on the lack of higher education and scientific technical knowledge of the people, the serious lacuna which one faces in the work of Chakraborty is that they are based on the pre existing theories. Though they are the basis of our study but

in depth study of Sikkim's economy is incomplete without groundwork.

Mallikarjun²⁵ has conducted a case study of Andhra Pradesh. The paper intends to measure regional disparities at sub-regional levels in Andhra Pradesh. He has divided 50 developmental indicators into nine different sectors. Simple averaging method to economic method and Principal Component Analysis is used for the construction of composite index of development. Discriminant Analysis and ANOVA is used for measuring significant differences across the sub region in the state. He notes that the existence of regional problem in the process of economic development was virtually recognized by the planners and efforts were made to reduce inter-state disparities. But one failed to realize that regional disparities in India exist at intra state level too. The outcry for regional autonomy or demand for separate statehood within different states is instances seen in the last decades. He had taken four different benchmark years i.e., 1961, 1971, 1981 and 1991 for measuring regional disparities existing in Andhra Pradesh. He has observed that there were significant differences across

²⁵ M. Mallikarjun (2002), Intra Regional Disparities in Economic Development: A Study of Andhra Pradesh, Indian Journal of Regional Science, Vol.34, No.1, Kolkata, India.

districts in each sub session but intra regional differences were insignificant.

Sahu²⁶ has conducted a similar work on Arunachal Pradesh. His paper deals with intra-regional disparity in the process of economic development in Arunachal Pradesh. The major thrust of the paper is to ascertain as to how marked is the regional disparity of the development process that is going on in the hill territory. The benchmark years taken is 1980-1981. He has conducted the study by taking 13 different socio-economic indicators. The indicators chosen are decimal growth rate of population (1971-1981), percentage of urban population, percentage of literacy, percentage of workers engaged in household industries, percentage of other workers to main workers, percentage of net cropped area to total geographical area, net cropped area per cultivator, percentage of irrigated area to net cropped area, percentage of area under HYV, percentage of area under fertilizer to net cropped area, length of road per 1000 sq. km. Number of beds in the hospital per 10,000 population and percentage of villages electrified. He has also justified the importance of the variables under study. To

²⁶ R. Sahu,(1992), Intra Regional Disparity in the Process of Economic Development in Arunachal Pradesh: An Exploratory Analysis, in Sustainable Development and Environment Impact Assessment (Sustainable Development) , Vol.1, (Ed) Majid Hussain, Rima Publishing House, New Delhi.

conduct composite indices, he has adopted the method of 'Z' score technique. He has also adopted one of the most sophisticated techniques called Factor Analysis/Principal Component Analysis. He notes that development in Arunachal Pradesh is still at low ebb without any tangible dimension. He attracts attention for refocusing the strategy for a long terms sustainable development in the hill territory. However, he himself notes that the work is seriously handicapped with the non-inclusion of some important indicators like per capita income, infant mortality rate etc. To him the relative backwardness of some of the districts is due to poor physical accessibility. He also notes that apart from better accessibility in terms of communication network there are a host of other reasons both socio-cultural and economic which influence the development efforts in hill states. Since, no clear cut picture emerges out after applying the technique of principle component i.e. the factors do not show any encouraging trend of grouping among the variables. The author has noticed that the variables seem to be independent of them.

Boot²⁷ in his paper "A Note on-Urbanization in Sikkim", notes that urbanization in Sikkim is a very recent phenomena. The towns in Sikkim has grown from "Bazaar" or market centres. The beginning of the twentieth century saw the emergence of newer "bazaars" or market centres along the major roads, which reciprocated to the demand of the surrounding villages. He finds that by 1910, "hats" or weekly markets had become a common feature in some of the important bazaars like Gangtok, Singtam, Rangpo, Pakyong, Rhenock, Chidam, Namthang, Namchi and Maghitar. In 1971, Gangtok, Singtam, Rangpo, Nayabazar, Jorethang, Namchi, Gyalshing and Mangan were treated as towns, which happened to be the important bazaars. To him the process of urban development in Sikkim has two main forces in operation- administrative and commercial. Topographical factors as well as the existing transportation network guide the spatial pattern of population distribution. He notes that the high rate of migration is mainly a post-merger development scenario in the town. To him, every town functions as a rural market centre where the villagers exchange their agricultural produce. In his similar paper "Origin & Functional Role of Small Towns in Sikkim" he notes that the

