Chapter 1
INTRODUCTION

1.1 INTRODUCTION

1.1.1 The direction and magnitudes of productivity of land and labour, the two most important basic resources of any grass-root economy, occupy a paramount important position in the analysis of local level economic situation and hence local level planning. The importance of this kind of study stems from the fact that there is an infinite diversity among the economic agents of special circumstances of local level rural economies even when they appear covered by a haze of common markings.

1.1.2 The diversity of special setting of local level rural economies is not confined to fine or distinct differences in agro-climatic characteristics of the economy. For one thing even when agro-climatic characteristics do not differ perceptively, the extent of their utilisation for strengthening the process of development often differs for historical or political reasons. Secondly, the co existence of local economies with different degrees of utilisation of their purely natural characteristics offers us invaluable data for innovating methods to study not merely the productivities but also the degree of primacy of various facilities contributing to the heightening of output and employment. More importantly, however, there are many areas, and almost invariably the ones which are much away from the national or the state capital, which escape notice of the policy-makers and as a consequence are generally labelled as desertish or marginal areas. Plan for the development of these marginal areas remains as prolonged unfinished task yet after consuming of six decades of our national planning.

1.1.3 Subjecting such areas for meticulous and careful research is of first importance because contrary to official presumption, they may portend a future much brighter than areas which have come to prominence through the receipt of political and official patronage for decades. Two national objectives of studying these types of grass-root economies may be mentioned. In the first place, the need of an autonomous planning of a local level economy for the purpose of giving employment at doorsteps is supported by various ills of the present day centralised

planning in India. Secondly, the integration of projects of such local level economies into the national investment plan renders the rate of growth of output per capita faster than the plan conceived at the top.

1.2 SLOW DEVELOPMENT OF INDIAN AGRICULTURE

1.2.1 There are now unmistakeable signs that India is emerging as an exporter of agricultural crops. Between 1921 and 1991 India has at least thrown portents to be appeared as an important agricultural power in this globe and has established to put a sign about her ability to sell food grains to the international economy. This has been possible because of an impressive upsurge of her agricultural production mainly since the early seventies of the last centuries.

1.2.2 During the six decades of National Planning and during the 67 years of National Government between 1946 and now, agriculture moved up rather very late and at a very constant slow rate at about 2 percent to 2.5 percent per annum. This can be understood if we trace the process of evolution of a planning design of this country. The Mahalanobis foundation of the Indian planning and the intergovernmental trade agreement between India and Russia since 1955 disguised a covert rapprochement policies of India and the erstwhile Soviet Russia. The stress on capital goods ignoring the usefulness of two nationally cheap resources like land and labour up to the third plan and the consequent expansion of the role of public sectors continued beyond the third plan.

1.2.3 The Kashmir war and the two years of drought in the mid sixties and consequent difficulties put a break on the kind of planning design. One must acknowledge that although investment planning for the rural sector was sought to be replaced by reorganisation of agrarian relations, important changes took place in the rural scene. All most all the states abolished Zamindaries or intermediaries. Legislation was enacted for ceiling on land holdings. Surplus lands were distributed among the poor. Administrative divisions were so reorganised as to lay the foundation for a block level planning. The office of a Block Development Officer or its analogue in every block accommodated many technical officials equipped with very modern techniques in various departments for offering services to the rural people

covered by the block. But the productivity of the personnel so engaged has been imperceptible at least till the early seventies.

1.2.4 Some of the official economists who were aware of the virtual neglect of agriculture till the end of the third plan pleaded that agriculture was a bargain sector and could be developed at will. This was one of the reasons why the country depended so far on American disposal of surplus food grains and PL 480 in 1960s of the last century. But the Kashmir war of 1965 was the greatest single factor that forced Indian planners to look for speedy substitution of imports of foodstuffs.

1.2.5 Indian planners, however, made a wrong decision on the location of productive agricultural enterprises. In what has been known as New Agricultural Strategy the planners sought to raise more agricultural production in two or three states which were historically favoured with greater agricultural facilities since after independence. This eventually created some sort of a duality in Indian agriculture. The western India was allowed to produce much more than the eastern half of the country, though the later region has a vast potentiality to raise agricultural production equally in an efficient way.

