CHAPTER 2

REVIEW OF LITERATURE

2.1 INTRODUCTION

Economists have long ago recognized the existence of regional dualism at all levels of national
development throughout the historical experience of almost all presently developed countries.
But classical and neo classical framework was devoid of any concrete spatial dimensions, and
hence failed to explain this dualism in an appropriate framework. As in neo-classical framework
the factor flows will ensure the stability in equilibrium in the long run which was inapplicable to a
multi regional system in which regional problems emerge because of geographical differences in
the degree of resource utilization.

In fifties the actual theoretical analysis of economic and social dualism with spatial dimensions
emerged with the pioneering work of Perroux (1955), Myrdal (1957) and Hirschman (1958).
They tried to explain the phenomenon using the concepts like "growth poles", "backwash",
"spread effects", "polarization" and "trickle down effects".

This chapter is confined to the discussion of major empirical studies held in India and abroad.
The survey covers studies on regional development and regional disparities. The studies on India
covers both inter and intra regional aspects. The next section deals with international studies. The
second and third section deals with inter regional and intra regional studies in India respectively.

2.2 Studies relating to foreign countries

The studies conducted by Easterlin (1958), Williamson (1965), Koropeckyj (1972) are very
important with regard to convergence and divergence of regional inequalities in the
developmental process.

Easterlin (1958), tried to find out for the nine geographic divisions of the United States during
the period 1880 to 1950.

(1) What has been the long term trend in regional differences in total income per capita ?
(2) What has been the underlying factors responsible for the trend ?
(3) Was the trend an inevitable outcome of the process of long term economic growth ?
He found that with regard to trends within the period, regional differentials in per capita income declined noticeably. After 1930 the tendency towards convergence was resumed. He pointed out two principal factors for convergence - first, the joint effects of shifts in the composition of national output and in the location of industry in making for increased similarity among regions in the distribution of the labour force between low income agriculture and high income non agriculture industry, second, the effect of inter regional (and international) migration.

Commenting on the last question he says "one may argue, of course, that migration and trade may become progressively more important during growth as a result, the pressures towards convergence will tend increasingly to predominate. But whether this is generally the case cannot be settled on a priori grounds. To determine this we must examine the historical experience of other nations."

Williamson (1965) had an initial hypothesis that the early stages of national development generate increasing large north-south income differentials. But during the course of development there is a reversal in the pattern of inter regional inequality. And hence regional inequality could be traced out as an inverted "U" over the national growth path.

He did an international cross section analysis for 24 countries during the decade of 1950s. Secondly, the cross section approach was applied to the United States census data (1950 and 1960) where countries were treated as the regional unit and the states as nations. Thirdly, national time series analysis was applied to few countries for which data was available.

He also attempted to find out:
1. What was the relative importance of income growth versus population redistribution in contributing to the time pattern of regional inequality?
2. What role does the labour participation rate play in producing differences in income per capita levels?
3. Does regional inequality differ sharply between industrial sectors?

In his study he finds a consistent relationship between regional dualism and national economic development. North South dualism was typical of early development stages, while regional convergence and disappearance of it was typical of the more mature stages of national growth and development. Finally he found that regional dualism was much more extensive within the agricultural than within the industrial sector, and that labour participation rates in part contribute
to regional income per capita differentials.

Koropeckyj (1972) in his study intended to examine empirically the record of socialist countries of east central Europe (including USSR) with regard to the equalization of regional development. Because one of the main characteristic of socialism was egalitarianism, therefore all citizens irrespective of their regional affiliation should be assured equal opportunity for a higher standard of living and for social advancement. And apart from this they claim that regional equality can be achieved only under socialism.

He investigated statistical relationship in these countries between the levels, and its changes, of inter regional inequality and the various factors that may influence it. He observed that for market economies the degree of inequality was the highest in the countries at the intermediate level of economic development. This feature was also applicable to the socialist countries; at least in terms of industrial employment per 10,000 population. But the hypothesis that the inequality tends to decrease for most advanced countries and to increase for the least developed countries was not confirmed. (countries: Bulgaria, Czechoslovakia, East Germany, Poland, Romania, USSR and Yugoslavia)

Mera (1967) argued that redistribution through transfer payments was acceptable in the real world only to a certain degree, the objective of inter regional equity can conflict with that of maximizing aggregate output or in other words the efficiency objective.

