

**A STUDY ON STRUCTURE OF  
THE ECONOMY OF UDALGURI SUBDIVISION  
ASSAM**

**by  
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**SUBMITTED  
IN PARTIAL FULFILLMENT OF THE REQUIREMENT  
OF THE DEGREE OF DOCTOR OF PHILOSOPHY  
IN ECONOMICS**

**of**

**North Eastern Hill University  
Shillong  
2005**

# **The North-Eastern Hill University**

April 2005

I, Sri Prasen Daimari, hereby declare that the subject matter of the thesis is the record of work done by me, that the contents of this thesis did not form basis of the award of any previous degree to me or to the best of my knowledge to anybody else, and that the thesis has not been submitted by me for any research degree in any other University/Institute.

This is being submitted to the North-Eastern Hill University for the degree of Doctor of Philosophy in Economics.

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## Acknowledgement

It is a pleasure on my part to express my profound gratitude and indebtedness to those persons who have generously taken their time and trouble to help me during the period of my research work.

First of all, I would like to extend my heartfelt gratitude to my Supervisor Professor S.K Mishra for his generosity and putting his extra efforts to bring my thesis to the present shape. He has extended his able guidance not only to complete the work in time but also he has taught me many of his numbers of analytical arts.

I would like to thank all the respected teachers and office staff of the Department of Economics, NEHU, for their encouraging words, which have been the moral booster for me during my research work.

I extend my thanks to my respected Principal of Tangla College, Mr. U. N. Das, for giving me special support in completing my research work. I also extend my gratitude to my colleagues for their moral support during the time of my research work.

My special thanks are also due to Ashim, Junu, Ruben, Salaman, Akan, Dilwar, Sanjeeb, Shah Jahan and all the respondents who had helped me generously during the time of Primary Data collection.

I also express my sincere gratitude to Aunty, Abhinav and Jignasa for their hospitality rendered to me during my discussions and analysis work with my Supervisor.

Finally, I would also like to thank my wife and two daughters Trinity and Alypia for their endurance and patience with the difficulties due to my absence and financial crisis while I was away from home because of my research work.

..... April  
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## Chapter-I

### An Introduction to Structural Analysis

**I.1. Different Schemas of Structural Analysis :** The objective of this investigation is to understand the structure of the economy, the rural economy in particular, of Udalguri Subdivision of Assam. The structure of an economy comprises the characteristic features of and the interrelationships among its constituent parts and subsystems. These characteristic features and interrelationships typify the economy and give to it a style, an appearance and individuality of its own.

Different economists in the past have studied the structure of an economy, although differently. Perhaps the earliest treatment to the study of the structure of a market-oriented economy is due to Sir William Petty who, in 1691, concluded that there is much more to be gained by manufacture than husbandry; and by merchandise than manufacture (Clark, 1951, p. 395). In the 18<sup>th</sup> Century, the leading Physiocrat Quesnay's *Tableau Economique* visualized an economy as an interacting system of three sectors, identifiable with those of the landowners, the farmers and the artisans, and three economic process-cum-activities - production, distribution and consumption. The lifeblood of this system was a mixture of the produce raised on farms and the articles made by the artisans that circulated in a closed circuit through the three sectors and the three processes/activities (Blaug, 1983, pp. 24-28). At that time the manufacturing sector made a tiny contribution to the income and employment in the economy (the French economy in particular) – the overwhelmingly large contribution was due to agriculture – and therefore the Physiocrats grossly undermined the manufacturing activities.

Katouzian (1980, p. 37) suggests that Friedrich List's descriptive scheme of Agricultural, Agricultural-and-Manufacturing and Agricultural-Manufacturing-and-Commercial stages of economic development can now be explained in

terms of the Primary, Secondary, Tertiary stages associated with the names of Allan Fisher, Colin Clark and Simon Kuznets. Friedrich List considered education, administration and communication to be historically important productive forces. It is interesting that the work of List intellectually led to the stages-of-growth thinking in the 20<sup>th</sup> Century.

Differences felt regarding the overall contribution of various types of economic activities (or sectors) one way or another influenced the writings of the classical 19th century economists. Adam Smith, David Ricardo, Karl Marx, John Stuart Mill, and others essentially accepted the doctrine of "material production" which distinguished productive and non-productive activities on the basis of their proximity (direct involvement) in the creation of physically tangible output.

Adam Smith visualized the economy as a system of economic agents, grouped into labourers, land-owners and the manufacturers by the criterion of ownership of resources, the activities they perform and the rewards they get. This system is market-oriented. For Smith, the market/price system is a mechanism that automatically imposes orderly rules on behaviour of economic agents, which, embedded in an appropriate institutional environment, is capable of harmonizing the pursuit of private interests with the achievement of the social goods (Blaug, 1983, p. 61).

The structure of an economy as the characteristic feature and interrelationship among various classes (labourers, manufacturers, farmers and landlords) became more prominent in Ricardo and subsequently in Marx. In their systems conflict among class interests overrides the harmony visualized by Adam Smith. In a grand outline, the Ricardian view of the economy comprises two classes, the first of the landlords and the second of the manufacturers, peasants and the labourers conjoint. In Marx, however, the two classes are the labourers, and the industrialists, landlords and the peasants combined. In Marx we find an elaborate discussion on production conditions and relations.

The neo-classical revolution diluted the conception of the structure of an economy as the characteristic feature and interrelationship among different classes (of economic agents). The economy was visualized as a two-faceted market, the product market and the factor market. The inputs to the product market came from the factor market and the output of the former went to the latter (factor owners) as income and the consumables. Although the distinction among various types of factors of production was maintained, but the neoclassicists held that the rewards of all factors of production are determined by the same or very similar principles, namely productivity in particular.

Leon Walras formally described the interrelationship between the product and the factor markets in his general equilibrium model (Takayama, 1974, pp. 265-265). He elegantly showed how the quantities of different factors are used in the product market and how the prices of the factors as well as the products are determined and in this process how income is generated and distributed. The main achievement of Walras was to formally demonstrate the existence of equilibrium in the economy, which was well visualized and descriptively stated by Adam Smith.

The comprehensive concept of production became the prevailing one, especially after the publication of Marshall's *Economics of Industry* (1879). The modern national accounting in the Western world has been based on the comprehensive concept that owes much to Marshall. Except in the work of the Hungarian statistician Frederic Fellner and the national income calculations of the USSR and other socialist countries that were based on the Marxian concept, the basic methodology of national accounting is based on the sectoral composition of the economy as outlined by Marshall (Kenessey, 2004).

In the middle of the twentieth century the importance of the growth of primary, secondary and tertiary industries, and of the shifts among them,



were given prominence by Colin Clark (1951). Regarding the terminology itself Clark informs that the term tertiary industries was originated by Fisher (1935) in New Zealand, and became widely known. It took its origin from the titles current in Australia and New Zealand of 'primary industry' for agriculture, grazing, trapping, forestry, fishing and mining, and 'secondary industry' for manufacture. In Australia and New Zealand these terms are not only used in statistical reference books but are widely current in popular discussion. The phrase 'tertiary industries' therefore immediately carries, in these countries, a suggestion of those excluded by the official definition of secondary industries (Clark, 1951, pp. 395-396).