1.2.6 Under the pressure of the donor institutions especially the World Bank under the presidency of McNamara in late 70s of the last century the Government of India intensified an antipoverty programme specifically to help the poor. During the earlier period relief was distributed both in urban and rural areas in times of distress only to the microscopic minorities. But now the target group of the poor was sought to be directly helped for raising their income streams. The peculiarity of this third phase of Indian planning is that we have a clear-cut duality in our plan aims. That is to say, on the one hand we have a main investment plan of development but on the other we have a supplementary anti-poverty plan designed especially for the poor. Some of which are the IRDP, NREP, RLEGP and very recently adopted SGSY, JGSY, EAS and NSAP lack complementarity and co-ordination.

1.2.7 As we review this brief review of agricultural planning we find that our short-range, medium range and long-range objectives of agricultural development have not been made mutually consistent. In the language of chess, we have lost valuable tempo and the rate of development of agriculture has been slow.

1.3 IMPORTANCE OF GRASS ROOT PLANNING

1.3.1 There have been various approaches to Grass-Root planning. The AVARD approach and the approach of R.P. Mishra and others have been widely circulated. None of these approaches view the plans of grass-roots as autonomous plans. Professor P.C.Sarkar seeks to build up National Plan as an aggregation of autonomous plans of grass-roots. A complete autonomous plan for a grass-root economy is suggested for both short and long ranges. A grass-root economy is delineated on two considerations. In the first place, a grass-root economy should be of such a size that the planners at the local level have no difficulty to monitor the behaviour of all economic agents at the grass-roots. This easy monitoring is an indispensable instrument for realising the aims at the grass-roots. In the second place, the determination of the boundaries of the grass-root economy will be made on the basis of immaculate uniformity of agro-climatic characteristics.

1.3.2 A consistent path of development in South Asian countries is the path of concurrent development of agriculture and non-agriculture. The content of this concurrent development is that the development of non-agriculture will follow the needs of rise and revolutions in agriculture. If this development has to gain momentum then it is of first importance to make sure that the location of agricultural enterprises is not based on subjectivism of political advantage seekers but on the objective considerations of maximum advantage to the national economy as a whole. From the planning centre of Delhi we cannot view the unused productive resources in various regions of the country. Even from a state capital, say of Kolkata, the official experts cannot see the power of productive resources in relatively distant parts of the state.

1.3.3 For the type of South Asian countries the basic aims may be to realise in the shortest possible time high rise in agricultural production, income and employment, a half to the growth of population and making our army of workers

at the base well-fed, energetic and literate (Viner.1952). The realisation of these basic aims will be quickened by resorting to autonomous planning at the grass-roots.

1.3.4 All the planning exercises that are made for national plans are to be done for the autonomous grass-root plans. As in the case of the whole nation so also for a grass-root economy an inter-action model requiring a simultaneous setting up of sectors and enterprises is needed. A country town will be at the centre and an integral part of a grass-root economy.

1.4 THE BASIC PROBLEMS

1.4.1 The object of this research enterprise is to make a specialised study of agricultural production of the rural economy of ***Baneswar***, as defined in the preceding section. The wider aim is to discover the various causes of the loss of tempo that has been occurring in respect of agricultural development in the area. Obviously, as the summary of the previous studies indicates, the agricultural development does not depend solely on the sector of agriculture itself. There are thus a number of aspects which this investigation must cover.

1.4.2 At the end the study will enable us to chalk out a development plan as well as an institutional framework for an expanding productive system. At the same time the analysis of agricultural production carried out so far in local level rural economies of West Bengal under the supervision of Prof. P.C. Sarkar will be carried still further to investigate in detail some of the important points about which there is great deal of obscurity in the international academic circles.

1.4.3 It does not mean that there is consensus in respect of other important points in the national and international academic circles. There is not a single method now being used in economic research that may be used blindly. All methods have their defects. It is of paramount importance that the design of the study is well laid and is not unnecessarily exposed to excessive sampling fluctuations, and what is more, the data are organised and reorganised enabling correct use being made of mathematical, statistical or econometric techniques. The more we study about the new local level rural economies the more we have opportunities of using

improved methodology as well as using traditional or used methods with adequate care. Local level studies are especially important because here we have complete command of the setting of farms and good scope of testing the quality of simple or sophisticated methods. Innovation of methodology especially in respect of measuring responses of inputs, infrastructural facilities and other sorts of cooperative endowments and institutions is possible in a really fruitful way through visits and revisits paid to local level economic agents.

