I. INTRODUCTION

Problems of unbalanced regional development and inter-regional disparities have been baffling the advanced as also the developing countries for quite a long time. Indeed, in the early stages of economic development, the inter-regional disparities tend to get widened under the unbridled play of the market forces, though at a later stage of development convergent trends are noticeable (Williamson, 1965). In India, the question of maintaining regional economic balances has become a major political problem. Indian planners and policy makers have taken keen interest in the problems of
regional imbalances and since the balanced regional development has been accepted as one of the major goals of India's Five Year Plans, the importance of regional studies in formulating a suitable strategy for developing the backward areas of the country can hardly be overemphasised.

Such studies, if undertaken, would be significant from two different points of view, (i) they would indicate whether the nature of the development strategy followed so far has been in the right direction, and if not, what changes would be necessary in such strategy to attain balanced development, and (ii) they would provide essential guidelines for the policy makers as regards directing the efforts of development towards a particular region.

In Rajasthan one finds significant differences in the level of development attained by different regions of the State. Conditions in Rajasthan as a whole in general and of the arid region of Rajasthan in particular have vexed the policy makers for quite some time. Several studies have pointed out to sharp imbalance of this State. The Draft Fifth Five Year Plan of Rajasthan devoted a full chapter to the development of desert or arid region.

In contrast, non-arid region is better off in agriculture. In terms of economic structure, non-arid region has attained a much higher level of development than
the arid one, even though both the regions are roughly comparable in their area, population and agriculture resource endowment. It can, therefore, be said that a comparative study of the economic development of the two regions may make its own contribution to understand the issues involved in balanced regional development in the early phases of economic development.

With this aim in mind an attempt has been made here to analyse the regional development in Rajasthan with special emphasis on the comparative study of its two regions.

**Objectives of the Study**

The study aims at:

a) Presenting the trends in agricultural development,

b) identifying the crucial variables and relationships in this process and,

c) suggesting strategies with a view to speeding up the process of agricultural change in the desired direction in future.

More specifically, the objectives are:

i) To trace the growth rates in agricultural sector in two important regions i.e., arid region and non-arid region, over a period 1956-57 to 1973-74 and to account
for this disparities in their growth rates.

ii) To identify similarities and differences in the problems of the two regions.

iii) To highlight the main hindrances in the economic development of the two regions with special reference to agriculture.

iv) To examine the role of infrastructure facilities in the development process for the two regions.

v) To suggest strategies for short-term and long-term agricultural development in a) arid region and b) non-arid region.

Issues and Hypotheses

The study raises a number of methodological issues such as, whether the state should be taken as a single unit of analysis, or one should otherwise examine the process of change at the regional or sub-regional level also. In this context the variables of rural change that must be selected for study, the nature of inter-relationship between these variables, the manner in which these relationship can be tested need special attention.

The temptation to include all possible variables in the study is to be resisted. One has to be selective in
this respect in order to keep the analysis meaningful and manageable. Our study will mainly focus attention on agricultural change, the major component of the rural economy. Changes in the output and per hectare yields of major crops are important indicators of agricultural development and these have to be examined in detail. The growth of output must be seen in the context of the growth of population since the emergence of agricultural surplus is a necessary condition of economic development. Population variable also affects agricultural economy in a number of other ways - through its effects on land utilization pattern, cropping pattern and intensity, development of animal husbandry etc., all of which, need to be examined carefully.

The growth of agricultural output can be related to other factors like use of modern inputs, technological change, changes in the supporting infrastructure as also institutional changes. We will, therefore, try to examine the changes in these factors over time together with their contribution to the agricultural growth.

The study of the regional development of the agricultural sector in Rajasthan covering the period between 1956-57 and 1973-74 is divided into six chapters as under :-
Chapter 1

In this chapter some relevant regional peculiarities of Rajasthan have been outlined to show the importance of agriculture in any strategy for overall economic development of the State. For the purpose of the study the State has been divided into two regions, arid and non-arid, on the basis of the quantum of the rainfall in the two areas. Moreover, through a review of the literature on the regional analysis and its findings, an attempt has been made to show that despite sophistication in disaggregated data collection there is still a gap between conceptualisation and its translation into empirical terms. There is also a need for a supplementary study at the State level. The available data relating to the period 1956-74 have been studied with a view to understanding the development of agriculture in the state as also to suggest guidelines for the future.