Leontief in his major work on the American economy (Leontief, 1951, 1953) gave an explicit treatment to the study of structure of an economy. Unlike most of his predecessors in the classical and neoclassical traditions who conceived the structure in abstraction, Leontief gave an empirical meaning to it. The economy was conceived as a system of industries with inter-linkages established through the output of the one being used as input by the others. The so-called technical coefficient matrix that summarizes the structure of the economy of concern gives the quantitative description of this inter-industrial dependence. Besides the inter-industrial dependence, the complex of industries draw on the primary inputs (labour and natural resources) on the one hand and serves the consumption needs of the people.

Leontief's treatment to the study of the structure of an economy has multiple facets. In a way, the structure of an economy can be summarized in terms of income proportions generated by different industries. It may also be summarized as the proportion of employment in different industries. Alternatively, the structure may be reflected in the proportion of output used as inputs (intermediate consumption by industries themselves) vis-à-vis being finally consumed by the people. Yet differently, the structure may be conceived as the configuration of complexes of industries with high intra-group linkages and sparse inter-group linkages.

Boeke conceptualized the structure of an economy in the socio-economic dualism. To him, it is possible to characterize a society, in the economic sense, by the social spirit, the organizational forms and the technique dominating it. These three aspects are interdependent and in this connection typify a society, in this way that a prevailing social spirit and the prevailing forms of organization and of technique give a society its style, its appearance, so that in their interrelation they may be called the social system, the social style or the social atmosphere of that society (Boeke, 1953, pp. 3-5). Less developed economies, especially with a history of prolonged colonial rule, often exhibit a simultaneous existence of two (or more) enclaves of socio-economic systems, characteristically and conspicuously different from each other, and each dominating a part of the society, the economy and the polity. These enclaves markedly differ in matters of ownership of resources, production relations, the social spirit, institutions, customs, mores and attitudinal structure, socio-economic and political organization, technological know-how and its application and so on. Of course, between these enclaves there exists a gray zone where distinction may not easily be perceived. This gray zone might be the crucible for integration, but it is equally likely that a colloidal admixture of heterogeneous elements persists for long and camouflages integration process.

Lewis (1954) analyzed the process of economic expansion in a dual economy composed of a capitalist sector (predominantly with profit motive) and a non-capitalist sector (mainly a subsistence economy). In his schema the structure of an economy obtains its configuration in the characteristic features of and interrelation between these two sectors.

Among 20th century researchers Simon Kuznets has been recognized as a foremost authority on studying the structure of economies. In his study "Toward a Theory of Economic Growth" (Kuznets, 1965) he summarized certain findings, based on the review of long-term changes in the structure

of production in the US and other economies. The first was, of course, the shift away from agriculture, as economic growth accelerated. Beyond that, mentions Kenessey (2004), Kuznets wrote in the early 1950s "For the more advanced countries. . .we should also note some significant trends in the distribution of the non-agricultural sectors proper. The shares of mining and manufacturing in the total labor force grew significantly, but the increases have ceased or slowed down during the recent decades. The shares of the transportation and communications industries in the labor force also grew but became stable after World War I or even before; . . . The shares of trade and other service industries, a miscellaneous group including business, personal, professional, and government services, have grown steadily and have continued to grow in recent decades." The basic thrust of Kuznets' finding apparently remained relevant for the 1960s and the 1970s as well and the many analytical points made by Kuznets continue to deserve close attention (Kenessey, 2004; Fogel, 2001).

A series of ten parts of a long paper by Simon Kuznets in *Economic Development and Cultural Change* (Vols 5 through 15 published during 1956-67) almost fully details out as to what one may mean by the structure of an economy. Further, Kuznets (1966) also succinctly defines the structure of economy.

**I.2. Quantitative Aspects of Structural Analysis :** The most traditional measures of economic structure are sectoral shares of the labor force, consumption patterns, and variables measuring income distribution. All three categories have been analyzed in Clark (1951). Kuznets in his long series of papers (published in *Economic Development and Cultural Change*, mentioned before) examined these three categories in more detail and added the analysis of sectoral shares of GDP and some trade-related variables. Chenery and Syrquin (1975) added some more categories of variables: investment, government revenues, education, urbanization, and demographic transition.

In addition to the social variables included in Chenery and Syrquin, a wide variety of other social and institutional characteristics such as fertility rates, central bank independence, and institutional development, etc. are often included in the term "economic structure." Recent research has shown an inclination to include a larger number of variables to quantitatively analyze the structure of an economy.

Gunter (1998) gives an exhaustive review of the literature on quantification of structural analysis. Branson et al. (1998) study the patterns of development based on 93 countries for 25 years (1970–94). They measure economic structure by 45 macroeconomic indicators, such as sectoral shares of the Gross Domestic Product (GDP), trade intensity, and financial market development. Their empirical analysis shows that systematic relationships exist between the level of GDP per capita and 33 macroeconomic indicators.

**I.3. Determinants of the Structure of an Economy :** The structure of an economy evolves over time; it determines economic development as well as it is modified by the level of development the economy attains. Economic development is partly determined by the indigenous conditions and forces, and partly by the exogenous influences including the inflow of resources such as labour, capital, skill, technology, knowledge and information, contingent upon the openness of the economy to such external influences.

Douglass North (1981) holds that the structure of an economy is determined by the resource base, infrastructure, technology and institutions. The substantial content of a socio-economic system lies in its resource base in the short run and the natural endowments in the long run. At this juncture it is pertinent to distinguish between the resource base and the natural endowments. Only that part of natural endowments, which may be harnessed by using the available technology at the disposal of a socio-economic system, can be considered as its resource base. Technological development may be indigenous or imported. When it is indigenous, it is intrinsically consistent with the components of its natal environment.

However, when it is imported, its host environment may modify its effectiveness. Adoption of an exotic technology and adaptation of the host environment to its requirements and functions are time taking processes. They may call for changes in organizational structure as well as the inter-componential bounds that could be full of strife and resistance. Availability of infrastructure facilitates adoption and spread of technology, although it does not make a sufficient condition for that. Development of infrastructure is overwhelmingly capital intensive and time taking process. Besides infrastructure, institutions play a very important role in the development of indigenous technology as well as the adoption of the exogenous technology. To North, institutions are "the humanly devised constraints that construct human interaction" (p. 344); or, the rules of the game in a society. His conception of institutions is similar to that of Thorstein Veblen (1899), includes the moral sentiments of Adam Smith (1759), the *n-achievement* of David McClelland (1961) and *pressures* of Harvey Liebenstein (1966), and foreshadows the legal framework of Richard Posner (1992) and social capital of Robert Putnam (1993, 2000). Some institutions are favourable to development while some others may thwart it. If institutions are not favourable, the extension of the resource base to internalize the natural endowments by using the imported technology may be sluggish and often poorly effective. Nevertheless, if institutions are favourable and such a technology can make a dent, it expands the resource base of a socio-economic system.