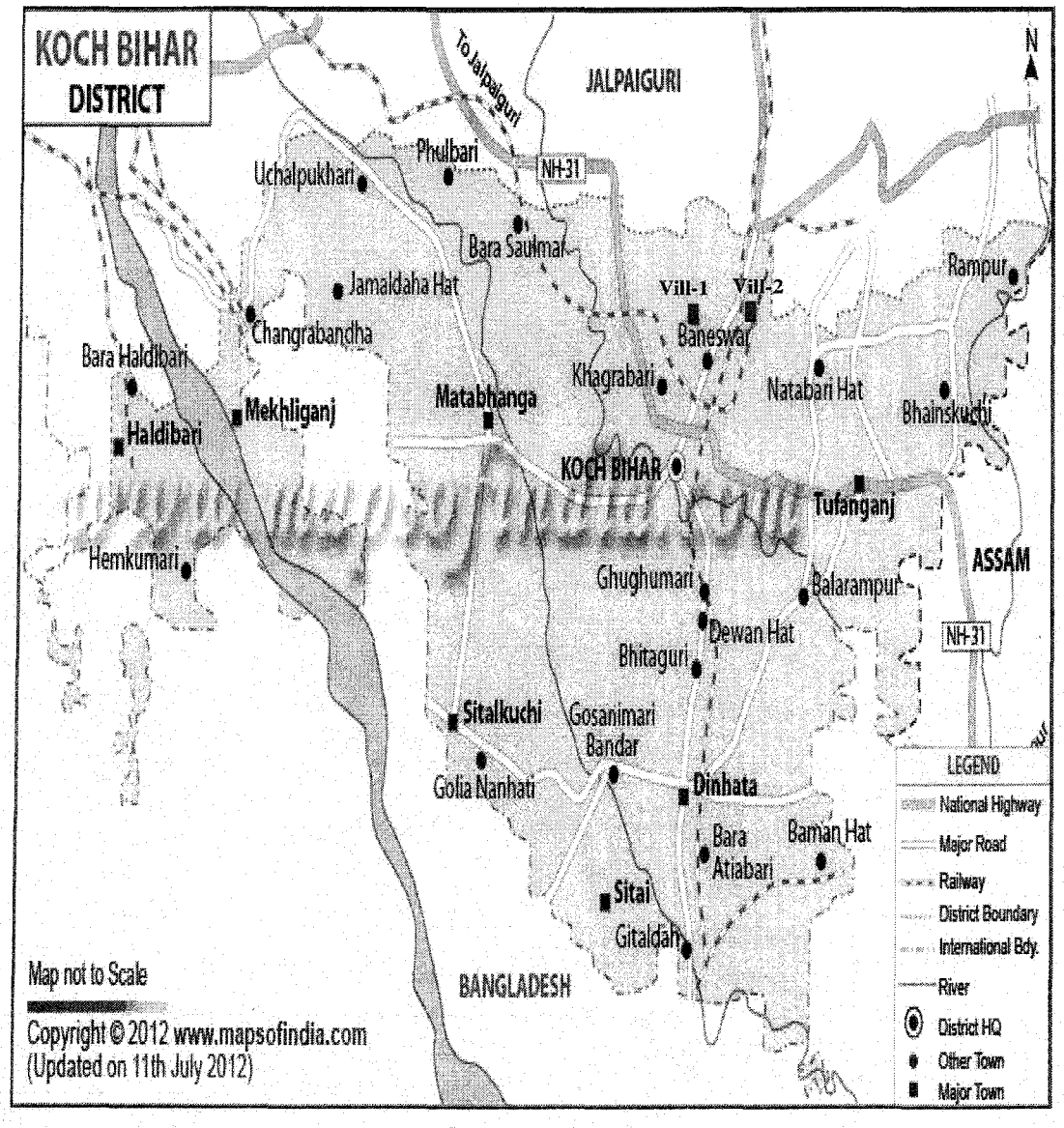
1.4.4 There is no denying that this research scheme will use various means to measure the responses referred to in the preceding paragraph. Methods whether they are referred to in the preceding paragraph or not, will be used to measure the productivities of the productive agents. The measurement of these productivities will be sought to rival methods. A maximum possible conformation of the deductions through a larger number of alternative methods will help us to arrive at fundamentals so valuable for national process of development.