Chapter 2

This chapter analyses the physical, economic and social features of Rajasthan. The chapter has been divided into three sections. The first section gives a brief historical background about the formation of the State as it is to-day, outlining the legacy of backwardness and other
physiographic factors which might possibly account for the inherent constraints in attempting any accelerated development in all sectors of the economy including agriculture. The second section is devoted to demography. The third section considers intra-regional disparities with a view to arriving at a composite picture of socio-economic development.

Chapter 3

This chapter starts with a discussion of the land use pattern of the two regions. The main features of the area, land under forests, land available for cultivation, net area sown, area sown more than once, total cropped area etc., have been analysed with a view to arriving at a spring-board on which further analysis of productivity handicaps, if any, can be based. In the second section of this chapter an attempt has been made to analyse how the net area sown as also the gross cropped area behaved in the two regions in particular and Rajasthan in general vis-à-vis the increase in population.

Chapter 4

This chapter is devoted to the analysis of the cropping pattern of Rajasthan as well as the two regions. It starts
with the classification of crops and then analyses the regional variations in the area, production and productivity. It also includes comparison of these factors in the two regions. In the third section the effect of area, yield, cropping pattern and the interaction of the latter two factors on the output has been examined.

Chapter 5

This chapter analyses the main causes of regional imbalance with the aid of important variables which are indicative of socio-economic development. For this purpose the technique of factor analysis is used.

Chapter 6

This chapter recapitulates and highlights the major findings of this study. It also contains a discussion of the lines on which the development of the two regions should take place for attaining rapid and balanced growth in agriculture.

II. IMPORTANCE OF AGRICULTURE IN RAJASTHAN

Rajasthan is one of the most backward states in India, though it is the second largest from the point of view of area.

* Madhya Pradesh being the largest state in India.
Its per capita net annual income was Rs.600 in 1972. Of this income, 38.10 per cent came from agriculture, 14.70 per cent from animal husbandry, 0.04 per cent from forestry and 0.18 per cent from fisheries. Thus agriculture and its allied sectors contributed 53.02 per cent of the total income. The other three comparatively less important sources of income were small enterprises, commerce and public utilities. Their respective shares in total income were 9.67 per cent, 10.20 per cent and 9.93 per cent. Thus these three sources of income generated 29.73 per cent of the entire State income. The remaining income i.e., about 20 per cent came from mining, factory establishment, commerce, transport, public authorities, profession and liberal arts (including domestic services) and house property. Agricultural income can thus be said to be the most important source of income for Rajasthan.

Moreover, agricultural sector provides employment to 73.89 per cent of the total working force of the State (NSS, 1968-69). From the employment point of view it is thus the only important source of livelihood in the State. The dominance of agriculture is clearly reflected from the consumption pattern of the State as well. In rural areas 37.94 per cent of total per capita monthly expenditure and in urban sector 28.72 per cent of per capita monthly expenditure is spent on food grains only. The corresponding
all India estimates are found to be 47.20 per cent for rural sector and 28.73 per cent for urban sector. Although the proportion of total expenditure on food grains in rural Rajasthan is lower than the corresponding all India estimates, it is fairly high. Only a rapid development of agriculture and animal husbandry which can lead to the uplift of the vast population living in rural areas can reduce the relative importance of food grains in consumption pattern.