²⁷ D.P.Boot, (1988), A Note on - Urbanization in Sikkim, Indian Journal of Regional Science, Vol. XX, No. 1, Inida.

spatial location of these towns produces 'ridge' and 'valley' pattern of service area which is strongly guided by the physiographic divisions, unidirectional commodity flow and the alignment of the road giving rise to a distinct spatial interaction pattern²⁸.

Dasgupta²⁹ in his paper "Structure of Sikkim's Economy" has paid attention to the essential features of Sikkim's economy. He notes that the economy of Sikkim is still in its lowest ebb. The reason to that can be easily noted by looking at the dependence of population to agriculture, which is more than 80%. The absence of industries in Sikkim has also been responsible for its poor economy. He also notes that the literacy percentage of the state is only 17 per cent. Though the state produces a variety of crops like oranges, cardamom, maize, paddy, wheat, potato, vegetables etc., yet the economy of the state suffers because of unregulated market. The traders are mainly the '*bantias*' from the plains who takes the advantage of the poor peoples' ignorance and knowledge of the market. As a result, the agricultural labourers seldom get remunerative prices

²⁸ D.P.Boot, (1986), Origin & Functional Role of Small Town in Sikkim, Indian Geographical Studies, reprint, Research Bulletin No.26, March 1986, Geographical Research Centre, Patna, India.

²⁹ Manas Dasgupta, (1980), Structure of Sikkim's Economy. Indian Journal Of Regional Science, Vol.XII, No. 2, pp.135-142.

for their produce. He argues that since proper planning is a recent addition to rural areas of Sikkim, her name in the backward regions of India can be well understood. He had also tried to show a comparative study of the Sikkim Himalayas with that of the Darjeeling hills. He finds that Sikkim's economy is less diversified than the economy of the hill areas of Darjeeling. He points out that though there is no attempt to measure per capita income of the state, but it could be well understood by looking at the comparison with Darjeeling hills, which is nearly Rs. 33, per capita per annum.

Shaban and Bhole³⁰ have attempted to measure the levels of development in various districts and regions in Maharashtra. The choice of indicators is restricted to 62, and the benchmark years are 1972-73, 1982-83 and 1988-89. The authors have given a clear sign of warning about the consequences of such uneven development in the state and suggested for reviewing the whole gamut of approaches towards development planning in the state. They also emphasize the urgency for developing the agricultural sectors and local resource base labour-intensive industrialization in the under-developed districts and regions.

³⁰ Abdul Shaban & L.M.Bhole, (1999), Development and Disparities in Maharashtra- A Spatio Temporal Analysis. Indian Journal of Regional Science, Vol. 31, No.1, pp.56-69.

The methodology used for the study is Principal Component Analysis and Cluster Analysis. The indicators used in the study are under seven heads; they are indicators of agricultural development, industrial and commercial development, development of transport and communication, co-operative, banking, education and health sector. They note that a polarized development has evolved through the years in western Maharashtra (except Dhula and Jalgaon) and greater Mumbai and Thane. The only exception is Nagpur, which has developed in the under-developed region of Vidarbha. He notes that Marathwada and Vidarbha have been the least developed regions along with the districts of Ratnagiri, Raigad, Dhule and Jaigaon.

Debnath's³¹ paper on "Planning in Sikkim" needs special mention as because he has attempted for a critical process of Planning in Sikkim. He notes that in 1946, the then Maharaja Kumar Palden Thendup Namgyal tried to set up a Planning Commission for the development of Sikkim. But much progress could not be achieved because of financial crunches resulting from internal resources of the country. Jawaharlal Nehru, who

³¹ J.C.Debnath, (1979), Planning in Sikkim, Indian Journal of Hill Economy, Vol.4, March 1979, pp.7-13.

happened to visit Sikkim in 1952 (April), encouraged the *Durbar* to explore the possibilities of framing fresh schemes for the development of Sikkim.