1.4.5 Equally important must be the question of primary or productive agents. The usual models, as briefly summarised in the preceding section of this studies, can at best release measures of productivities and show how these productivity can be manipulated for allocation of various sorts of resources. They can hardly give us information, in undeveloped or traditional rural economies, as to which agents have a prior claim on uses for production. This is of great importance because a priori ignorance in this respect can do, and has done, a most inefficient allocation of resources. This means that huge investible funds are blocked mostly unproductively, when the productive use of these investible funds through alternative agents would have heightened the production and the productive system. Another fundamental objective is the investigation into a system of production and system of integrated rural economy that would assure a low-cost resource enhancing and purity heightening life of the households of the economy concerned.

1.5 THE STUDY AREA

1.5.1 For the purpose of this present study the local level rural economy being studied which is made up with the villages around the village market town of **Baneswar**

MAP OF COOCH BEHAR DISTRICT



and the market town itself. The two villages are ***Ichhamari*** and ***Borokhata***. The first village is nearer to the market town Baneswar and relatively more developed in all respects than of the second village. Elsewhere these two villages will be termed as village-1 and Village-2. In fact, the whole Baneswar Gram Panchayat area is synonymous with the local level rural economy being studied. The sale town or market town of Baneswar is the centre of interaction of the activities of the villages around. We will provide a detail stocktaking of the endowments of our study area in the subsequent chapter of this write up.

1.6 PREVIOUS STUDIES

1.6.1 No one has in the past subjected the process of production of the rural economy of Baneswar to rigorous economic investigation. One of the villages of the Baneswar Gram Panchayat, however, was studied to analyse agricultural production to produce the M.Phil. Dissertation of this candidate under the supervision of Prof. P.C.Sarkar of North Bengal University. But the scope of study of that Dissertation was rather narrow, though it made some contribution in some important respects.

1.6.2 A more comprehensive study requires a list of previous works. Because the scientific discovery is a process of work being done by generations of investigators, it is necessary to know, to do justice to an investigation under the title given, the important steps put forward in the direction. This direction is basically multi-dimensional. The dimensions involved are: Development planning, local level studies and planning, economies of production of agriculture, mathematical, statistical and econometric methods of isolating productivity of productive services and facilities and empirical studies in these fields.

1.6.3 Of the empirical studies carried out in the state of West Bengal mention may be made of some reports of official studies organised by the Ministry of Agriculture, Government of India. Studies in the Economics Farm Management in Hooghly District, Report for the year 1969-70 to 1972-73 and these may be read with the Report of the National Commission of Agriculture parts I to XV and Rainfall and Cropping patterns Vol. XVI published by the Ministry of Agriculture between 1976 and 1977. These studies suffer from a uni-method approach. Besides, the

basic approach of covering inter-sectoral interaction in the possible provocation or consequence in primary as well as secondary rounds. This is also manifest in a contemporary study on rural employment, October, 1979,1980 published by the Ministry of Agriculture, Government of India.

1.6.4 The preceding paragraph gives but an exceedingly brief review of the main trend of analysis of agricultural production in West Bengal during 1950s, 1960s and 1970s.Outside these decades, both before and after, a great deal of work has been undertaken abroad. These studies gradually extended and exposed the analysis of agricultural production to more influences than considered conventional. To begin with mention must be made of the work done at the pioneer agricultural experimental stations of USA and UK and the US Department of Agriculture. Of the experimental stations Maine and Rothermstead are known for their input specific production functions. We should mention some of the earlier personal works in the twenties and thirties authored by J.D.Black (1926) and Sune A. Carlson (1939). Of the works produced in the US Department of Agriculture, W.J. Spillman, E. Lang and E. Jensen (1933) figure among the investigators in the inter-war period. Of the same period an important work is also needed to be mentioned made by H.R. Tolley, J.D.Black and M.J.B. Ezekiel (1966).

1.6.5 The analysis of agricultural production took a new turn following the experiments in general production analysis by C.W Cobb and P.H.Douglas. The development of Econometrics quickened the pace of work on agricultural production analysis. Mentions may be made about some of the earliest applications of econometrics: Bronfenbrenner's (1944) " Production Functions: Cobb-Douglas Interfirm, Intrafirm"; Smith's (1945) "The Statistical Production Function"; Tintner and Brownlee's (1944) " Production function Derived from Farm Records"; Tintner's (1944) " A Note on the Derivation of Production Functions from Farm Record Data"; Heady's (1946) " Production Functions from a Random Sample of Farms"; Marschak and Andrews's (1944) "Random Simultaneous Equations and the Theory of Production" ; Tinbergen's (1951) book "Econometrics"; Heady's (1952) book "Economics of Agricultural Production and Resource Use" and Valavanis's (1959) book "Econometrics".