The above facts clearly pinpoint the dominant place the agricultural sector holds in the State. The agricultural differences at the disaggregate plane in the State are vast, and economic position reflected in State level data is likely to conceal the variations in the agricultural performance at the regional level. If the balanced regional development is one of the criteria of economic development with an egalitarian bias, then it becomes important to attempt a study on regional imbalance so as to throw light on the nature of development as also its distributive aspect. While making a study of this nature, the important problems one faces is, one, the period of study and, two, a clear demarcation of the State into regions having more or less uniform agricultural features. Keeping the position of agriculture in the State and its development in mind, the period of the study has been kept from 1956-57 to 1973-74. The base year (i.e. 1956-57) is the
year since when data regarding Rajasthan State as it is constituted today, are available. The last year of study period, 1973-74, was the last year of the Fourth Plan of Rajasthan. Incidentally the base year, 1956-57, was the first year of the Second Five Year Plan of Rajasthan. The study therefore covers a period of eighteen years which includes Second, Third, three annual Plans and the Fourth Five Year Plan.

In the present study, the State of Rajasthan has been divided into two regions - the arid region and non-arid region. Rainfall is the basic criterion which can be used to bifurcate the State into two regions. Generally, an area (or district) which usually gets annual rainfall of 50 cms. or less has been classified as the arid region. However, if such a region includes some part (districts) covered by assured irrigation facilities, it (districts) will have to be excluded from the arid region for a better comparison of the regions. It is in this context that Ganganagar district - which forms part of the arid region on the basis of isohyetal line but enjoys perennial irrigation - has been excluded from the arid region and included in the non-arid region.

The study is based upon available data from secondary sources. Quantitative indicators about the different aspects
of the regional economy of the State have been collected from various official publications with a view to depicting changes over time. The data have been statistically analysed to find out the important relationship and to determine the role of different variables in the process of change.

III. REVIEW OF THE LITERATURE

Prior to 1950's there was hardly any regional study other than business cycles analysis. Regional economics then, was concerned with inter-regional propagation and diffusion of business cycles. These concerns were reflected in the writings of the economists like Vining in the immediate post-war period. It is during the last two decades that regional analysis developed as a distinct area in economics and rendered possible, the integration of the theories of general economics and the empiricism of regional analytical studies. By 1963, J.R. Meyer was able to maintain "regional economics has reached a stage where it could benefit from some redirection of effort away from the design of broad conceptual frameworks and accumulation of regional income accounts toward the formation and testing of behavioral hypotheses, with the initial emphasis being placed on hypotheses that could be quite readily developed from the application of general economic concepts already available." Meyer, 1963. Meyer notes that most of the work with regional analysis in underdeveloped countries display the more
formalistic tendencies, made popular by the need for long-range problems of development and large scale development investment.

The bulk of regional growth theories can be divided into two principal groups. Theories belonging to the first group devote special attention to the development within the individual region or inward-looking and the second group consist of the outward-oriented theories which primarily stress the mechanism underlying the phenomenon of the transmission of economic growth from one region to another. (The origin of the first group of regional development theories might be found in urban economics, which discusses the economic base of the city and activities that make it grow).

Refinements of the theory of the first group are found in the works of Tiebout and North. In the words of Richardson "The value of the theory is that it emphasizes the importance of the 'openness' of regional economics and the role played by changing national (or extra regional) demand pattern in regional growth". However, this advantage very often is offset by the neglect of autonomous investment and technical progress and insufficient attention to the part played by capital accumulation and migration. A more general theory is based on the experience that as incomes rise, the
demand for primary commodities goes down but new demands for products from secondary and tertiary sectors grow \cite{Perloff et al., 1960}. This theory proposes the thesis that regional economy goes through a sequence of stages which are very close to those introduced by Rostow and it allows one to explain the tendency for urbanization as a result of specialization in agriculture and its consequences for the settlement pattern \cite{Kuprianov, 1976}. In the words of Kuprianov "By bringing into light this interdependence, it forms a kind of bridge between earlier theories (Lösch, Christaller) and some of the conventional thinking on the subject (Tinbergen) \cite{Kuprianov, 1976}.

The second or 'outward - oriented' group of theories is built around the processes by which growth impulses are transmitted or not transmitted, among the regions of the country. Most of the researchers of this persuasion have applied the neo-classical growth models to regional economics.