**I.4. Structural Aspects of the Rural Economy :** Importance of the rural sector of the Indian economy (in its less developed regions in particular) need not be overemphasized. At the national level, the primary sector contributes to a quarter of the GDP and it employs the  $2/3^{\text{rd}}$  of the main workers. Over  $3/4^{\text{th}}$  of the total population of the country lives in the rural areas. Notwithstanding these figures at the national level, less developed regions overwhelmingly depend on their rural economy for income and

employment since manufacturing activities are yet to flourish there. Nearly 40 percent of the people in the rural areas are living below poverty line.

The primary sector is the mainstay of the rural people in the rural areas. Manufacturing activities are only few and far between. However, a good number of workers are engaged in the tertiary sector. This gives rise to an *hourglass-like occupational structure*, in which the primary and the thin secondary sector hardly warrant a large tertiary sector (Mishra, 2004). In the plains, the main source of income and employment is agriculture and to some extent, animal husbandry. In the hilly regions agriculture is at the primitive level as yet. Shifting cultivation by the slash and burn method is still in vogue. Mining and quarrying using rudimentary methods is only a minor source of income and employment in a few areas.

Even in the plains where settled cultivation is practiced through ages, there is little development of infrastructure for irrigation, supply of inputs like seeds, fertilizers and finance, storage and transportation of the produce to the market and crop insurance. Farmers use the extensive rather than intensive method of cultivation. Due to lack of irrigation facilities and application of primitive technology of farming, agricultural productivity is abysmally low. For example, in the north eastern region the average productivity of a hectare of land is 1.6 tonnes/year of food-grains. On an average a hectare of land supports 10 persons and employs 4 persons. This gives us the per capita share of output as low as 1.6 quintals/year or 13 kg per month. Thus, agriculture provides at most the bare minimum food for subsistence.

**I.4(i). Low Productivity** : The said poor productivity of land is explicable on account of several reasons. First, farming is extensive in nature since only 57 percent of total area under food-grains is sown more than once. Secondly, only 22 percent of the area (almost wholly under food-grains cultivation) is irrigated, which not only discourages an intensive use of land, it also precludes application of fertilizers and use of high yielding seeds as

inputs (Chinnappa, 1977). While the national figure of fertilizer (NPK) consumption is 87 kg/hectare, the NER figure is merely 18.11 kg/hectare. Some 30 percent of the gross cropped area in the region is under high yielding or improved variety of seeds, mostly food-grains. Dependency of population on land is very high, since almost 85 percent of the total population is rural and mostly dependent on farming. According to the Census 2001, 38.69 percent of the rural population is in the category of workers (of which 73.5 percent are main workers and the rest are marginal workers). Of the workers, 62.49 percent are cultivators and/or agricultural labourers. Assuming that the dependency ratio is not significantly different for agricultural workers than their counterparts engaged in the non-agricultural occupations, one may conclude that some 60 to 65 percent of the population is dependent on agriculture alone.

Available statistics regarding the region show that in 1981 the average land holding of a rural household was 1.69 hectares. Due to some 58 percent increase in population during 1981-2001, the average land holding size has reduced substantially. Assuming that the average rural household size is 6 persons, the cultivable land per household now is barely 0.95 hectares, out of which some 70 percent is cultivated for food-grains.

**I.4(ii). Skewed Land Distribution :** But at that, the distribution of land ownership is grossly skewed. In 1981, about 30.51 percent and 22.66 percent households were in 0-0.5 and 0.5-1.0 hectare holding size classes respectively. About 23.83 percent of the households were in the 1.0-2.0 hectare holding size class. Thus, about 77 percent of the farmers had a land holding size that could not possibly provide them anything more than a precarious subsistence.

In 1991, the conditions deteriorated further. In the three holding size classes mentioned above, the percentages of households were 32.16, 22.94 and 23.44 respectively, summing up to 78.54 percent. For more recent years statistics are not at hand, but it may be safely concluded that the

distribution could have become more skewed due to increase in population pressure.

**I.4(iii). Deficient Use of Inputs** : Poverty reinforces itself. While about 4/5<sup>th</sup> of farmers have land holdings too small to cultivate efficiently, their income is too meager to permit savings for investment. Moreover, since cultivation is mostly rain-fed, it is risky to invest one's tiny savings or the borrowed fund. Poor farmers have to be risk-averse. To quote Galbraith (1980, pp. 50-51) : "For the affluent ... farmer crop failure means loss of income. This is disagreeable, but it does not involve physical deprivation ... To the family that lives on the margin of subsistence, however, failure means hunger ... so regarded, risk is not something to be accepted casually. Among the very poor, risk aversion ... is very high and for reasons that are wholly rational."

To poor farmers, investment of borrowed fund in farming is also discouraged by unavailability of investible resources at just terms. The village moneylender often charges very high rate of interest and institutional finance is not easily available. Modern methods of cultivation, therefore, are thwarted due to unavailability of finance (Harris, 1977, p. 152).

There is another reason why poor farmers would prefer to use the traditional farming to the modern one. The traditional farming is largely riskless since it has been tested time and again, and all farmers know it well. The traditional farming is also robust enough to meet the irregularities in input mix and can resist changes in either side (Schultz, 1970, pp. 31-33).

In spite of all risk averse behaviour and allegiance to traditional farming, small farmers often cannot do without borrowing. On account of ceremonial social obligations and quite often for the purchase of a number of necessities from the market, they need money. For this, they have to borrow money from the local moneylenders, who charge an exorbitant rate of interest. To meet the exigencies as well as to pay off the debt, therefore, small farmers



often sell a significant part of their produce just after harvest when prices are at the lowest. Such sales are often called 'distress sales' that make the larger part of the market arrival of food-grains (Sau, 1973, pp. 16-17; Rudra, 1982, pp. 284-294). In the later part of the year, these farmers run short of food-grains and for sustenance they have to purchase them from the market, albeit at much higher prices. For this purpose too, they borrow from the local moneylenders. This cycle is complete in the next year. Thus, small farmers perennially live in debt.

Indebtedness often captivates the productive resources (land and labour) of small farmers. Mortgaging and sale of land, and bondage of labour for the repayment of debt is not uncommon in the rural areas (Rudra, 1982, pp. 64-76; Mitra et al., 1986). In due course, small farmers are reduced to sharecroppers or landless labourers while the larger farmers acquire their lands. This process leads to accentuation of inequality in the rural peasantry.