1.6.6 The Cobb-Douglas production function was generalised by Arrow, Chenery, Minhas and Solow (1962) in their joint article "Capital and Labour Substitution and Economic Efficiency". This production function is known as the constant elasticity of substitution production function. The Cobb-Douglas production function is treated as a special case of this function. The difference is that in the CES production function its elasticity of substitution is not constrained to be unity.

1.6.7 Outside the strictly conventional factors, price and similar factors have been used to study the supply response. Nerlove has initiated studies leading to the use of greater number of similar variables through his article "Estimates of Elasticities of Supply of Selected Agricultural Commodities published in the journal of Farm Economics in the year 1956 and his book The Dynamics of Supply: Estimation of Farmers' Response to Price published in the year 1958.

1.6.8 A great prospect has been opened up in the analysis of agricultural production by the innovation of the general input-output model and its dynamic system by W.W. Leontief. In this view some of the multi-variate analyses, even "if spun sufficiently long", could not truly represent a system of general interdependence. But the Liontief model not merely appeared as a system of general interdependence. He also demonstrated that his system can, in addition, get the concrete numerical results giving reactions of products and prices to different types of primary changes. These numerical results were comparable to elasticities derived by methods of conventional statistical supply and demand analyses. The great point is that his model can be used for questions of diverse types. Jan Tinbergen, Hillis B Chenery, H. Uzawa and J. Sandee have made great use of the Liontief model for specific purposes.

1.6.9 Dantzig and Koopmans have pioneered in the creation of a new type of inter-industry model bringing in linear and non-linear programming into the arena.The programming formation was also independently innovated by Kantarovitch and extended by specific uses by A. Carter, Arrow, Hurwiez, Uzawa, Chenery and Manne. The important works in summary are: Dantzig's "The Programming of Interdependent Activities: Mathematical Model" published in the year 1951 in

Koopmans (ed.) Activity Analysis of production; Koopmans "Efficient Allocation of Resources" published in Econometrica in 1951 and Koopmans book three essays on the State of Economic Science published in the year 1957

1.6.10 Agricultural production is also influenced in a host of other ways. Grand models of development pioneered by Rosenstein-Rodan, Mandelbaum and provided with variations by Nurkse, Lewis, Rostow, Libenstein, Ranis & Fei, Jorgenson and Kuznets throw insights as to the various agencies influencing agricultural production. Schultz, Hyami, Ruttan, Mellor, Nakamura, Chhawa, Johoston provide in varying measure ingredients for heightening agricultural production.

1.6.11 A. Banerjee (1993) in his paper "The Inspect of New Economic Policy on Agricultural Labour" has explained the segmented nature of the agricultural labour market by examining the basic components of recent economic policy changes with special reference to the farm policy and highlighted the implication of such changes for agricultural labour. The study concludes that the condition of agricultural labour will improve if their asset holding and entitlement can be increased through Land Reform and availability of other inputs.

1.6.12 Jha (1997) has analysed the condition of male and female agricultural labourers; money wages and real wages; time rate and piece rate , daily, weekly, off-season, busy season scenario ; Income level and Consumption and so on. The study tried to relate the findings of all in one direction, i.e. changes in the labour process in the changing socio-economic scenario in the process of agricultural development. The studies of N. Bondyopadhaya (1977), L. Gulati (1977), H.R.Sharma (2005) may be mentioned in this regard.

1.6.13 Chadha (1994) has analysed the changing incidence of landless in terms of (i) the number of rural households owning arable land, (ii) the number of households operating no land and (iii) the number of agricultural labour households. The study concludes that between the years 1964-65 and 1982-83 the incidence of landless has increased in each state looked at from each of the three angles above.

1.6.14 B.D.Dhawan(1998) in his paper "India's Irrigation Sector: Myths and Realities" has discussed a variety of structures comprise the Indian irrigation sector. These can be dichotomized in more than one way: (1) major or minor; (2) surface water or ground water based; (3) gravity flow or lift irrigation works; (4) public or private; and (5) traditional or modern. The first classification is no doubt peculiar to India; in the plan and other official documents large scale irrigation is described under the head 'major and medium' irrigation, and small scale irrigation under 'minor' head. He also calculated the unit cost of irrigation from different sources. A.Vaidyanathan (1987) "Presidential Address—Irrigation and Agricultural Growth", Government of India (1994) – Report of the Census of Minor Irrigation Schemes 1986-87, Minor Irrigation Division, Ministry of Water Resources, New Delhi may be mentioned in this case.