In recent years, to examine the differences in agricultural development between regions, the pooling of cross-section and time-series data for production, demand or cost function has become increasingly popular. Most of the studies in this class can be divided into two principal groups. The first group of studies lacks adequate time-series or cross-sections data. This poses the problem of adequate degree of freedom in the reliable estimation by regions or
any other cross-sectional units. However, by pooling the
time-series of cross-sections, an attempt can be made to make
the most efficient use of data across regions to estimate
the behavioral relationship containing variables that differ
widely from one region to another. The advantage of this
process is that less information over time can be used to the
best advantage. Studies by Nerlove \( \text{1971} \) and Balestra and
Nerlove \( \text{1966} \) can serve as examples of this approach.

In the second type, Hoch \( \text{1962} \) used the method of
covariance on the combined cross-section time-series data to
avoid the problem of simultaneous equation biases existing in
time-series data. Mundlak \( \text{1961} \), Hoch \( \text{1962} \), Sahota
\( \text{1968} \) used regional dummy variables in their studies. A
number of studies, Klein \( \text{1953} \), Marschak \( \text{1943} \), Solow
\( \text{1964} \) etc. combined cross-section and time-series data to
estimate the parameters of their models. Other studies in
this category are Griliches' \( \text{1957} \) study on the aggregate
agricultural production function using states in the United
States as observations and Anne Krueger's \( \text{1968} \) study on
the contribution of factor endowment differentials to
variations in per capita income in different countries.
Hayami and Ruttan \( \text{1970} \) estimate a cross-country production
function which they view as a meta-production function.
Afrow et.al \( \text{1961} \) used production function with elasticity
of substitution among inputs being constant but not unity and
Christensen et al. used transcendental logarithmic type production function which permits factor share to change. Production function has been widely used by researchers of Indian agriculture. Some of the important studies are by Krishna and Rao, Sahota, Wellis, Herdit, Bardhan and Sankhayana and Sidhu.

In analysing a time-series of cross-section data, one can employ an error component model to isolate effects that are specific to a region and relatively time invariant. A detailed discussion of the application of the error components model and the calculated regional effects is found in Easter et al. Some other studies using error components model are by Nerlove, Schultz and Mukhopadhyay.

J.G. Williamson in his article "Regional Inequality and the Process of National Development: Description of the Patterns", explicitly tests hypotheses relating to the cross sectional/historical pattern of regional inequality vis-a-vis the stage of economic development. The statistic used by Williamson to measure regional inequality were regional income per capita and share of agricultural labourers in the total labour force by region.
Until very recently, Williamson's study has been one of the few in this area that confronts hypotheses with actual data.

Recently, the United Nations Research Institute for Social Development has commissioned a series of studies on a worldwide basis on Regional Development: Experiences and Prospects. The objective of these studies is to fill the gap between two types of approaches, namely, broad generalizations regarding regional development that are not able to handle specific differences between countries, and purely case studies particular to individual regional units.

As for regional analysis of Indian agriculture, several studies have been made both by the Government and by individual researchers. These studies can be divided into two groups, (a) studies designed to classify the country into homogeneous regions for purposes of a meaningful policy of regional agricultural development; and (b) studies dealing with the measurement and explanation of regional disparity in agriculture on the basis of existing administrative units of

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1 Some other important studies of regional inequality and economic development are:
region, e.g., district or state. Some studies from each group are briefly summarised below.

(a) Studies on the Classification of India into Homogeneous Regions

For the purposes of economic planning in India, a number of attempts have been made to reclassify the States and districts into regions on the basis of physical and economic characteristics. Some of these studies are briefly mentioned below.

The Directorate of Economics and Statistics, Ministry of Food and Agriculture [Govt. of India, 1968], identified 107 crop regions for India on the basis of the existing cropping patterns of the districts, assuming that these patterns reflected the resultant effects of all physical and economic factors. The study considered the patterns for twenty crops during 1957-59, and for each crop, indices were constructed for relative area and yield.