Small farmers and agricultural labourers often go in for share cropping of the land owned by their better off counterpart. It has been observed that there is an odd against the sharecropper since he gets inferior, distantly located and small plot of land for cultivation (Mishra, 1984, p. 16). Almost as a rule, the sharing of produce of the land under sharecropping is 50:50 between the sharecropper and the landlord although some minor local variations are seen here and there (Rudra, 1982, p. 11). While the average productivity of a hectare of land is 1.6 tonnes (of food-grains) per year, and to cultivate it some 80 labour-days are required, it can be shown that the sharecropper gets no more than the wages of 80 days for cultivating a hectare of land. In fact, when farming is primitive, mostly rain-fed and meant for subsistence, *and* the wage rates of agricultural labourers are at the subsistence level (due to over supply of labour in the rural economy), the labour coefficient of agricultural production ensures that a half of the produce is given to the landlord and the other half remains with the sharecropper. What remains with the tenant sharecropper is the opportunity cost of cultivation - the income foregone that would have accrued to him if

he worked as a casual labourer for as many days as he worked for cultivating the land. The surplus over that cost goes to the landlord. In this sense, a sharecropper is an agricultural labourer in disguise.

**I.4(iv). Low Marginal Productivity of Labour :** It is often held that the marginal productivity of labourers in the rural economy of India (especially on small farms) is very little or zero. Lewis (1954) observed that since the marginal productivity of labourers in the subsistence sector is zero, a large number of them may be withdrawn to work for the development of the social overhead capital, without adversely affecting the agricultural output. The hypothesis of zero (or near-zero) marginal productivity of labourers in the subsistence sector is plausible due to many reasons. First, while almost 70 percent of cultivators have very small land holdings, the average size of the family is 6 with two (or more) working members. The small piece of land cannot keep them productively engaged throughout the year. Secondly, they do not have any avenue to be employed elsewhere in the off seasons. Yet, in the peak seasons of farming, they are inadequate to meet the demand and thus wage labourers are employed. The short lived spurt in demand for labour in the peak season followed by a long stretched off season explains why the overall near-zero productivity of labourers coexists with the subsistence wage rate for the hired labourers. That is why some authors (who count for the productivity of labourers only for the farming period, not on the overall annual basis) have found that the near-zero marginal productivity of labourers in the subsistence sector is only a myth. It has been found that on (nearly) 80 percent of farms the marginal productivity of labourers exceeds their wage rates. (Rudra, 1982, pp. 226-228).

**I.4(v). Inefficient Large Farms :** So far we delved on the plausible reasons of low productivity on small farms. Turning to larger holdings we find that these too are inefficiently cultivated. Big farmers very often hold land just as a portfolio asset rather than a productive resource. In the rural areas, land ownership is also a prestige symbol (Sau, 1973, p. 64; Srinivas, p. 110). Moreover, Larger holdings are in distantly scattered small plots of

land, often so due to distributive inheritance, random and ubiquitous acquisition, and lack of mutual agreement for consolidation. That makes mechanization impossible. Management and supervision of cultivation by the landowner on such holdings is often deficient. Further, availability of hired labourers in the farming season is constrained. Lack of marketing facilities and necessary infrastructure are the additional factors to keep the productivity of these holdings low, sometimes lower than that of the smaller holdings. This fact has been recorded as the inverse relationship between productivity and the holding size (Bharadwaj, 1974, p. 12). However, in the areas where big farmers have gone in for market-oriented farming and use of modern methods of cultivation larger farms are more productive and efficient (Rudra, 1982, pp. 150-177).

Market-oriented farming cannot prosper unless infrastructure is well developed to facilitate irrigation, electrification, transportation and storage on the one hand and supply of inputs and finance on the other. Additionally, it requires insurance. In less developed areas such as the North-eastern Region (and many other parts of the country), infrastructure is terrible deficient. A good harvest often leads to over supply in the local markets depressing the prices too low to be remunerative. At that, poverty constrains the demand to be deficient. As a result, enthusiastic farmers cut a sorry figure. That mars the very spirit of enterprise in farming.

In short, prevailing conditions have constrained the rural economy in less developed regions to function at a low level of equilibrium. Small farmers as well as big farmers are inefficient, although due to different reasons, at differently unbalanced input mix, at variance with the optimal mix necessary for efficient production. The structural analysis of a rural economy has to address the issues outlined above.

Daimari, Prasen (2005) A Study on Structure of the Economy of Udalguri Subdivision, Assam, Doctoral Dissertation, Dept. of Economics, North Eastern Hill University, Shillong (India)

## **Chapter-II**

### **A General Description of the Study Area**

#### **II.1. Location and General Characteristics**

The study area, i.e. Udalguri Sub-division, is one of the two sub-divisions (Mangaldai and Udalguri) of the Darrang District of Assam. The whole district of Darrang with its two sub-divisions - Mangaldai and Udalguri - is situated on the Northern bank of the river Brahmaputra. The extent of the Sub-division lies between 26°9' to 26°52' Latitudes and between 91°45' E to 92°22' E Longitudes. The Udalguri Sub-division is bounded by the Himalayan Kingdom of Bhutan in the North, the Brahmaputra river in the South, river Paasnoi, separating Darrang from Sonitpur, in the East and the Mangaldai Sub-division in the West. This sub-division covers a geographical area of 1914.80 square kilometers, and is constituted by 3 (three) Revenue Circles namely Udalguri Circle, Mazbat Circle and Dalgaon Circle-II. Under these three circles there are 534 villages (according to 1991 Census).

According to 1991 Census, the total population of the sub-division was 485091, out of which 457663 (94.35%) live in rural areas and only 27428 (5.65%) live in towns. The Scheduled Tribe population was 94921 and Scheduled Caste population was 12221; the rest was the General population. Thus, 19.57 percent of the total population was of S.T. category, 2.52 percent was of S.C. population in the area. Among the scheduled tribe population, majority belong to the Boro-Kachary group. The literacy rate in the area is 24.35 percent.

In 2001 (Census), population of the sub-division increased to 712199 persons (46.82 % increase over 1991), out of which 679519 (95.41%) lived in the rural areas while 32680 (4.59%) persons lived in the urban areas. Evidently, the process of urbanization during the decade (1991-2001)

decelerated. Details of population and its occupational distribution are given in table II.2.3.

The sub-division has only two urban areas, which are Udalguri and Kharupetia towns. Other areas are classified as rural areas. The infrastructure facilities in the area, especially in the rural areas, are very poor. A railway line, facing East-West direction, passes through the heart of the subdivision headquarters having three stations at Udalguri, Rowta and Mazbat. A few inhabitants of the northern part of the subdivision are benefited by it. A National Highway No. 52 measuring a length of 35 kilometers runs through this subdivision touching some small towns like Kharupetia, Dalgaon, Rowta and Orang. A pucca road connects the subdivision with the National Highway at Rowta in the East, another with Bhairabkunda, the bordering town with the neighbouring Bhutan, and yet another pucca connects the western part of the subdivision and also some parts of the Mangaldai Subdivision. The total length of these three roads is approximately 40 kilometers. Very few roads between different places and villages within the subdivision are graveled and most of them are un-graveled roads and not motorable. Even some of the graveled roads are not in a motorable condition. Many factors are responsible for it, some of which are: many rivers are flowing through the subdivision which erode the roads as well as bridges during rainy season; negligence on the part of the government to take necessary steps to improve the conditions of roads of the area; socio-political unrest of the people leading to the destruction of some of the roads and bridges, etc. So, most of the remote villages remain cut-off from the towns and other parts of the world during rainy season. The total length of the graveled road is 60 kilometers and the rest of the roads are un-graveled (kutcha) roads.