He observed that the cost of efficiency for achieving inter regional equity was likely to be greater when capital redistribution was to be used as a means rather than when population redistribution was used. And inter regional disparity of per capita incomes was greater at the efficiency distribution.

Chenery (1962) tried to identify the causes which led to failure of government policies to bridge the gap of inequalities between the south and rest of Italy. He observed that the capital required per unit of increase in regional output had proven to be very high, yielding a gross capital-output ratio of 5 to 6 in comparison with the ratio of 3 to 4 in the rest of Italy. The high proportion invested in sectors which was having long interval before the investment reaches full utilization (agriculture and overhead facilities) which led to slow increase in domestic production and saving and a greater reliance on outside assistance was necessary to maintain a given growth in income.
Lausen (1962) constructed the pattern of regional income distribution by income origin sectors was constructed for Spain for 1956. Comparison was made with the pattern of income generation by sector among different countries. From these comparisons, conclusions for the Spanish economy were deducted. One part of the analysis involved the contrast of the income distribution by origin in 23 countries, with that in ten Spanish regions (inter regional), and with that in 47 Spanish provinces (inter provincial). For each geographic unit the data pertained to per capita income and the percentages of the total active population employed in seven sectors.

He observed that strong interdependence between income per capita and production structure holds true at the regional and even at the provincial levels in Spain in 1956 and 1958. Differences in income levels in regions of Spain were related to regional structural differences. Inter regional trade was not able to erase these differences.

Baer (1964) viewed Brazilian problem as classic north-south problem. He found that the dynamics of regional inequality work mainly in a centripetal way. He observed that private capital moved to the center-south. Very little private capital was going to develop sources of supply in the north-east, which meant that there was no net spread of wealth to the latter via the movement of goods. The migration of population to south was beneficial in relieving the population pressure, but with them went some best talents needed for future development purpose. The industrialization policy of the government caused a substantial transfers to the north, mitigating the amount of regional income redistribution achieved through the fiscal system.

Although central government was providing funds to the north eastern regions, which were used for emergency drought relief purpose, thus not really increasing the productive base of the north eastern region.

Roberts and McBee (1968) tried to find out whether greater levels of modernizations were related to greater levels of economic developments with regards to 32 Mexican states. Using 1960 Mexican census data they applied factor analysis procedure in their study.

They observed that with the exception of Districts Federal (metropolitan area including Mexico city), all the more highly developed states were adjacent to United States. And the process of urbanization and industrialization were not just constraints; they were supplements of the more inclusive phenomenon of modernization.
Okun (1968) in his study used US data for the period 1940 to 1950 for 48 states and constructed two simultaneous equation model to explore the inter-relationship between inter state migration, the level and growth of service income per capita, and other relevant variables.

He observed that with regard to migration function, migrants tended to flow from low to high service income per capita states; from the income growth function, he found that a net influx of migrants tended to contribute positively to the change in service income per capita; and thus it was evident that interstate migration was a force for widening of interstate differences in service income per capita.

It was also observed that the states that were the net losers of migrants whose age sex-composition tended to improve as a results of the migration process which did contribute positively to the change in service income per capita.

States with low service income per capita tended to experience the numerically greater percentage point declines in the percentage of the labour force engaged in agriculture; but it was found that these declines were not significantly related to increases in service income per capita.

Renaud (1973) did a quantitative analysis for Korea based on the model developed by Fukuchi and Nobokuni, and its applicability to the Korean situation was examined. His results showed conflicts between regional income equality and the objective of rapid economic growth for the year 1968. Under the conditions of rapid growth of the national economy, the existing regional growth patterns were not capable of achieving income equality among provinces or even of maintaining the exiting levels of disparities. And hence government intervention was to be considered in order to increase the spatial allocation of resources.

Weinand (1973) grouped selected variables at divisional level into two groups:
1. 10 measures of economic development where principal component was used.
2. 3 indices of economic growth were used as independent variables in the regression model.
His empirical results strongly supported the concepts of backwash (polarization), spread (trickling down) effects of Myrdal and Hirschman.

