CHAPTER - 2

REVIEW OF LITERATURE

A continuous and constant increase in the disparities in the economic development of regions has been a story of many of the Indian states. Not only has this feature been an important topic drawing the attention of many economists, but various and wide ranging efforts have been to put in to reduce these disparities. Numerous studies based on sectoral and spatial variations over different time periods using different techniques have also been conducted. Before we set out to carve a suitable methodology for our study, a quick review of the existing literature in the area is quite in order. Given the impassioned concern of social scientists along with disparities and related problems, a swelling mass of literature is the natural outcome. Many studies have been done on inter regional disparities by eminent scholars. So we come across all types’ research reporting, ranging from the purely speculative type to post-facto justification brand, in this vast arena. It would neither be feasible nor even desirable to touch upon each and every related work. To proceed further for the proposed study of economic development of Haryana state, it is quite essential to study the existing literature. The following pages sum up the findings and thinking of some of the authors in the field and hence, provide the necessary back-drop for the present study. Some important studies related to this work are reviewed below:-
One of the earliest studies done by the Indian Institute of Public Opinion (1960) highlighted the regional variations of State income and per capita state income for the period 1950-51 to 1965-66. It calculated the rates of growth of states income and states per capita and found that rates of growth over different parts of India were markedly unequal. According to various studies, diverse conclusions are available about the extent and pattern of inter-state and inter-district disparities in India during the plan period. The studies also vary in regard to selection of period and methodology, and in choosing indicators of development.

National Council of Applied Economic Research (NCEAR) in 1963 examined the extent of district-wise disparities of 14 states with 289 districts of India on the basis of estimated district-wise per capita income for the year 1955-56 and found that there was considerable inequality in income by districts. The Council, however, observed that there was no association between the industrialisation and disparity of income within a state.

HAGWOOD (1943) in his article “Statistical methods for the purpose of delineation of regions applied to data on agriculture and population” developed a composite index with the help of “Principal Component Analysis” which is a method of factor analysis. He employed this technique in regional analysis to delineate major regions of relatively greater homogeneity. He took 104 variables and classified them in 14 groups and applied principal component analysis to derive implicit weights (factor loading) and subsequently worked out a combined index for each group. At the next step, the combined indices of each group
were pooled together with their respective implicit weights and a composite index of development was thus constructed.

**BERRY (1960)** In a comprehensive study “In Inductive Approach to Regionalisation of Economic Development” covering 95 countries used 43 indices employed a direct factor analysis and the first and second factors were derived to identify less developed regions.

**ASHOK MITRA (1961)** He conducted a pioneering study on the basis of the 1961 data on “Levels of Regional Development in India.” He just assigned and added up the ranks to highlight regional disparities. It was the first study in India which used the district level data for analysis purpose. He took the indicators from agriculture, industry, infrastructure, traditional sector and human resources. The districts were arranged in quartiles in order of their observed values and at the next step he used ranks and according to total rank scores he rearranged the districts in ascending order and this was the base of the final ranking to show the level of development.

**M.N. PAL (1963)** a specific mention may be made here about the study of M.N.Pal – “A method of regional analysis of economic development with special reference to South India”, in which M.N.Pal used principal component analysis in his studies regarding disparities in India. Pal initially chose 17 variables, classified them into four specific groups and again he subdivided them into agricultural and non-agricultural sector and finally constructed a composite index by using the following formula:-

\[ I = W_1 (1A) + W_2 (2N) \]

Where,
\[ I = \text{composite index} \]

\[ W_1 & W_2 \text{ are weights; in proportion of labour force engaged} \]
\[ \text{in agriculture sector (A) and non-agriculture sector (N) and} \]
\[ 1 \text{ and 2 are} \]
\[ \text{the constant ratio of agriculture and non-agriculture labour productivities} \]
\[ \text{to the general productivities of India in respective sectors.} \]

Pal used the factor analysis to assign weights to the sectoral indices but for pooling together the indices, he did not use Factor Analysis and weighted them subjectively. Thus, he used arbitrary weights at the second stage.

**CHATTERJI (1964)** suggested that existence of regional variation in productivity and development was an important characteristic of underdeveloped countries, specially those counties which had to undergo colonial exploitation. He also noted that the gap between the two regions, one being near to area of industrial development and the other far off from such development persisted, though it must be added that the huge overhead cost and growth of infrastructure did have an impact on the production and overhaul economic development.