"In 1953 a Planning Officer was deputed by the Government of India to assist the Durbar in the framing of the plan and in 1954 the Maharaja of Sikkim took the first positive steps for all round Economic Development Plan of Sikkim (1954-60). While the first plan was of seven years duration, the subsequent plans were each of five-year duration. It may also be noted here that from the second plan onwards the Sikkimese plans coincided with the Indian Plans. Moreover, all plans of Sikkim have so far been financed entirely by the Government of India as grants"(Debnath: 1979).

He observes that though the basic objectives of the plans are not stated clearly, but can be assumed as (i) an increase in revenue earning capacity of different projects with the long run aim of self sustaining growth; and (ii) provision of some basic necessities and social services in the context of the hilly and under-developed nature of the country. He also notes that priority was given to the some basic necessities and social services as seen from different plan documents. In critically

commenting on the planning in Sikkim, he states that targets are not generally specified and only projects are mentioned and hence are sometimes called as projected to oriented plans. He has pleaded for securing the internal consistency of the plan through a number of balances to ensure the smooth and successful implementation of the plan.

He observes that the Sikkim's Annual Plans were introduced only from the time of the Second Plan. There is no supervision of the process of planning in Sikkim. Determination of targets seems to be lacking. The data availability is often conflicting and not systematically arranged. He has sharply pointed out for the setting up of a strong, competent and reliable Statistical Organization for formulating plan.

Dholakia³² attempted to bring out regional differences in the pattern and growth of industry over the period 1979-84, in his paper "Regional Aspects of Industrialization in India". He notes that industrialization in terms of capital per worker and capital productivity is divided into North-South Zone. The states which fall in the southern India viz., Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, and Maharashtra have grown at a

³² Ravindra H. Dholakia, (1989), Regional Aspect of Industrialization in India. Economic and Political Weekly, November 18, 1989, Vol.XXIV, No.46.

lower rate than the national average in net value added in industry. The northern states except the exception of Rajasthan and Punjab have grown at a rate faster than the national average, in terms of net value added in industry. He has questioned the intention of the government over these years. To him, such a sharp regional disparity-could not have grown through chance. The sharp regional contrast has grown up as a matter of deliberate governments' policy and one based on the political factors of the parties-ruling at the centre and state. On the question of whether the regional economy should have a more diversified industrial structure or a more specialized industrial structure, he has pointed out the need for consolidation and specialization of industrial structure for the southern states instead of diversification. With regard to the northern states, where capital intensity is well above the national average, needs to diversify their industrial base. The author has strongly pleaded for greater regional spread of individual industries, diversification of industrial base for the northern states and greater specialization of industrial structure for the southern states.

In the past few years, four noteworthy documents has dominated the research woks on Sikkim, namely "Sikkim:

Human Development Report” (2001) by Mahendra P. Lama, “Sikkim: Perspectives for Planning and Development” (1998), edited by S. C. Rai et.al., Sikkim: People’s Vision, (2001), by Ashok K. Lahiri and others and “Development and Livelihood in Sikkim: Towards a Comparative Advantage Based Strategy”, (2005), by T. S. Papola. The focus of the above mentioned books are relevant in the sense that they build up a conceptual basis for further investigations and research work that can help in building up better livelihood options in developing the state of Sikkim.