Abel and Easter [1971] classified India into five divisions on the basis of broad geologic and topographic factors, 14 zones on the basis of climatic and soil factors, and 31 agroclimatic regions on the basis of cropping patterns and quality of agricultural and human resources.
Easter [1972], in his study, has developed two types of regions for Indian agriculture with a view to helping plan the specific crop production for the nation and a rational agricultural development, taking into account the variations in agroclimatic factors. In the first type, the crop regions have been constructed on the basis of two factors: i) the percentage contribution of a district to the total national production of a crop in 1967-69 and ii) the percentage of the districts' gross cropped area under the crop. Each region has two types of districts, core districts and satellite districts. All districts with 0.5 per cent or more of a crop's production were chosen and these were added to districts with a given percentage of the gross cropped area under the crop so that the low productivity districts are not excluded. A minimum of three adjoining districts, at least one of which is to be a core district, is required to form a crop region. In the second type, the agroclimatic regions designed to aid overall agricultural planning were developed on the basis of resource-endowments like climate, soils, geology and cropping differences. The regions were demarcated by means of plastic overlays for each crop and by the percentage of cropped area under different combinations of crops. The combinations of crops selected were such that they included at least about 75 per cent of the crop area. Further, a district should have at least 5 per cent of the area under each crop in the combination.
On this basis the country has been classified into three divisions, ten sub-divisions and fifty-two regions.

The National Commission's undertaking perhaps presents the most comprehensive and detailed regional classification of Indian agriculture. Four different aspects have been considered for the detailed study in the field of agricultural development, i) Taluka or tehsil as unit of area, ii) introduction of the coded numerical form to express pattern of distribution of rainfall for the whole year, as also of crops and livestock, iii) inclusion of information on orography, temperature, evapotranspiration, rainfall, soils, irrigation, land-use, human and livestock population, power availability for field operations and yield performance of crops, all of which influence in different ways and degrees the cropping patterns of a place and iv) presentation of coded information on rainfall, crops, etc., on maps.

A monthly rainfall data have been used by National Commission in its study. As for the boundaries of rainfall zones, taluka is the unit of area but as rainfall is recorded at individual locations, the Commission had to consider the adequacy of a station as representing the respective talukas in which it is located. Being point measurements, isolines would not necessarily follow the boundaries of taluka but intersect them and the following procedure has been adopted for dealing with portions of taluka:
i) where variations are small, isolines follow the taluka boundaries;

ii) where essential, isolines intersecting taluka boundaries have been retained;

iii) when listing talukas included in different rainfall zones any area of less than a quarter of a taluka is omitted.

The basic data for the study of cropping structure of the country are the area distributions of crop in the taluka. In the study to constitute the crop distribution of the taluka, the crops which individually occupy 10 per cent or more of the gross cropped area of the taluka has been taken. A minimum upper limit of the total areas of crops in a distribution or a pattern has been fixed at 70 per cent. Thus, a combination of crops, each occupying not less than 10 per cent of the gross cropped area of the taluka and with a total of not less than 70 per cent of the gross cropped area of the taluka is considered as constituting a cropping pattern provided it is the same over two or more adjacent talukas.

The performance of crops in different parts of the country has been examined using the yield data of the respective crops. Instead of using absolute yield values they have been expressed as per cent of all India and it has been called Relative Yield Index (RYI). RYI values have been computed for the principal crops based on area and production

The livestock patterns are relevant in the present study only in so far as these are related to production of fodder and feeds. Taluka data which are the basis in this study, have not become available from the Livestock Census, 1972. Hence, data of 1966 census as published by the States have been used by the Commission. The components of power are human, animal (mainly bullock and he-buffaloes), mechanical and electrical. Human power comes from cultivators, agricultural labour and those engaged in livestock, forestry, fishery and plantation etc., as reported in the official census 1971. For animal power, district data of livestock Census 1972 have been used. Information on agricultural machinery has been taken from the same source.