**DHONDYAL (1964)** explained regional variations in agricultural development and productivity in terms of farm management factors including the capacity and willingness to borrow money for productive use, intensive crop enterprises and irrigation.

**BHATAWDEKAR (1965)** summarized that although education seems to contribute to economic development in more than one way, little is known about the exact role of education in economic development. But all the expenditure made in education is sound investment.
WILLIAMSON’s (1965) undertook the study on the basis of per capita income of 18 states of India for the year 1950-51 and 1955-56, estimated by the Indian institute of Public Opinion, pointed towards increasing regional dualism in India. Disparity was measured by the coefficient of variation of per capita incomes. He stated, “India at low level of per capita income and regional disparity…..exhibits increasing regional dualism.”

KHOT AND KAMALA (1966) studied the roles of agricultural processing industries in economic development. They observed that agricultural processing industries can bring a drastic change in economic development and also contribute substantially in reducing the disparities in economic development. They held the view that if due consideration was paid towards the use of agriculture products in manufacturing and industrial use; the backward regions could be developed and brought at par with the already developed regions.

SHARMA (1966) emphasized on the role of planning process in coping up with the inequalities. He concluded that the planning process should itself be framed in such a manner so as to facilitate realization of the growth potential of the different regions and also elimination of disparities in the standard of living of people in different regions. Growth and development both on the national and regional scale are inseparable and inter dependent. Regional planning, therefore, has an important role to play in reducing the disparities. Differences in resource endowments, topography, access to major markets, inherited labour skills and technical know how etc, further rule out the possibility of any strict adherence to aims such as equalizing income or increasing income at a uniform rate.
over all regions. He also concluded that the modern techniques of analysis cannot be recommended for immediate and rigorous application in order to arrive at an actual decision. He further explained that at the state level these techniques may be more useful as the number of reasons within a state would be limited.

**SEN (1969)** studied the disparities in the distribution of agricultural income using weighted inequality index, where agricultural income includes income from livestock production, plantation, forest products and fisheries in addition to income from crop production. He did not find many disparities among the states. He also examined the implication of new technology for regional income distributions. He concluded that new technology did not lead to disparities in the distribution of income among states. However, the small increase noticed in regional inequalities with new technologies over the long run would help to raise farm income in other areas as well.

**BOSE DEB KUMAR (1969)** made an attempt to examine the investment made in urban areas in industrialization and its effect on economic development. He found that additional benefits accrue to the economy as a result of additional investment on the extension or renovation of facilities in the big cities as against the benefits that can be derived by investing in other areas but this certainly leads to disparities in the development of regions.

**SARADMONI (1970)** studied the earning of manufacturing workers in 09 states both in money and real terms for a period from 1962 to 1967. In the real terms the earnings of manufacturing workers recorded an
increase only in three states but in all the states in the case of money terms.

**NATH (1971)** in his article “Regional Development Policies” discussed the development of backward regions, industrial location and urban growth. He mentioned the conclusion of his earlier paper that although reduction of disparities in the development was a major objective of policies, the disparities continued to be large. In the above mentioned article he analyzed that formulation of comprehensive policies on the spatial location of economic activity and the spatial pattern of development has become essential. He felt the need for surveys and studies in selected backward regions and study of inter regional economic relation. He concluded that studies of inter regional economic relation are essential for understanding the spatial organization of the Indian economy.

**RAO (1973)** in his article “A note on measuring economic distances between regions in India” attempted to study regional disparities by considering six variables. (a) Crop output per head (b) Male workers in manufacturing other than house hold industry (c) per capita consumption of industrial power (d) per capita output from organized industry (e) infant death rate and (f) Literacy rate. Out of six indicators three indicators are from industry. He developed a composite index of development for each state, using a multivariate technique of factor analysis and grouped the states in three categories under the heads developed, less developed and least developed. The study found that development during the first fifteen years of planning in India seemed to have led to no reduction in disparities; if at all, that seemed to have been polarized in two top groups of states.
SINGH (1976) studied the extent of inter-regional disparities in the economic development of UP. He made an attempt to pinpoint the wide variation in the level of development among the five regions in the key sectors of economy and to broadly indicate strategies that should be adopted to reduce the existing imbalance among regions. He studied the various indicators of development like agriculture, irrigation, road, power industries and literacy. His study concluded that the Western region was the most developed region while Bundelkhand was the least. Eastern region was over populated. He put forward suggestions for agro based and small scale industries. In the hill region, he highlighted the paucity of roads. He found the Central region to be lacking in the irrigation facilities and rural electrification. He further emphasized the need for irrigation facilities and rural electrification particularly for the central region. He also observed that road construction was also not satisfactory. The progress of the state’s economy will be reflected in the rate of growth realised by the different regions and in turn greater development of resources would further contribute towards accelerating the rate of progress for the state as a whole. In his concluding remarks he suggested that development of different regions and of the state’s economy as a whole have to be viewed as parts of a single process.