Ashok K. Lahiri, Chattopadhyay and Bhasin’s book, “Sikkim: The People’s Vision” focuses on the vision for Sikkim in the years to come. The book gives an insight into Human Development, unplanned development, anomalies of growth, pressure on the state finance, economic strategy and strategies for sectoral growth. They argue that a stagnant agricultural growth combined with steadily declining industrial activities has severely limited employment opportunities. Growth that has taken place has been regionally imbalanced, with the North District still remaining relatively backward in comparison with the other three districts. They opine that the cornerstone of the development strategy pursued so far has been a super-active

government in all areas of economic activities that has put the government under severe fiscal stress. They have put forward a design for future development of the state in the lines of sustainable development. These are (1) empowering people with the right education and skill to enable them to benefit from recent development in science and technology, (2) building up the right infrastructure, particularly in roads and power, and (3) fiscal consolidation and reform, which will constitute the core of economic restructuring.

“The Sikkim Human Development Report”, came up in the year 2001 by Mahendra P. Lama. Sikkim was the third state to produce the Human Development Report and the first among the North Eastern states. The report focused on population poverty and planning, Building human capabilities in health, education and the status of women, Land and agriculture, forest and environment, infrastructure for development viz. industry, power and state finance and governance for sustainable human development. Since 1975, Sikkim has undergone major achievements in Human Development. The human development index for Sikkim was reported to be 0.532 for 2001, which is lower than the all India HDI of 0.563. One of the surprising facts that the Human Development Report reveals is the increase of

the percentage of people living below poverty line. Percentage of people living below poverty line was 36% in 1993-94, which rose to 41% during 2000-2001. One of the most striking features of Sikkim's Human Development Report is its high per capita income in one hand and a very high poverty ratio on the other. This suggests a highly improper income distribution and a growing gap between rich and the poor. Human resource planning can go a long way in the development of the state. The bureaucracy in Sikkim has to be given more responsibility and accountability for the issues concerning human capacity development, decentralization, and good governance. He argues that the industrial sector in Sikkim has lagged behind its potential and urgent measures are required to step up the rate of investment in power and other forms of infrastructure so as to provide the necessary conditions to facilitate rapid industrial growth. He also argues that it is necessary to ensure that such growth is not at the expense of the environment. He observes that there is a need for a think tank for planning and development in the state. Such an important task should be supplemented by a continuous dialogue with local communities when project formulation at the field level is being attempted. In this way acceptability of both sectoral reforms as well as

modernization will remain ever present among the people, ensuring the smooth passage of the implementation of each project. He sees a vision of *aaphno gaon aaphai banao* which means build your village yourself.

Suresh C. Rai, Rakesh Sundriyal and Ekalabya sharma's (1998), book on "Sikkim: Perspectives for Planning and Development" is an edited book and deals with every aspects of the state's economy. The book focuses on the physical background of Sikkim, Culture Socio-politics and Education, Resource status and Biodiversity, Agriculture Animal Husbandry and Horticulture, Energy, Health, food and Economy, Perspective planning and ecology and environment. Many writers have contributed to different aspects of the economy.

T.S.Papola's, (2005), "Development and Livelihood in Sikkim: Towards a Comparative Advantage Based Strategy", is an discussion paper series 14 of the UNDP project. He focused on various aspects of the states economy like Livelihood pattern in Sikkim, Promoting livelihood in Sikkim; A strategy based on comparative advantage, An assessment of chief livelihood options, improving livelihood in Sikkim and contours of an overall strategy for promoting livelihood in Sikkim. He argues

that it is intriguing that poverty in the state co-exists with a relatively rapid economic growth and a high level of per capita income. He also opines that rapid growth of economy over the past decades seems to have generated very little income and employment opportunities in rural areas, and consequently the poor have not benefitted from it significantly. He also opines that sub sectors in the non-farm economy which have grown fast in recent decades are construction, tourism and related activities like trade, transport and travel services. Construction is dominated by a few government projects and its potential to sustain livelihoods beyond the project period is obviously rather uncertain. He has pointed out certain thrust areas in agricultural activities that can be taken up in large scale to benefit the farmers. The thrust areas are large cardamom, Mandarin oranges, ginger minor horticultural crops like black pepper, chillies and floriculture and medicinal herbs. He has also suggested that government must focus on forging effective public-private partnership across sectors and regions in the state. It should put in place an appropriate set of policies geared to facilitate the private sectors access to input supplies, credit and market linkages and at the same time, regulate private

sector activities with a view to protecting the economic interests of the farmers and other producers' group.