1.6.15 U.K.Dey (2003) in his paper "Changing Cropping System in Theory and Practice: An Economic Insight into the Agrarian West Bengal" tries to examine the basic reasons for crop diversification in the context of agricultural situation on West Bengal. The whole analysis reveals that development of irrigation and technology in other fields are the main factors behind the relatively rapid expansion of cultivation of Boro rice, Potato and Mustard in West Bengal. Growth of chemical fertilizer also plays an important role in accelerating the growth of these crops. Though availability of inputs, location of plots and technology of cultivation of crops play some important role, the relative profitability accepted by the farmers from different combinations of crops ultimately becomes instrumental in the planning of allocation of limited land holdings of the cultivators. Sustainability of income that can be obtained from their limited plots is also considered by the rational farmers. The other studies by Sarkar (1988), Vyas (1996), Gulati and Sharma (1994), Narayanamoorty (1997), Chand (1996) and Bhalla and Singh (1997) also analyze the allocation of land among the competitive crops grown during the same season and found that either of the factors, relative price (market/ administered), irrigation facility, soil condition, price policies of the government, yield of crops, technology, infrastructure, etc. are responsible for crop diversification in different places.

1.6.16 R. Kumar (2005) in his paper "Constraints Facing Indian Agriculture: Need for Policy Intervention" attempts to spell out some of the constraints like stagnancy in production and factor productivity growth, inadequate institutional support, migration of agricultural labour, etc. It also seeks to highlight some of the major areas of concerns facing Indian agriculture: Land Market an Use, Agriculture Labour-Rural Unemployment and Poverty, Capital Formation and Investment, Agriculture inputs-Supply and Availability, Agriculture Credit—Extent of and Access to Institutional Credit and Agriculture Extension Network. He concluded that India continues to be predominantly an agrarian economy and without improvements and developments in this sector, the economy as a whole cannot expect to achieve and maintain a balanced and sustainable growth trend. Other important studies in this field are made by S.M.Dev (2004), D.N.Ghosh (2005), V.S.Vyas (2004).

1.6.17 T. Haque (2006) in his paper "Resource Use Efficiency in Indian Agriculture" explained that an efficient farmer should allocate his land, labour, water and other resources in an optional manner to maximise his income, at least cost, on sustainable basis. But as resources and managerial efficiency of different farmers vary widely, the net returns per unit of inputs used also vary significantly from farm to farm. Again a farmer's access to technology, credit, market and other infrastructure and policy support, coupled with risk perception and risk management capacity under erratic weather and price situations would determine his farm efficiency. He concluded that farmers must have timely access to adequate credit, at reasonable rate of interest, quality seeds, fertilizers and other inputs, along with knowledge of integrated resource management and facilities for convenient and competitive marketing of agricultural produce to confirm optimal use of all resources. Besides, appropriate risk management policy would be crucial for stabilizing farm income which would encourage the farmers to take proper interest in farming and maintain resource use efficiency.

1.6.18 The study of R.S.Sidhu and S.S.Gill (2006) revels that the expansion of agricultural credit shall have to be improved further by covering large number of farmers, who still are unable to access to formal credit due to rigidity in lending procedures and requirements, rigidity in loan products such as oral lease, lack of

ownership title, lack of capital, etc. inadequacy of the staff in rural branches and low profitability of institutions; and by increasing quantum of flow, for the rapid development of Indian agriculture. According to them, modern marketing infrastructure, processing, value addition, grading, standardization, efficient and modern transportation, modern storage, contract farming, etc. are going to step up the financing requirements of the agricultural sector to drive full benefits from commodity production.

1.6.19 The authors like Debreu (1951), Koopmans (1951) and Farrell (1957, models for evaluating productivity) who for the first time understood and elaborated the concept of relative efficiency. However, as a mathematical programming DEA technique, although based on earlier work of Ferrell, has been used by the researchers in a number of fields since its inception in the year 1978 by Charnes , Cooper and Rhodes (CCR). It is an important non-parametric method of evaluation. In their originating article Charnes, Cooper and Rhodes (CCR) described DEA as a "mathematical programming model applied to observational data (that) provides a new way of obtaining empirical estimates of relations- such as the production functions and/or efficient production possibility surfaces- that are cornerstones of modern economics".