HEMLATA RAO (1977) compared disparities among 14 states taking 24 variables from agriculture, Industry, Education and Banking. She constructed sectoral indices for Agriculture, Industry, Education and Banking for 1956, 1961, 1965 using multivariate technique of factor analysis. Extent and change in disparities was examined by the coefficient of variation. Spearman’s co-efficient of rank correlation was used to examine the relative status of states. The study concluded that
inter state disparities in agriculture since 1956 have increased with Punjab at the top position. Regional variation in industrial development declined to an extent over the period owing to differing attention the various Sectors received. There was hardly any significant change in the relative position of the states and the decline in regional disparities was attributed to the faster growth of less developed states than that of developed states. Assam, Bihar, MP, Orissa and Rajasthan were the least developed states over the period.

PANDEY, GANGWAR & SINGH (1979) in their article “Inter-Regional Inequality in The Possession of Asset and Liability in Haryana” divided the state in two regions namely:

(a) Eastern Region comprising Ambala, Karnal, Rohtak and Gurgaon districts (b) Western region consisted Jind, Mahendragarh and Hisar districts. They found that pattern of holding assets and liabilities among cultivators and non–cultivators to be the same, the average possession of assets and liabilities is more in the case of cultivators as compared to the non-cultivators. Among non-cultivators, the possession of both assets and liabilities is more in the case of artisans as compared to agricultural labourers. Assets held in region I are more than that of region II in case of non-cultivators but the situation was the opposite for cultivators. Both the cultivators and artisans were more indebted in region II as compared to region I the situation was the opposite in case of agricultural labour. Assets and liabilities were less unevenly distributed in region I compared to those of region II. To reduce the inequalities, they called for concerted efforts to extend irrigation facilities and to speed up input supplies in region II. In region I provision of non-farm employment opportunities was needed.
GUPTA (1982) studied the role of public sector and public investment in the removal of regional disparities. He considered three sets of parameters namely concentration coefficients of income at the base year of each plan period, against some base period population and the concentration coefficient of regional public investment activities for each period and concluded that the plans had much to their credit in reducing regional income disparities.

NAIR (1982) ranked the states in terms of their share in per capita net domestic production. A matrix of correlation coefficients of ranks over time was calculated to examine the change in ranks. The study found that disparities in agricultural output had increased. In his study he has examined the level of disparities in income differentials for the decade 1970-71 to 79-80.

KULWINDER KAUR (1983) studied the extent in disparities in Industrial Development of Haryana. She concluded that Ambala and Gurgaon were the most industrially developed districts. Karnal, Rohtak and Sonepat were found to be semi-industrialised. Six districts namely Jind, Mahendergarh, Kurukshetra, Sirsa, Hisar and Bhiwani were identified as industrially backward. The study suggested that infra-structure provides a skeleton for private investment. Infra-structural facilities determine the kind of regional industries and industrial structure that are economically feasible. She found that adequate provision of infra-structure in the form of transportation power, communication, finance and educational facilities are indispensable to bring about a balanced regional development.
KANNAN (1987) made an attempt to study the regional disparities in banking development. He also highlighted the factors responsible for disparities in banking development. The study observed that credit-deposit ratio is more important. Other factors were population per bank office and branches of banks in rural areas. He used factor analysis technique for the period 1969-84.

MATHUR (1987) agrees on the regional disparities in India with assessment of Nair (1982) and concluded that disparities exhibit a ‘U’ shape, implying that disparities decreased initially only to increase latter.