Chalmers (1975) demonstrated a model which gave perspective on the flows of causation running between the national economy of Thailand and the four regional economies using time series data from 1960-69. Attention was also focused on the agricultural base of these economies and an
induced levels of service and industrial production. He observed that there were very strong forces making further regional divergence inevitable in Thailand. And any successful attempt to reduce inter regional inequities will have to be heavy handed. And lastly, inter regional equity would be better served by policies which emphasized agricultural growth as opposed to policies in support of growth in general and of industrialization in particular.

Wright (1978) tried to test Kuznets divergence-convergence hypothesis studying 56 countries and using 1965 data sources. He argues that use of cross sectional data in support of the divergence-convergence hypothesis is invalid since it neglects the historical nature of hypothesis. And such data do not even reveal a distinct "U" pattern of inequality across countries, rather it demonstrates that: firstly there was a tremendous variation in inequality among countries at all income levels, secondly variations in inequality and level of inequality are higher among LDC's than among developed countries and thirdly a crude institutional variable (socialist dummy) in regressions explained far more income variations among countries than do income levels. Therefore reduction in inequality instead depends on modifications in the institutions and policies which generate it.

Fisch (1984) tried to reexamine Williamson's original postulates in relation to income distribution disparities within the population of the regions to test the dynamic association between inequality and development in general, and to test the convergence hypothesis in particular, of the population distribution by the income class. The data used were the US census data for the years 1950, 1960 and 1970 for 49 states.

There was no clear empirical pattern emerging from this research. As a matter of fact, the results were quite contradictory. In some cases they seem to support Williamson's original results, while in others they were contradictory. Therefore reducing the scope of generalizing Williamson's hypothesis.

Amos Jr (1988) tried to know that whether in the later stages of development, does the pattern of convergence stop, and if so does regional inequality stabilize or begin to increase?

Four analysis were undertaken in this study using:
4. Time series data for each state for the period 1969 to 1983. He used OLS regression
techniques to estimates equations with appropriate adjustments made for auto correlations. In his study he was able to find strong evidence that regional inequality increases after completing the inverted "U" pattern hypothesised by Kuznets and Williamson. His study indicated that even in 1950, there was an indication that the most developed states (in terms of per capita income) exhibited increasing regional income inequality. Analysis of annual data for all 50 states from 1969 to 1983 also indicated that regional inequality increases in the later stages of development. The most important observation made in this study was that, that the regional disparity appears to follow a pattern of increase - decrease - increase, and there is little indication that regional inequality reaches a minimum value and remains stable.

2.3 Studies relating to Indian experience

Economic development with regional dimension has been persistently uneven in India. Although in the planning process of the country, balanced regional development has been one of the prime objective (enshrined in the constitution under the directive principles of the state policy), but different plans have failed to achieve this goal. Detailed studies by different scholars has proved this fact over the period of time.

Pal (1963) constructed a composite index of development using principal component for 57 districts in southern India. And this index was used for determining the rate of growth of income in different regions to reduce regional disparities of economic development, and proportionate regional allocation of a given total investment compatible with the preassigned rate of growth of income.

Dhar & Sastry (1969) considering power consumption as the indicator of industrial output used two techniques i.e., coefficient of variation and shift technique for measuring inter regional variation. They observed significant downward shifts in states of West Bengal and Maharatra in the decade 1951-61. Punjab, Orissa, Madhya Pradesh and Andhra Pradesh showed an upward shift. they argued that regional variation in manufacturing industry tended to narrow down over a large part of the country.

Venkataramaih (1969) commenting on the study of Dhar & Sastry argued that even after making allowance for the slight variations in the period and the deficiencies in the estimates of income and employment used, Maharatra and West Bengal which were heavy losers on the energy criterion were heavy gainers on the basis of industrial incomes.
Nath (1970) observed that economic growth during the 1950's and early 1960's was probably somewhat more rapid in the developed states than in the less developed ones. The tendency for more rapid growth in the developed areas was particularly marked in the industrial sector. And the principal advance towards industrial development in backward regions was through the location of number of large public sector industrial complexes was techno economic.

Nair (1971) in his study considered 14 states and the data at two different time periods i.e. 1950-51 and 1960-61. He used three measures (the quotients of disparity, the weighted coefficient of variation of the per capita income of the states and the state income relative) to estimate inter-state income differentials. He observed no major decrease in inter state income differentials in the first decade of planning.