Another most important infrastructure facility, which is lacking in most of the villages of the subdivision, is electricity. Apart from the town areas, this facility can be said to be absent in the rural areas. Only 258 of the total villages of the subdivision are fully or partially electrified and the rest have to

still live in darkness. Even in the electrified villages power supply is pitifully irregular.

There are 21 hospitals, 6 Medical Centres for Women, 5 Health Centres, 27 Primary Health Services, 1 T.B. Centre and 3 Primary Health Centres in the subdivision. These facilities are scant in the remote villages, and even if the facilities are available, the medical officers remain absent through out the year. So, it is evident that the provision for health facilities in the subdivision is very poor. There are 3 veterinary hospitals to look after the health conditions of the domestic animals.

There are 524 primary schools, 52 middle and 29 high schools in the rural area of the subdivision. There are 4 colleges within this subdivision out of which 2 are in rural area. The number of post offices in the area is 51 out of which 5 post offices have telegraph facilities too. These facilities are situated at the town or semi-town areas. The rural people are not used to communication system for their economic development. They hardly use postal services, telephones, telecommunications, etc. in their economic endeavor.

There are 6 Banks and 2 other financial institutions, like Grass-root Finance, in the study area. These are also located at the town centres and are out of the reach of the rural masses. Very few literate people and businessmen make use of these financial institutions. There is only 1 Multipurpose Society in the study area. The credit facilities offered by this society are indeed insignificant.

## **II.2. Occupational Structure**

Labour is the primary factor of production. It is considered to be important not only because it is productive but also because it activates other factors and makes them useful to production purposes. Therefore, the size of labour force of a country or region is of crucial importance for its level of economic activity. The number of people in the age group 15–59 determines this size,

as generally children below 15 years and old people above 59 years do not participate in productive activity. Further, all persons constituting labour force do not undertake productive labour. Such people who voluntarily keep themselves out of productive activity are not included in labour force. Hence, the size of labour force depends on the worker participation rate, which refers to the ratio of the total number of persons actually doing work, or looking for work, to the total population. In India, 37.46 percent of the population constituted labour force in 1991. In 2001, the labour force (workers) constituted 39.26% of the total population. As against this, worker population ratio reflecting the labour force was 45 per cent in UK and 50 per cent in Japan. On the other hand, the labour force (workers) constituted only 31.95% of the total population in Udalguri subdivision (Census 2001).

By occupation, the total population of the area can be divided into workers and non-workers. The workers are those who participate in the economic activities and the non-workers constitute the dependent population of the society. Greater is the number of non-worker population higher is the dependency ratio. The total workers can again be sub-divided into main workers and marginal workers.

Collection of data on occupational distribution of population in rural area, especially that of an underdeveloped region, is problematic because a large section of the population in these areas does not perform a single specialized work. People often do more than one work and keep on moving in and out of agriculture and non-skilled jobs. For example, in these areas a large number of people working in the unorganized sectors in urban areas returns to their home (villages) to participate in sowing and harvesting operations along with other members of their families. This is particularly true of the construction labour, which temporarily migrates to cities when it is free from farm operations. The lack of clear-cut specialization thus makes it difficult to classify population accurately on the occupational basis. Under these circumstances, a person's occupation can be decided only on the basis of his principal source of income.

The total number of working population in the rural area of the subdivision is 182857 (37.70%) and the number of non-working population is 274806 (56.65%). Out of the total workforce, 144504 (79.03%) are the main workers and 38353 (20.97%) are the marginal workers. Male workers constitute 66.79 percent, while female workers account for remaining 33.21 percent. Again, 60.91 percent of the total female workforce is marginal worker and only 39.09 percent constitutes the main workers. Thus, the working population of the study area is constituted of only 39.95 percent of the total population, against 44.12 percent in case of the District of Darrang as a whole, out of which 31.57 percent is the main workers and 8.38 percent, the marginal workers. So, practically 60.05 percent of the total population depends on the 31.57 percent of the main working population. Thus, one person has to support almost two non-working persons. (Table II.2.1).

Table. II.2. 1: Distribution of the Rural Population of Udalguri and Mangaldai Subdivisions into Main Workers, Marginal Workers and Non-workers.

Subdivision	Population (Rural)	No. of Workers	Main Workers	Marginal Workers	Non-Workers	Ratio of Workers to Non-workers
Mangaldai	777213	320035	242763	77272	457175	0.67
Udalguri	457663	182857	144504	38353	274806	0.67

Source: Rural Primary Census Abstract, 1991, Directorate of Census Operation, Assam.

Broadly speaking, various occupations can be classified into three categories, viz., primary, secondary and tertiary. Agriculture, forestry, animal husbandry, fishing, poultry farming, mining and quarrying are considered to be primary occupations. In relatively backward countries, a large portion of the population remains engaged in these activities. Economies of the presently developed countries were essentially agricultural in the earlier stages of their development. In some of the developed as well as underdeveloped countries, fishing is an important economic activity. In Japan, Norway and England it provides employment to a substantial number of people. Denmark and Argentina are famous for animal husbandry,



dairying and poultry farming. Forestry is an important activity in Canada and Myanmar. Considering all the primary activities together, dependence on them for employment is much greater in underdeveloped countries than in the developed ones. This is due to the fact that as a backward economy grows, importance of manufacturing activities gradually rises and consequently, the importance of primary activities declines.

Manufacturing industries and small scale and cottage industries are included in the secondary sector. The secondary sector is invariably small in the Third World countries and absorbs only a small section of the labour force. This phenomenon clearly reflects the backward nature of the economy. Since handicrafts and other small-scale industries do not require capital-intensive technology, they can provide employment to more people as compared to large-scale industries. At the same time, due to low productivity, per capita real income of the people employed in the small sector remains low and the national income per capita rises only when large-scale industries displace small-scale industries.

Trade, transport, communication, banking, insurance, etc., are included in the tertiary sector. Kuznets (1979, p-86) and Colin Clark (1951) prefer to call them service industries. Generally productivity in the tertiary sector is as high as in the manufacturing industries and sometimes even higher than that in the latter. Hence, transfer of population from primary industries to secondary and eventually to tertiary activities is considered a reliable index of economic progress. Nevertheless, in some underdeveloped regions tertiary sector may grow disproportionately larger than the manufacturing sector. Such development is unbalanced and often fragile.