JANDHYALA, TILAK AND BATT (1990) highlighted the inter district disparities in the educational development of Haryana. They found that glaring disparities existed in educational development between different districts. Districts like Ambala and Sonepat were highly developed and others like Hisar and Sirsa were highly backward. They emphasized on transfer of resources to reduce the disparities. They studied the four indicators namely (i) enrolment ratio (ii) number of institutions (iii) Pupil teacher ratio and (iv) expenditure per pupil. In case of male literacy rate, Rohtak had highest percentage (55-61) while Jind the lowest (37.83%). On the other hand, in case of females the highest rate of literacy was 34.16% in Ambala and lowest in Jind (12.2%). Six districts fell below the state average. The male female disparities in literacy have been calculated with the help of a modified version of Sopher’s Index of inequality. The value of the coefficient is highest (0.5555) in Jind. The study found that Jind, Bhiwani, Mehendragarh, Hisar, Gurgaon and Sonepat have a higher index value than the state. The composite index of educational development was made and relative positions of the districts were calculated. They also constructed the cost-
weighted index of educational development on two important indicators the first one qualitative and the other quantitative. On the basis of aggregate composite rank order Ambala was the most developed followed by Rohtak and Sirsa was the least developed followed by Jind.

**KRISHAN (1989)** in his study explored the economic and rural parameters vis-à-vis the degree of urbanization, the rates of female literacy and the extent of rural non-agriculturisation respectively. The pattern of rural disparities evolved by early 80s was inferred from a study on 1981 census data of the districts. The development map of 1981 indicated that the patterns of economic and social development did not necessarily coincide with each other. The study also found that a mere \( \frac{1/7}{1} \) of the districts consistently at the higher level than the national average in all the three indicators and the number of districts lower than the national average on all three counts were over three times of this number. The study gave arguments from the colonial rule and the efforts of planning commission to explain the extent of regional disparities

**JULKA AND SHARMA (1991)** studied the development of 17 states from 1970-71 to 1985-86. They computed the composite index of development using 20 variables. Pattern of change over this period was reflected in the catching up coefficient. The study also calculated poverty reduction rate along with growth rate for all the states. There was no association between economic growth and poverty reduction. They also attempted to develop HDI and PQLI along with their deprivation reduction rates to reflect improvement in quality of life. In the study coefficient of variation did find convergence but very little inter-state movement. The study also developed composite source deposit index and related it to the division of prosperity, to find a relation between
resource base and growth by calculating rank correlation matrix and concluded that the mineral wealth, poverty and industrialisation move together.

**UMA DATTA ROY (1992)** studied inter-state disparities in terms of overall measures of SDP and household consumption expenditure. She measured the disparities among states both at current prices and at constant prices. She also analysed the rate of growth and structural shift in production pattern. She summarized that both for per capita SDP and per capita consumption expenditure the inter state disparities are higher at constant prices than at current prices irrespective of the measures considered. Also the interstate disparities are higher for per capita income than for per capita household consumer expenditure. These disparities were recorded by disparity ratios, Gini-coefficient and coefficient of variation. In her study she emphasized that to understand regional variation in levels of economic development and disparities in the standard of living in the different states, one has to examine in detail the sources of growth and factors influencing growth and structure at regional level. Structural changes within states and between states as revealed through the detailed results of industrial breakdown of state domestic product and urban-rural disparities of per capita income are examined. State domestic product data shows a definite pattern of development of industrial base along with growth of infrastructure except for the 02 states of Punjab and Haryana where agricultural activities still predominate with agricultural sector contributing more than half of the total SDP.

**BISHOP, FORMBY AND THISTLY (1994)** in their study focused on income distribution and cost of living aspects in discussing convergence
or divergence for 04 major regions - The North-East, Mid-West, West and South for the time period from 1969-1979. The study used rank dominance analysis tested by Studentised Maximum Module Variate. They found that the North-East, Mid-West and The West each dominated the South and all three had equal distribution of income. Over a period of 10 years south converged to the average of other major regions and North-East, Mid-West and West diverged from each other. North-West was dominated by all other regions in 1979 that is regional income distributions in an integrated economy tended to converge eventually and whatever divergence occurred it was temporary and due to structure changes.

GOPAL K PAL (1995) in his study on “Regional Disparities in Economic Development of West Bengal” modified the Kendall’s method for constructing index of economic development from various socio-economic indicators. He used the index to compare sectoral as well as over all economic development of West Bengal and focused on the pattern of inter-district variations overtime. He found that overall economic development recorded an upward trend and inter-district disparities, measured by coefficient of variation continued to persist. The extent of disparity in the overall development, which was found to be high in all the years, now stands declined overtime.