He also analyzed the extent to which the change in inter state income differentials had been due to changes in the degree of industrialization, productivity and input output access of the 14 states. He argued that the relative changes in the economic status of the low and high income states cannot be attributed to changes in industrialization. He further argued that the deterioration in the relative economic position of the high income states and the improvement in the same of the low income states cannot be attributed to movements in productivity, though the relative economic deterioration of the middle income states may be. With respect to input output access he observed that the locational advantage of high income states was on the wane, whereas the majority of the low and middle income states indicated improved input output access. While the high income states lost ground in input output access, they had improved their position in terms of productivity and industrialization. The middle income states lost ground economically due to their lagging behind in productivity.

Dasgupta (1971) tried to examine the classification of districts according to their degree of development given in 1961 census using more sophisticated statistical exercises.

In his study, firstly the correlation matrix of socio economic variables was first examined to weed out the less significant variables. Secondly principal component analysis was carried out on the basis of both, smaller set as well as the original set of variables, and the districts were classified into four developmental categories according to the values of the principal component. Thirdly discriminant analysis method was applied in order to subject the classification to a more rigorous test.
In total 294 districts of 15 states were under consideration. He observed that in 120 cases out of 294 the classification given by the census commission was not in accordance to his new classification. Bihar and Orissa were found to be the least developed states, with no district in the most developed category and Punjab, Kerala, Madras, West Bengal, Gujarat and Harayana were the most developed states with no district in the least developed category. Maharastra, Mysore, Assam and Andhra were in the intermediate positions followed by Rajasthan, Uttar Pradesh and Madhya Pradesh more or less in that order.

Gupta (1973) concluded that the Indian five years plans had helped in reducing regional income disparity in India over the period of 1950-65. But fourth plan’s redistributive potentiality had been reduced.

Rao (1973) constructed an index of underdevelopment considering six variables and applying factor analysis technique. Based on this index 14 states were grouped into three categories - the most developed, not so developed and the least developed. A comparison between early fifties and the early sixties showed that the groups continued to contain broadly the states, suggesting that regional disparities have not been reduced in the course of 15 years of planning.

Pal (1975) in his intended to identify relatively less or more developed districts as compared to an average national level of development based on the 1960-61 data. He considered 17 indicators and applied principal component technique. He identified Madhya Pradesh, Rajasthan, Himachal Pradesh and Jammu & Kashmir as the most underdeveloped states. Next to them followed Bihar, Orissa, Assam and Mysore. The most developed states were Kerala, West Bengal, Tamil Nadu and Punjab. Gujarat and Maharashatra were also quite developed; next to them were the states of Andhra Pradesh and Uttar Pradesh which were some where in the middle of developed and under developed.

Rao (1977) applied principal component analysis choosing 24 variables for 14 states and 3 bench mark years 1956, 1961 & 1965 in her study. She further classified 24 variables in 4 broad sectors namely, agricultural, industrial, banking and education sectors. She studied inter sectoral differences across states and later on she constructed a composite index of development for all the states. She observed a general decline in absolute differentials between the developed and less developed states and on the other hand the national average of composite index had registered an upward trend over time. And despite the decline in regional disparities hardly any significant change was noticed in the relative position of the states. And finally whatever decline in regional
disparities was observed it was mainly due to a relatively faster growth in less developed states than developed ones.

Majumdar & Kapoor (1980) observed that inter state inequalities had increased gradually and steadily during the period 1962-63 and 1975-76. during this period the per capita income also increased considerably. The increase in income inequality measures remained more or less of the same magnitude both when per capita income were adjusted for differential change in prices and when adjusted for fluctuating weather conditions.

Bharadwaj (1982) argued that agricultural surpluses in adequate quanta was important to sustain industrial expansion. and these surpluses have to be productively reinvested. And apart from it, a general precursor for forging a link between agriculture and industry was a high level of living in the state because if the region was afflicted by a dead weight of utter poverty the situation offered a breeding ground for exploitation through usury, speculative trading, commercial exploitation etc. And all these divert surpluses into unproductive channels and create relative advantage favouring such operations. and if the general level of living was reasonably high, it creates an effective demand for the products of the industry.