In the study area, main workers are engaged mainly in the primary sector, which covers cultivators, agricultural labourers, animal husbandry, fishery, plantation, orchards and other allied activities and mining and quarrying. The number of workers engaged in other sectors like secondary sector, covering manufacturing, processing, servicing, and repairing, construction; and

tertiary sector covering with its transport, communication, storage, trade and commerce and other services; are very less as compared to that of the primary sector. The percentage of workers in the primary sector, out of the total main working population, is 88.30 out of which 57.31 percent is

Table II.2..2 : Sector-wise Distribution of  
Main Working Population of the Study Area, 1991

Industrial Category/Occupational Distribution	No. of Workers	Percentage to Main Workers
A. Primary -----	127600	88.30
1. Cultivators	82822	57.31
2. Agricultural Labourers	29730	20.57
3. Livestock, Forestry, Fishing, Hunting, Plantation, Orchards and Allied Activities.	15022	10.40
4. Mining and Quarrying	26	0.02
B. Secondary -----	2744	1.96
5a. Manufacturing, Processing, Servicing and Repairing in Household Industry.	633	0.44
5b. Manufacturing, Processing, Servicing and Repairing in Other than Household Industry	1332	0.92
6. Construction	869	0.60
C. Tertiary -----	14068	9.74
7. Transport, Communication and Storage	829	0.57
8. Trade and Commerce	4578	3.17
9. Other Services	8663	5.99
Total	144504	100.00

Source: Rural Primary Census Abstract, 1991, Directorate of Census Operation, Assam.

cultivators, 20.57 percent is agricultural labourers, 10.40 percent is engaged in livestock, forestry, fishing, hunting, plantation, orchards and allied activities; and only 0.02 percent, in mining and quarrying. In the secondary sector, percentage of workers is 1.96 of the total main working population, out of which 0.44 per cent is in manufacturing, processing, servicing and repairing in household industry, 0.92 percent in manufacturing, processing, servicing and repairing in other than household industry, and 0.60 percent in

construction works. The percentage of workers in the tertiary sector is 9.74, which is a little better off than that of the secondary sector. Out of the total workers in the tertiary sector, 0.57 percent is in transport, storage and communication, 3.17 percent in trade and commerce and 5.99 percent in other services. These data reveal that, there is a phenomenon of overwhelmingly high percentage of workers in the primary sector and disproportionately small percentages in secondary and tertiary sectors in the study area. (Table II.2.2).

From the forgoing description we can draw the following distinguishing features of the labour force of the study area, which are also common to that of the labour force of Assam and India as a whole.

- a) The percentage of working population ratio is very low in the area, which means that the dependent population is higher than the working population. This is due to rapid growth of population, low female participation in labour, under- enumeration and omission of unpaid family workers even when, according to the accepted concept, they are to be classified as workers.
- b) The rural worker population ratio is greater than the urban worker population ratio as, in agriculture, almost all adult members of the household participate in work while in urban areas many women do not work due to social inhibition, lack of avenues to remunerative work and low wage rates.
- c) The female worker participation rate in the area is much lower as compared to male worker participation rate, which reflects the conditions of social backwardness in the area.
- d) Worker participation rates are almost same in the two indigenous-people dominated circles, i.e., Udalguri and Mazbat, but considerably different in Dolgaon circle where most of the inhabitants are Muslim immigrants. Because, female participation in economic activities

among these communities is almost absent, but almost no male workforce remain idle.

Table II.2.3 : Population and its Composition in Udalguri Subdivision (Census 2001)

Occupation	Udalguri		Dalgaon		Mazbat		Udalguri Subdivision	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Persons	178027	14897	391575	17783	109917	0	679519	32680
Male	91308	7737	201398	9410	56157	0	348863	17147
Female	86719	7160	190177	8373	53760	0	330656	15533
Workers	69845	4415	108435	5801	39059	0	217339	10216
Male	47048	3732	95125	5206	27902	0	170075	8938
Female	22797	683	13310	595	11157	0	47264	1278
Cultivators	34725	122	48525	21	12219	0	95469	143
Male	24981	112	44519	17	10908	0	80408	129
Female	9744	10	4006	4	1311	0	15061	14
Agricultural Labourers	14525	64	26404	14	3745	0	44674	78
Male	8478	53	23596	12	2774	0	34848	65
Female	6047	11	2808	2	971	0	9826	13
Household Industries	2373	155	2399	89	1228	0	6000	244
Male	763	98	1515	50	306	0	2584	148
Female	1610	57	884	39	922	0	3416	96
Others	18222	4074	31107	5677	21867	0	71196	9751
Male	12826	3469	25495	5127	13914	0	52235	8596
Female	5396	605	5612	550	7953	0	18961	1155

### II.3. Impediments to Radical Changes in Occupational Structure

From a careful study of the economic history of the various countries, where occupational structure has undergone a significant change in a relatively short period, one would realize that the contribution of three factors, viz., a rapid decline in the rate of population growth, considerable increase in labour productivity in agriculture and a spurt in growth of industries, were the

foremost. But, in case of the backward rural areas, or in case of India as a whole, none of the above three factors have been significant during the last four decades. In the *first* place, instead of declining, the population growth rate increased so much during the above-mentioned period that the decision makers in the government and also the Planning Commission were taken by surprise. On the assumption that the rate of population growth would remain below 2.0 per cent per annum, the Planning Commission in the mid-fifties had hoped that by 1975-76, the proportion of agricultural labour force to the total labour force would come down to 60 per cent or so. These calculations were, however, upset as a result of population explosion. During the last three decades attempts, particularly through family planning programmes, have been made to bring down the rate of population growth, but the success has eluded the country so far. This is due to lack of correct approach towards population problem.

*Secondly*, even now the agriculture, in these areas, is very much traditional and the productivity of labour in it is very low. During the last four decades of planning increase in labour productivity in agriculture has been meager. Arise in labour productivity widens the market for manufacturers in the rural sector, which in turn, provides inducement to industrialization. In India, particularly when pace of industrial growth had slowed down during the period from 1965 to 1980, a rise in agricultural productivity had become an absolutely necessary condition to break the stranglehold of stagnation. Under these circumstances, massive investment in industries can create only the capacity with little employment multiplier potential. Therefore, raising the agricultural productivity at this juncture is a vital necessity and unless this front is tackled both imaginatively and boldly, the existing occupational structure cannot be expected to change.

*Finally*, the industrial sector is totally absent in the rural areas of this subdivision. This is due to the failure on the part of the central and state governments. The central government's policy of reliance on the trickle down Effects has proved to be wrong as a result of which the concentration income

and wealth could not be removed and the market for industrial goods remained limited to a few elite groups, keeping the poor people living in the villages away from such industrial establishments. In such a situation, one cannot expect redistribution of occupational structure in any rural areas like that of our study area.

Daimari, Prasen (2005) A Study on Structure of the Economy of Udalguri Subdivision, Assam, Docoral Dissertation, Dept. of Economics, North Eastern Hill University, Shillong (India)

## **Chapter-III**

### **Methodology of Data Collection and Analysis**

#### **III.1. Introduction**

In Chapter-I we discussed how different economists visualized the structure of an economy. Three types of visualization are discernible : (1) Quesnay-Walras-Leontief scheme, (2) Marshall-Fisher-Clark-Kuznets scheme, and (3) Marx-Veblen-Boeke-Lewis scheme.