It was revealed in the study that all the sectors have recorded development during the period. He estimated the highest development in tertiary sector. Inter – district imbalances were found to be high in industrial, tertiary and socio-economic activities. In his study he classified the districts by average range method which is considered appropriate for bringing the indices values which are close to each other
in the same class. This method takes into account the magnitude of difference between consecutive groups. The average range is the difference between the highest and the lowest values divided by the number of observations. He formed the groups on the basis of index values constructed for the year 1960-61, which is considered as the base year and the same group was used for classification of districts for the years 1970-71 and 1980-81 for analyzing conveniently the upward or downward movements of the districts falling in different classes according to their level of development represented by the index values recorded by them over a time.

**DAS AND BARUA (1996)** tested the consistency of the trend in inequalities in India with the predictions of Elizondo and Krugman’s (1992) and tested the hypothesis that given the degree of federal, inter-regional disparities tend to increase as an economy moves from a liberalised trade regime to a restrictive trade regime and vice versa. The study also examined an empirical relationship between economic growth and regional inequalities as predicted by Kuznets, Williamson and others covering 23 states and UTs during 1970–1992. The study also found a negative correlation between rate of growth and regional disparities in the economy as a whole as well as in the sectors, though not statistically significant in many cases.

**GAYITHRI (1997)** in her study examined the role of infrastructure in the industrial development of Karnataka from 1966-67 to 1989-90. Infrastructural development index was constructed for the districts using principal component analysis, a multivariate technique of “factor analysis”. The study found concentration of industries in few districts and a high positive correlation between infrastructure and industrial
development. She concluded the level of developments is concentrated around a few districts owing to existing infrastructural facilities. Regions which are not sufficiently endowed with infrastructural facilities are lacking in economical development.

**GHOSH AND DE (1998)** carried out a study over the plan periods on the role of infrastructure in regional development using simple regression. They studied the impact of public investment and physical infrastructure on regional economic development which had been found highly significant and positive. Principal component Analysis was used to construct physical infrastructure development index for each state. They found that regional disparities had been rising in recent period and plan outlay had not played any major role in this regard. Secondly, regional imbalance in physical infrastructure has been found to be responsible for rising income disparity across the states. They concluded that unequal distribution of infrastructure is largely responsible for the economic disparities in income and proposed to extend additional help to the backward regions. They also advocated the possibility of private initiative in selected areas where the budget constraints prevail.

**SINGH (1999)** in his article “Inter State Disparities in Per Capita State Domestic Product in India: Trends and Causes” carried out the study of 17 states from 1964 to 1994. The study concluded that industry and service sectors were more developed ignoring agricultural sector which is the key sector in Indian economy. He also highlighted that even all sectors within same state are not equally developed. He revealed a direct positive correlation between per capita state domestic product and infrastructural facilities. Coefficient of variation and all other measures showed that inter-state disparities are increasing.
MAHANTI (2000) conducted the study done on 20 states and UTs for the period 1989-90 to 1997-98. The study revealed that share of top five states in NDP increased and share of poor states declined over the period. The study found that disparities are increasing and expected to grow more in future.

KURIAN (2000) in his study examined the economic and social disparities among fifteen states and divided the states in two groups—forward and backward. The study found the gap increasing between forward and backward states. There was huge gap between banking facilities, social development, measures adopted for poverty alleviation, development, measures development expenditure made by states and in the infrastructural facilities. The forward states were having more per capita income and less poverty than poor states. The study revealed that poor states were in the vicious circle and lacked better administration.

JHA (2000) in his study tested the empirical relation between economic equality poverty and economic growth by calculating Gini-coefficients, head count ratio and real-mean consumption. The coefficients of variants for real-mean consumption poverty and inequality did not show any tendency to fall over time, instead coefficient of variation for rural headcount ratio showed an increase.

MS AHLUWALIA (2000) studied the inter-state inequalities and trends in poverty in the post liberalization period. He studied the performance of study domestic product of 14 states and examined the implications of state policies on investment and growth of states. He studied the human resources, infrastructure, state finance and literacy rate of states. The
study also examined the statistical relation between state plan expenditure and growth performance of states. Importance of public investment in various sectors was also highlighted. The study found that the inter-state disparities are increasing and adequate measures to curb the situation were needed.

All these studies made an attempt to explore one or the other aspect of complex phenomenon of regional disparities over the time. It is evident from the reviewed literature that only a few studies have concentrated fully on micro level planning to overcome the problem of reducing inter-regional disparities.

In the proposed study, an honest attempt has been made to highlight the extent of backwardness and reducing inter-regional/districts disparities in the economic development of Haryana with focus on the micro-level aspects.
Notes and References


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