Sekhar (1982) study revealed a continuous and significant reduction of inter state imbalances in industrial development during the period 1961-75. He categorized explanatory factors for this phenomenon as one those operating through market forces and other consisting of government policies.

Mathur (1983) studied regional income trends for a time period of 25 years at 5 yearly intervals. He analyzed inter temporal trends of regional income disparities firstly by the movement in the weighted coefficients of variations in regional per capita incomes, as used by Williamson, secondly it was slightly extended form of shift analysis. He observed that the 25 years period started with the narrowing down of regional income disparities, but the latter half was characterized by a reverse trend, suggesting a broadly "U" shaped curve of regional inequalities. Shift analysis revealed that none of the states except Uttar Pradesh contributed to narrowing down or income widening effects consistently during all the five sub periods. While analysis at the sectoral levels shows that the secondary sector cross current had moved along an inverted "U" shaped path, while the primary sector has followed the reverse pattern. Tertiary sector displayed a parallel pattern to the primary sector. To identify the forces underlying the observed trend of regional income disparities, overall income variations were decomposed into regional variation in
participation rates, productivity variation with each sector, productivity variations between the sectors and the structural variations. Among these, variations between the sectors was found to be dominant and its relative magnitude increased over the period.

Mathur (1983) tried to analyze the pattern of growth of Indian states during the period 1950-51 to 1977-78 and then measure the extent of inequality in inter state per capita income. He observes that during 1950s there was a fall in inequalities among states. During 1960s there was no significant divergence. And during 1970s, there was a sharp increase in inequalities among states.

Ahluwalia (1983) observed that the imbalances in industrial development that have emerged are due to the failure to follow through the planned strategy of industrial development fully.

Nair (1985) using a time series data from 1970-71 to 1979-80 observed that despite overt policy measures to reduce regional disparities, inter state differentials in per capita income was still in the divergent phase of the inverted U-shaped path of regional development.

Dholakia (1985) observed that the per capita income of different states were growing at significantly different rates over the decade 1960-61 to 1970-71. He attributed this phenomenon to the differential growth rates in the worker rate, industrial structure, capital intensity and capital productivity. He identified industrial structure and capital productivity as unfavorable from the viewpoint of equity in state income.

Singh (1985) argued that clear divergent trend in regional disparities was noticeable during the green revolution phase in the country. And this divergence had sharpened in the second half of seventies. While commenting on the factors affecting the growth performance of the states he identifies size of the state both in terms of area and population, population density, size of operational holding, cultivated area per agricultural worker, availability of infra structure and level of investment as the important constraints leading to differential growth rates among states.

Rao (1985) used Principal Component analysis taking 51 indicators classified under eight sectors to construct an index at sectoral and as well as at aggregate level. She observes that inter state disparities was highest in case of small scale industrial sector, followed by health, power and
general industrial development. While inequalities were relatively less in case of banking, education, transport and agricultural sector. Commenting upon the trends in regional disparities she states that there was an increasing trend in inter state disparities in development in India.

Tewari (1985) using 19 indicators and index method to construct the composite index of development attempted to assess the inter state disparities in levels of development in India at three points of time (i.e., 1960-61, 19768-69 and 1978-79) and analyze the impact of the existing development strategies on reducing regional disparities during seventies as compared to sixties. He observed that during 1960 - 69 inter state disparities had shown divergence or spatial polarization, whereas the tendency of convergence or depolarization was experienced to some extent during seventies.

Dholakia (1985) observes that state product inequalities had increased during the period 1960-61 to 1979-80 not only in money terms but in real terms. And these are also increasing in the primary and the tertiary sector. Complementary relationship between growth and equity was also observed. The analysis of the differing growth patterns across states indicated the importance of labour productivity in general and capital intensity and capital productivity in particular that too in the primary and tertiary sector were explaining growth process and interstate variations in growth of per capita product of almost all the state economies.

Rao (1985) in her taluka level study of Karnataka observed that out of 175 talukas 106 talukas were below average or backward. Only 15 talukas were average ones and out of 54 talukas only 21 were considered to be developed because remaining 33 had very low level of development. There was lopsided development in Karnataka as overall development was concentrated in and around a few metropolitan and urban talukas.