Jeta Sankrityayana's (1994), paper on "Development Without Shocks: A Himalayan Exxperience" focuses on the problems of underdevelopment of the tiny Himalayan state. He argues that the development scenario that unfolded in Sikkim is interesting in that, while it recognises the rural orientation of the state 's economy and its high agricultural dependence, it has sought to create new avenues outside agricultural without dismantling the village community. Over the time this has ensured the decentralized spread of economic progress avoiding aggravation of rural-urban differentials and consequent pressure on urban resources. He also argues that the landmark achievement by the state has been in the field of basic need. Education and health care as a means of social upliftment acquired rapid momentum after merger, with the establishment of good schools and hospitals all over the state.

Maitreyi Choudhury (2006), book on "Sikkim: Geographical Perspectives" focuses on the physical and Human geography of Sikkim. The major focus area of the book is on post modern development, Quality of Life, Employment, Infrastructure, education urbanization and educational

development. She also opines that there has been a noticeable change in the social and economic scene in some of the remote villages after the introduction of tourism business. She argues that the people of Sikkim, though conservative, are not averse to the introduction of improved techniques to raise the quality of their life. The work of Choudhury³³ is relevant in this context, which deals with human development, tourism, amenities and infrastructure, and quality of life. Perhaps this is the first work done on the quality of life approach in Sikkim and is important since it deals with the postmodern development in the field of geography. The study is based on case studies and sample survey for which fifty villages were selected and 150 persons were interviewed. She had designed questions to find out various aspects of quality of life approach like type of house, number of rooms, toilet facilities, sources of light, ownership of household goods, livestock owned etc. On the basis of score provided, six class-groups were identified. Interestingly the survey result reveals that the North district of Sikkim, which is remotely located, fairs better than the other three districts of Sikkim as far as the economic indicators are concerned. The South and West district also fairs slightly better than the East

³³ Maitreyee Choudhury, (2006), Sikkim: Geographical Perspectives, Mittal Publication, New Delhi

district of Sikkim. She opines that the reason for better quality of life in the rural areas of North district is because of low density of population, higher per capita availability of land and multiple sources of income whereas the scores of the East district of Sikkim is lower presumably the urban centric development had retarded the growth of villages in the peripheries. However, the study is restricted to a limited number of villages in each district and the number of respondent are too low to arrive at a meaningful conclusion.

Anjan Chakraborty's book on "Economic development and Employment in Sikkim", deals with land and agriculture, Industry in Sikkim and economic Transition of Sikkim. He views that the development strategy so far has been pursued in the state is marked by a high degree of government intervention in all spheres of economic activities. He also emphasizes that a high economic growth has been achieved in the state but the growth is mainly propelled by government led construction in the secondary sector and public administration and other services in the tertiary sector, which became the primary source of generating employment in the state. He also opines that the small bases of manufacturing as well as trade and commerce show lack of correspondence between growth of employment

opportunities in the private sectors and satisfactory economic growth figures in the state. Non industrial nature of the state, therefore, compel the state to rely heavily on imports, as a result of which the expansionary impact of government expenditure within the state thus fails to create an economy, which is self sustaining and self regenerating in nature.

There is a huge wealth of studies carried out on regional development, regional growth and regional disparities in India and abroad. In a geographical sense growth seems to be necessarily imbalanced. As Hirschman (1958), observes in his famous "inverted-'U'- shape theory" as an economy grows, regional disparity diverge at first only to converge later. In the process of development some "growth poles" emerge and spatial concentration of economic development clusters around those regions. Friedman (1963) also explains that 'nations are not homogeneous' and that 'development does not affect all parts equally'. In the light of the above discussion what we have observed that most of the works done in India till 1980's are related to per capita income which is a part of the development process. The result of the studies varied from study to study, even for the same country as in the case of Mitra (1965) and Dasgupta (1971). Since the indicators used by different

researchers vary, results seem to be also different in most of the studies.