The Quesnay-Walras-Leontief scheme visualizes the structure of an economy in terms of inter-industrial transactions, summarized into the so-called technical coefficient matrix and the vectors of primary inputs and final demand including the vectors of import and export. Among the various sectors of the economy, the primary sector makes only a very small sub-matrix of the entire technical coefficient matrix. For a small rural economy that has only a few productive activities relating to agriculture and animal husbandry, this scheme of structural analysis is of little importance. Not that a Quesnay-type transaction matrix cannot be constructed empirically, but its efficacy to yield any significant results of analysis is questionable. Moreover, a small rural economy such as ours (study area) is widely open with reference to its size. People spend nearly a 2/3<sup>rd</sup> of their income on purchased commodities. The origins of these commodities sold in the market are too dispersed to be accounted for. A good number of workers are in service and thus supply labour to the system external to the rural economy of the study area. Apart from this, unlike the industrial establishments, the rural people do not keep account of the sources of inputs and the destination of the output. Lack of information, therefore, will come in the way of making any useful inter-industry transaction matrix for the rural economy of our study area.

On the other hand, the Marx-Veblen-Boeke-Lewis scheme is based on the dualistic structure of varied types, often cutting across each other. In the

Marxian schema the economy consists of the interrelationship between two classes – the proletariat and the bourgeoisie/capitalists. The capitalistic production relations, generation of surplus value and its appropriation are the main object of analysis. In Veblen's schema, the economy consists of two classes – the working class and the leisure class, which are akin to the two classes in the Marxian schema. The leisure class patronizes a particular type of values that are best described in terms of pecuniary canons of taste, conspicuous consumption, vanity, wasteful use of scarce resources, etc. On the other hand, the working class emulates the leisure class. Unlike in the Marxian schema, the leisure class (who owns most of the non-human productive resources in the economy) is not so much interested in building up capital by an accumulation of the surplus value extracted from the working class; on the contrary, it indulges in spending the surplus lavishly. Therefore, economic progress is not due to capitalistic accumulation of wealth and its reinvestment, but due to hard labour of the working class and the ingenuity and the instinct of workmanship inherent to the technocrats.

In the rural economy of an undeveloped region we hardly meet with the dualistic class structure in either schema. Even the richest in the area do not belong to the capitalists or the leisure class. Of course, generation and exploitation of surplus value is there. The rudiments of leisure class culture, emulation, etc also are there. As a matter of fact, tendency to 'sanskritisation' observed by Srinivas (1979) is very close to 'emulation' of Veblen (1899). However, these schemas will not be very appropriate to study the structure of the rural economy of our study area.

The Boeke-Lewis dualism also is not very distinct in our study area. The rural economy under study is almost entirely subsistence-oriented. We do not have two clear-cut enclaves, each with distinct structure, to prompt us to adopt this schema too.

Therefore, we go by the Marshall-Fisher-Clark-Kuznets schema of structural analysis of the rural economy of our study area. This schema is adopted by



most of the economists who divide the economy into different sectors and go in for income accounting in these sectors. Apart from studying the structure emerging from the relative contributions made by different sectors to the total income, this schema also analyses participation of the work force in, and consumption of the products of, different sectors of the economy. It also studies the distribution of income among different classes defined in terms of the ownership of various factors of production.

**III.2. Objectives and Hypotheses :** To reiterate, our objective in this investigation is to understand the structure of the economy, the rural economy in particular, of Udalguri Subdivision of Assam. The structure of an economy comprises the characteristic features of and the interrelationships among its constituent parts and subsystems. We have visualized the structure of an economy according to Marshall-Fisher-Clark-Kuznets schema. Therefore, we will make an attempt to know as to how people in the study area participate in different types of occupation; how much and what percent of their total income accrual is from which occupation (sector); how they spend, save and invest; how income is distributed among them, etc.

As to the hypotheses, we will investigate into as many relationships as described in chapter-I (section 4). In particular we will concentrate on testing the following hypotheses:

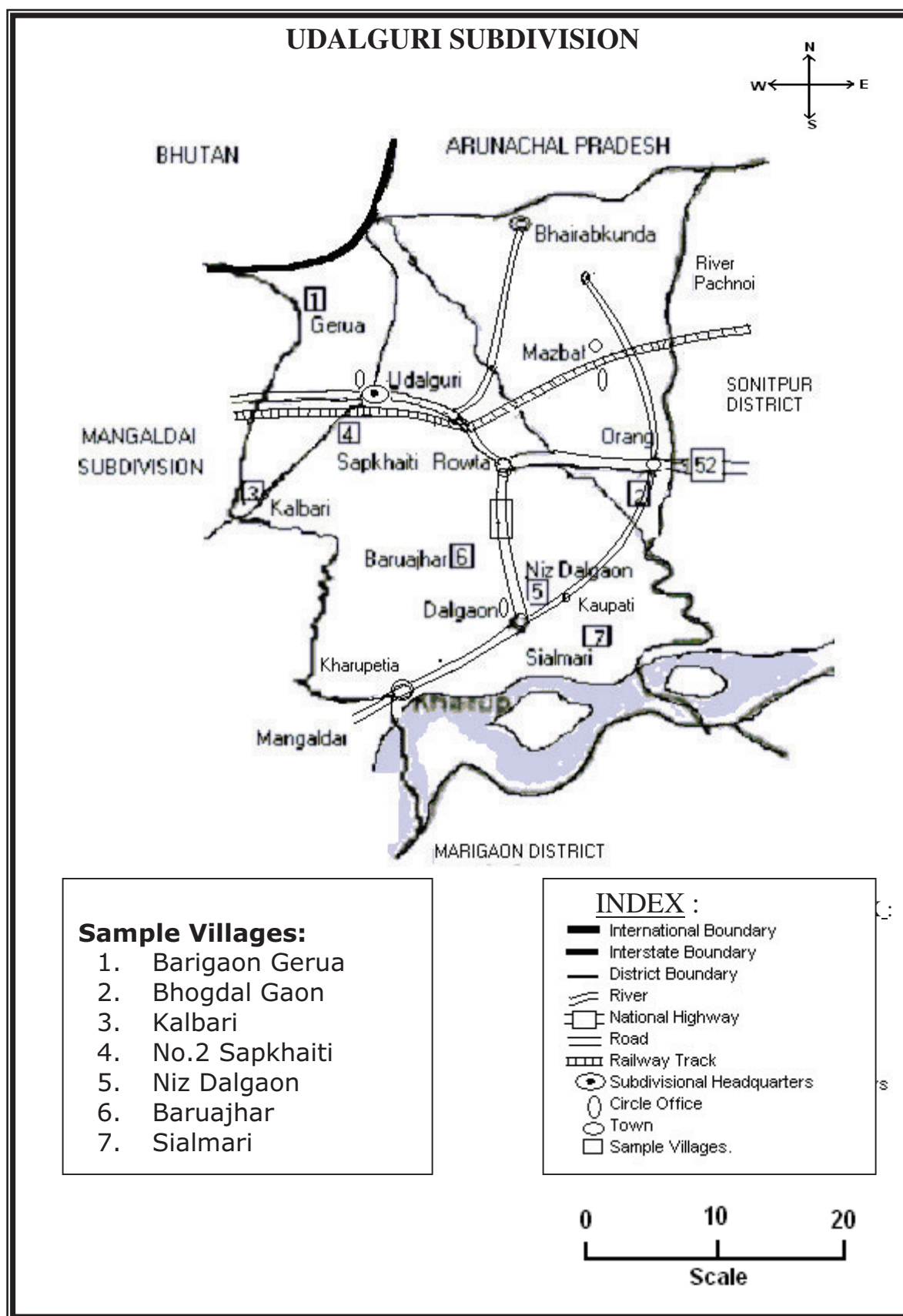
1. No less than 50 percent of the total income accruing to the households emanates from the primary sector,
2. The occupational and the sectoral income distribution is hourglass shaped; the secondary sector contributes to the total income only meagerly, not more than 10% of the total.
3. The majority of farmers (not less than the  $2/3^{\text{rd}}$  of the total) practice the traditional agriculture.
4. Agricultural productivity is so low that it cannot provide more than subsistence level income (according to ILO, subsistence income per month can buy just 2 quintals of the cheapest staple food-grain and no more) to at least  $1/3^{\text{rd}}$  of the total number of cultivators.