Nair (1985) examined the pattern in which inter state disparities in levels of living had changed in India in the process of economic development from 1950-51 to 1975-76. He observed no major changes in the relative positions of the different states in terms of per capita NDP for the period under study. However inter state disparities in per capita NDP was on decline till mid 60's but it was on the increase since then. Agriculture continued to be the most important economic activity still in terms of output and employment in the states. Inter state disparities in per capita agricultural production was increasing although reduction in per capita value added in registered manufacturing was observed during the period of study. The study of state relatives in terms of
private consumption expenditure indicated a converging tendency in the disparities.

Roy Choudhary (1992) argued that to understand regional variations in levels of economic development and disparities in the standard of living of the people in different states, one has to examine in detail the sources of growth and factors influencing growth and structure at the regional level.

Sharma (1993) studied inter state disparities in the economic development based on the per capita state income and state income aggregates both at constant (1980-81) prices. He observed that the gap was widening in the economic development of the states. As per his index of development during 1980-81 only 9 states were contributing large share to the national income as compared to their share in all India population. The structural composition of the primary, secondary and tertiary sectors in the state income indicated a shift of primary sectors towards tertiary and secondary in most of the states and the nation as a whole.

Das (1993) observed that disparities between regions had risen by the beginning of the 1970s.

2.4 State level studies in India

Sarma (1974) tried (i) to classify the districts into regions on the basis of economic criteria, (ii) and to examine and measure (a) the relative position of each region to that of the state and (b) the disparity among the regions during the decade 1955-66 (iii) to measure the extent of integration of the backward regions with that of the developed region.

He observed that coastal Andhra North, Rayalaseema and Telengana regions were backward where as coastal Andhra South and Hyderabad were the only two developed regions. After developing index of integration he observed that the distance between coastal Andhra south and Telengana had decreased and that of Coastal Andhra North and Rayalaseema with Southern Coastal Andhra had increased.
Patnaik & Chattopadhyay (1975) tried to measure spatial variations in levels of development of Orissa at two time points, 1961 and 1971, with the objective of deriving broad development approaches for each region. They used 29 indicators and constructed the composite index by using two methods (i) Kendall's approach and (ii) by assigning economic weightage. They identified Sambalpur, Sundargarh, Dhenkanal, Ganjam and Puri as the advanced regions, Keonjhar, Mayurbhanj and Balasore as less developed regions and Phulbani, Bolangir, Kalahandi and Koraput were identified as problematic regions.

Adams (1978) used district level data pertaining to 1970-71 and 14 variables and applied factor analysis technique to study the patterns of development in Karnataka. On the basis of the first factor district scores he observed that a West - East duality was there. On the basis of the second factor district scores he observed polarity in Karnataka’s agriculture, a North - South difference. He further argued that the conjunction of irrigation, fertilizer and hybrid seeds in the cultivation of certain crops was creating a third type of duality in the state’s economy, one between districts developing their agriculture by intensive means and those relying upon traditional extensive dry cropping. This new dichotomy overlapped the older ecologically determined West-East and South-North patterns of differentiation.

Ramana & Sarma (1979) using 1970 data identified 17 blocks as underdeveloped, 57 as ordinary and 36 as developed. In telengana region Adilabad district was the most backward followed by Khammam district. Nizamabad stood first as developed followed by Karimnagar.

Singh (1979) analyzed the trends in inter regional and inter district income differentials in U.P over the period 1951-71. He considered two regions eastern and western U.P consisting 33 districts. He observed that over the entire period both relative and absolute disparities had increased. The extent of inter districts inequalities was markedly greater in the prosperous western region as compared with the relatively backward eastern region. In western U.P disparities increased sharply between 1950-51 and 1960-61 then moderately declined between 1960-61 and 1970-71.

Iyengar, Nanjappa & Sudharshan (1981) argued that ranking of districts by income criterion alone was not sufficient, though necessary. They observed that the districts which were economically more advanced initially, experienced a lower pace of development with the exception of Uttara Kannada districts. On the other hand, less developed districts recorded phenomenal development.
Iyengar & Sudarshan (1982) using 21 indicators developed a composite index for all the districts of Andhra Pradesh and Karnataka using 1978-79 and 1980-81 data respectively. They classified the districts in terms of very backward, backward, developing, developed and highly developed assuming a beta distribution for the district indices.