As tractors are also employed for hauling operations, 50 per cent of their number has been taken for calculating available power tillage. 80 per cent of human and animal power is taken as power available for crop production after allowing 20 per cent for extra farm activities.

Thus, designed to establish the relationship between cropping patterns and natural factors, this study has identified agro-climatic regions on the basis of highly disaggregative regional units, e.g., taluka or tehsil, using
a host of information, namely, physical features, land use, population, soils, livestock, irrigation, rainfall, temperature, cropping patterns and yield.

(b) Studies in Regional Variation in Agriculture

The studies in this group are quantitative and are, therefore, subjected to the constraint of the availability of data. Broadly, two types of approaches have been made to measure and explain regional variation in Indian agriculture, first the growth component approach and second, the descriptive approach. In the following pages only the growth component studies will be alluded to.

The growth component approach is based on the assumption that the growth in output in a region during a period of time can be decomposed into a number of components, for example, growth due to change in area cultivated and due to change in yield per unit of area. Using this approach Heston (1968) in his study, "Variations in agricultural growth and output between and within regions of India", shows that growth in acreage had been a major contributor to the total growth of crop output in Indian agriculture during 1952-53 to 1961-62. Commenting on the regional variation in growth rates, Heston offers the explanation that such differences are mainly due to natural conditions, foremost of which are soil and rainfall.
But the contribution of crop pattern, which is one of the four components into which crop output growth in India from 1951-56 to 1958-61 has been decomposed by Minhas and Vadyanatham (1965), is not borne out to be a significant explanation of variation in agricultural growth. In their study also, variations in the extent of area and yield changes turn out to be the most important factors in the inter-state and inter-district variations in output. While these studies identify yield-change as a source of growth, no attempt is made to explain changes in yield.

In a modified, but still basically a growth component model, Rao (1971) in his article "Inter-Regional Variations in Agricultural Growth, 1952-53 to 1964-65", breaks up growth in output into two segments - due to change in irrigated area and due to extension of cultivation to virgin land. The study confirms the hypotheses that the proximate cause of inter-state variations in crop output is the differences in the growth of irrigated area, consistent with the conclusions of several other studies (Rao, 1965). Rao (1971) further looks into the financing of the irrigation projects and suggests that it was public investment that played a major role both in directly bringing about the growth in irrigation, and indirectly attracting private investment in well irrigation.

1 The other three components are i) Changes in area, ii) Changes in per acre yields and iii) The interaction between the changes in per acre yields and changes in cropping pattern.
Since public investment has benefited largely the already rich farmers, inter-regional variations in irrigation in agricultural growth, has increased, making rich regions relatively more rich.

Using a growth component model similar to that used by Minhas and Vaidyanath (1967), the Government of India prepared several studies on regional variations in crop output for several states and all India. The broad conclusion of these studies is that variations in yield increases and area increases are the most important sources of variation in growth of crop output; changes in crop pattern being important only in some cases. These studies seek to offer some general information on several yield increasing inputs like fertilizer, irrigation, pesticides, improved seeds, mechanical power, improved implements etc., and such factors as quality of soil, rainfall, growth rate and other attributes of population and social, economic and institutional factors, e.g. share cropping, cooperation, infrastructure like road and transportation, etc., Nath (1970) on the other hand highlighted the role of socio-institutional factors, rather than physical factors, in explaining regional variation in agricultural growth. In his paper Nath stressed the importance of land reforms, development of cooperatives and expansion of infrastructures like communication and rural electrification.
Analysing the efficiency of Indian farmers in allocating resources among different production alternatives, Sahota (1963) used a production function approach pooling data from three years, 1954-55, 1955-56 and 1956-57 and for six regions of India. Using dummy variables, the effects of regions, years and farm sizes were estimated on variations in yield for selected crops. However, Sahota's production function was fitted on yield rather than production due to the problem of data availability, thereby forcing the assumption of homogeneity of degree one in the function. Moreover, all the variables, dependent, as well independent, were measured in value terms, thereby assuming away relative price differences between regions and years. Also, the estimates are subject to the limitations imposed by the application of the dummy variable technique.