1.6.20 Conservation of the basic natural resources and increasing the purity and quality of human resources have been the compelling considerations for a set of authors and institutions to look for the maximization of production not for indicate years but for a totality of longer period.

1.6.21 Finally, mention must be made of location theories and approaches to local level planning for boosting agricultural production system. About the locational planning, Gustav Ranis, Marc Nerlove, Robert Darfman and Paul Samuelson may be mentioned selectively. Even though most of the writings on local level planning are grossly wanting, AVARD, Misra, Srivastava and the documents of the Planning Commission of Government of India during the fourth plan period merit a mention.

1.7 THE METHODOLOGY

1.7.1 There is no end of diversities of methodologies used in rural studies. The National Sample Survey has used a sample design that uses only sample households on a broad division of rural and urban areas. Such designs are not suitable for analysis of a very large number of variables. A survey like the National Sample Survey can be used only for one or two variables for which its design is consistent. But the pity is that the analysts of the Indian Statistical Institute forget the limitations of the design of that survey and use the data for purposes which a survey of that design cannot serve.

1.7.2 Some experts devised a method of studying modal farms for input-output relations. The method might be useful for obtaining information about the productivity and use of inputs in different areas and serves as a basis for comparison of efficiency of agriculture in different local rural economies. This method can also be used as a basis for the planning of an extension service for farm management. But the method is not suitable for fitting production functions and exercises in quantitative analysis and specially for the local level studies.

1.7.3 Some Indian investigators have resorted to sample survey without a scientific design. They have used only elementary Census data to build a simple sample frame. In many cases about 100 households cover such a sample. The difficulty of such a sample is that since the sample is not stratified on the basis of size of farms, the sample is not good enough for study of variation of output and inputs according to size. Such a sample is also not good for representing productivity and other variables.

1.7.4 Thus we are in need of selecting a methodology that will be more suitable for our type of object. We resort to a two-phase and one stage stratified sample. In the first phase, we have surveyed each and every household of the sample villages ***Ichhamari*** and ***Borokhata*** with a specially prepared household schedule and the number of household is 693. Chapters 3, 4 and 8 are being represented on the basis of these 693 households. In the second phase we have surveyed 100 households from each sample village on the basis of farm size including the land less households for special study on farm activities. These 200 households were

selected on the basis of stratified sampling considering farm size as strata for special study of farms. Chapter-5, Chapter-6 and chapter -7 are being produced on the basis of the results of this stratified sampling. All the information is collected for the period 2008-09 which is synonyms to the traditional agricultural year.

1.7.5 The traditional methods being used are the various sorts of simple and multiple production functions to measure the degree of responsiveness between input used and output raised. The goodness of fit will be the main consideration in choosing among elasticities. The mathematical model of inter-sectoral dependence will be used also with a view to testing how these elasticities computed conform to the elasticities obtained from an inter-sectoral mathematical model. Yet the main insights or confirmation of a priori theories in regard to complementarities an integration of mutually supporting activities, agriculture and non-agriculture.

1.7.6 Among the non-traditional methods that have been used by us involve simple quantification based on a method of abstraction. A multiplicity of these methods can be devised depending on the availability of comparable data either between clusters or between modal units or among a larger number of modal units.

1.7.7 Conceptually, therefore, the framework is not confined to the fixed or current inputs. Nor certain infrastructural facilities or complementary activities are the residual additions. The schema of a problem solving technology being generated within through radical reforms in legislation is an important part of the conceptual framework.

1.8 HYPOTHESIS

1.8.1 The basic hypothesis that has been tested in this research enterprise is that the over centralised nature of planning might open the case of formulation of dynamic plans in a rather less expensive manner and also releases the faster growth of output per capita for the nation as a whole by using the two cheap national resources say land and labour.

1.8.2 The second most important hypothesis that has also been tested is that the local level resources might be so allocated in such a manner that the substitution of

organic inputs for chemical inputs will increase both output and employment in all time periods. This will no doubt increase the organic base of the farm sector and rescue the farm sector from unscientific use of inorganic manure in their production process.

1.8.3 The third hypothesis that we have tested in this study is that a part of gains in productivity have been eating out completely by the increasing cost of cultivation irrespective of price of the produce during the plan era.

1.8.4 It is rather beyond doubt that more than six and half decades of our national planning left a great deal of our nationally inexpensive resources like land and labour unused in this grass-root rural economy. To test this hypothesis is also an important exercise of this work.