As per their study they found out that the entire Telengana region with the exception of Hyderabad and Nizamabad was backward. In coastal Andhra, Srikakulam and Prakasam were very backward and backward respectively. Two districts of Andhra region were highly developed and the rest were developed. In Rayalseema, Chittoor was the most developed and the remaining three districts were developing. In Karnataka, Raichur, Bidar and Gulbarga were very backward, while Bijapur was slightly above these three districts. Hasan was very close to the developing stage while Tumkur was still backward. In the developing category there were 7 districts exhibiting a good measure of homogeneity. There were 4 districts in the developed category. And Bangalore and Dakshina Kannada were highly developed districts.

Sudarshan (1982) studied the inter temporal differentials in Andhra Pradesh development during the period from 1960-61 to 1978-79. He observed that Telengana had not been neglected in terms of development over the period of time, although it continued to trail behind other two regions when the spatial aspects of development were studied.

Rao & Annamalai (1983) analyzed the growth trends of different districts and regions of Andhra Pradesh and probed the inter district inequalities in per capita income. They observed that the annual compound growth rate of the real per capita income in Andhra Pradesh was as low 0.94 per cent over the period 1960-61 to 1978-79. The backward regions i.e. Telangana and Rayalaseema came closer to the forward Coastal region and in the process. There results strongly suggested that the inter district inequalities in per capita incomes have declined.

Nair (1981) observed for Kerala that there was considerable increase in regional disparities in per capita income for the post 1970 period.

Srivastava (1983) constructed a composite index of development using taxonomic method for 56 districts considering 32 indicators for U.P. From his study differentiation in the levels of
economic development in the Western and Eastern Uttar Pradesh was quite evident.

Rao (1986) using districts as reference studied the changes in the structure of income in the state over the period 1960-61 to 1978-79. Further he worked out the rates of growth registered by three sectors (primary, secondary and tertiary). He also analyzed the income inequalities between regions and districts of the state. He observed that during this period more than 60 per cent of the increase in income in Coastal Andhra accrued through the tertiary sector, while all the three sectors contributed more or less equally to the income increases in Rayalaseema and Telengana region.

The overall growth rate in per capita income of the state was only 0.45 in terms of net material product and 0.97 in terms of gross domestic product, indicating a virtual stagnation in the state's economy. The poorer districts fared better in material sectors (primary and secondary), while the richer districts did slightly better in the tertiary sector.

Dadibhavi (1986) district level study of Karnataka for the years 1960-61, 1970-71 and 1975-76 showed that there were wide variations in the levels of development in the districts. And the inter district income inequality, although declined, was not substantial. The analysis of coefficient of variation and the analysis of income relatives indicated the convergence of income disparities in the state during the period 1960-61 to 1975-76. The distributional pattern of net domestic product and workers among districts indicated the existence of wide differences in productivity in the state for the periods 1960-61 and 1970-71. And the productivity in the primary sector explained the variations in overall productivity.

Mukhopadhyay (1991) selected four time periods i.e., 1971, 1975, 1980 and 1985 for which he had a set the of observations relating to endogenous and pre determined variables. He observed no noticeably tangible change in inter spatial and inter temporal pattern of industrialization in West Bengal.

Prabhu & Sarker (1992) did the classification of 29 districts as being highly developed, middle level of development and under developed. They used 1985-86 district level data, 20 indicators for four different sectors and three techniques viz. ranking, indexing and principal component. The final classification of districts for the aggregate level of development was obtained using
Wald's criterion.

They observed that all districts of western Maharashtra with the exception of Dhule were classified as belonging to medium and high levels of development. In sharp contrast all the districts in Marathwada, except Aurangabad, and six out of nine districts in Vidarbha were classified as belonging to the category of underdeveloped districts.

Reddy & Reddy (1994) tried to identify industrially backward districts in terms of general and small scale industries. They observed that large, medium scale industries as well as small scale industries were concentrated in Hyderabad and Rangareddy districts only. The industrial development in the state was very poor and unbalanced.

Mallikarjun (1996) applying principal component analysis and discriminant analysis on 19 indicators at three time periods observed that relative developmental differentials were insignificant across Godavari and Non Godavari basin of Telangana.