In a study entitled Growth of Productivity in Indian Agriculture, Dharam Narain (1977) raised two questions, i) what explains the comparatively sizeable growth of productivity in the 1950's when the benefits of technological change were yet not available? and ii) what accounts for only a modest set-up in the growth rate of productivity in the subsequent period which saw a far more substantial increase in fertilizer use than before, and especially since the mid 1960's when the area sown to the high-yielding varieties of seeds started expanding to reach close to one-fifth of the
total area under all food grains by 1972-73? In the process of answering these two questions, Dharam Narain threw light on the role of price and non-price factors in productivity growth. The concept of productivity adopted in the article was the gross value of agricultural output is constant prices per hectare of gross cropped area. The growth of productivity was made up of three components reflecting the contribution of cropping pattern changes, location shifts of area under individual crops and pure increase in the yields of individual crops in the different States. For decomposing index of productivity the official data pertaining to area and production have been taken and the base period was the triennium ending 1961-62. Dharam Narain confined himself to 32 crops. For measuring the locational shift effect, state-wise data for area and production is needed and since this was available on a comparable basis for only eighteen principal crops, he could separate the locational shift effect from the pure changes in per hectare yield for only these crops. Even for these crops the data were available for only the States in which a crop is importantly grown. By subtracting from the all India area and production respectively the sum of total of the area and production of the principal States for each crop, he has worked out its area and production for the rest of India. While aggregating the changes in per hectare yields for the 32 crops, however, he has taken the variations as they
are in all India yields of the remaining 14 crops. His 'pure' yield effect is thus only partially pure. In defence, Dharam Narain came out with the argument that since the eighteen principal crops account for an overwhelmingly large proportion of the total cropped area, it may be taken to be a fair approximation to the true picture.

Performance of Indian Agriculture: A Districtwise Study by Bhalla and Alagh (1979) a report of a study sponsored by the Planning Commission, analyses the production trends, crop-wise and region-wise, over a period of 1962-65 to 1970-73. The area and output of 19 major crops in the 289 districts in India both during the sixties and the seventies constitute the base for the study. Its contribution to the existing literature on Indian agriculture lies in quantifying the developmental trends in terms of increase or decrease in production of important crops and delineating precisely the regions achieving different growth levels. While arriving at the conclusion that the agriculturally rich areas in India are the ones that make a relatively very high use of modern inputs, the authors clearly state that the determinants of high productivity and high growth have not been fully investigated in their study. In the words of the authors "It may be noted that at this stage of our work, we have only been able to give a descriptive account of the performance of Indian agriculture. We have not as yet gone into the
analysis of various institutional, technological and other casual factors that are responsible for growth in some regions and lack of growth in others. This crucial aspect of the problem is proposed to be taken up in the second phase of the project."

From the review of literature on regional analysis as attempted above it can be concluded that despite sophistication in disaggregated data collection, there is still a gap between theoretical concepts of region and their translation in empirical term. It is, therefore, necessary to close the gap that exist in such studies. Again, there have been a number of studies of particular aspects of rural transformation in selected areas of the country. There is a need to supplement these studies by state level studies which give an integrated picture of the agricultural transformation that has taken place in the State in general and agricultural regions of the State in particular over the past two decades. A study of the pattern of the agricultural development in Rajasthan in the post 1956 period would be highly useful in providing an understanding of the process of agricultural development and help in suggesting guidelines for future strategy and policy for agricultural development as well as in raising issues for further in-depth research. With these views in mind the present study has been attempted.
REFERENCES


Govt. of India: "Growth Rates in Agriculture", Ministry of Food and Agriculture, 1967.


Govt. of India: Report of the National Commission on Agriculture, Ministry of Agriculture and Irrigation, New Delhi, 1976.


Heston, Alan : "Variation in Agricultural Growth and Output Between and Within Regions of India", Asian Survey, March 1968.


N S S : "23rd round: July 1968 - June 1969, Number 228.