5. Wage rates in the rural economy provide to the labourers the subsistence income at the most.
6. Poverty among the rural people in the area is much more intense than in the state of Assam (as well as in India).
7. The average propensity to consume is very large, at least  $2/3^{\text{rd}}$  of the disposable income.
8. An overwhelmingly large part of the consumption expenditure is allocated on necessities, not less than  $2/3^{\text{rd}}$  of the total expenditure.
9. Proximity to towns alters the consumption pattern of the rural people in favour of durable goods, conspicuous consumption and modern services.
10. Cultural and institutional variables influence the economic performance of the rural people.

### **III.3. The Scheme of Data Collection :**

Data from the secondary sources that would help us to analyze the structure of the rural economy of our study area are not available. The Census data limit themselves to the occupational distribution of population (workers). Moreover, the available data relate to Census 1991, depicting the economic conditions far off from the present ones. (At the time of our survey for data collection, the figures thrown up by the 2001 Census were not available).

We planned, therefore, to collect the relevant data through a primary survey, by visiting the households ourselves with a detailed questionnaire. This method of obtaining data has strong as well as weak points of its own. On the one hand, it is not possible for an individual to visit a very large number of households in the villages scattered in a large area and perforce, the sample size must be kept at its modest level. On the other hand, the opportunity given by meeting the households in person provides a great scope for an in-depth investigation. Details on farming practices, inputs, productivity, income from various sources, consumption expenditure, family size, etc can be obtained from such an enterprise.



**III.3(i). Selection of Sample Villages** : Udalguri subdivision had 534 villages (according to the Census 1991). We decided to select seven villages from them for which a number of considerations were made. Our main concern was to ensure variability in data. At the village level a number of factors determine variability, viz. connectivity by road, distance from the township, availability of power (electricity), population size of the village, community structure (whether inhabited by a single community, diverse communities, communities of different socio-cultural characteristics, etc). The role of these factors in determining the structure of a rural economy is well known. Connectivity by road and distance from a township influence availability of inputs, disposability of output, consumption pattern, approach to education and information, etc. which, in turn, determine the economic structure of the village. These two factors also influence prices of various inputs as well as the output produced in the village. Availability of power influences productivity and cost structure on the one hand and the consumption pattern on the other. Today when almost every implement/equipment and durable consumer goods have become electrical and or electronic, unavailability of power in a village seriously jeopardizes its prospects in the spheres of production as well as consumption.

Communities are different only because they hold different ethos in their social and economic conduct. The world-views, perspectives and predispositions of different communities are different. Behind the world-view of a community there is long chain of historical experience accumulated in collective subconscious, which determines its conduct in the personal, communal and inter-community spheres. Accordingly, some communities have strong inter-familial bounds within, but they prefer to interact with the members of other communities as little as possible. Certain other communities are much more open to the others. Participation of womenfolk in the economic activities, especially if outside the home, is deprecated in certain communities, but the other communities have no cudgels against that. Certain communities do not participate in various occupations with a

sense of indifference while the other communities have a predisposition to certain occupations. Certain communities spend lavishly on social and religious occasions, but certain other communities are prudent there.

Villages that are inhabited by several communities are likely to exhibit different characteristics than those inhabited by any single community. While diversity and interaction among different ethos may give rise to a composite of ethos, taking the best from all, that has greater adaptability in the changing socio-economic conditions, it is equally possible that these interactions go astray to produce a conflict, arresting the potentialities in each of them. On the other hand, single community villages may resist to changes from outside and remain more traditional in the outlook, or if proper and dynamic leadership is available, such villages may pick up much faster pace of development than the multi-community villages.

Keeping these considerations in mind, we planned to select villages some of which are nearer to the towns while others are farther from the town. Similarly, some villages are inhabited by a single community, while others are inhabited by multiple communities. Again, some are electrified and others are not. Some are linked by a good road while others are only poorly connected by 'cutcha' road, often non-motorable in rainy seasons.

To keep the number of villages (emerging from the combination of the four criteria mentioned above) under manageable limits, we had to go in for some sort of confounding, where two or more criteria are simultaneously satisfied. Such confounding surely leads to complications, but the practical aspects of data collection dictated us to go ahead with such confounding.

In the beginning we thought of randomly selecting 30 households from each sample village. Our stand in fixing the number of sample households from each village (irrespective of the total number of households residing in the village) rests on two considerations. Firstly, we are more concerned with the overall economic structure than the structure of each village economy. The

frequency distribution of villages (in the study area) according to the population size suggests that small villages are many in number while large villages are only few and far between. If we select sample households in proportion to the total number of households in each village, our sample will be overwhelmingly dominated by the households from a couple of large villages. This will distort the overall composition of data collected by us. Secondly, it is expected that the inter-relationships among different variables in every village are more stable than the values of those variables themselves. A sample of thirty households would capture the inherent inter-relationships among different variables and while larger samples are always preferred to smaller samples, the size of thirty is dependable enough.

We began with six villages. The first visit to these villages, especially Barujhar, suggested us that we should add one more village to our sample and in addition to collecting information from the households in Barujhar, we should collect information from Sialmari also. Sialmari and Barujhar both are inhabited by the Mohammedan (non-tribal) households immigrated from Bangladesh. Both of these villages have shown some signs of modernization and commercialization of agriculture in spite of unavailability of electricity. We compromised on reducing the number of sample households from Niz Dalgaon, a relatively large village inhabited by the Assamese community and allocating them to Sialmari. In this process, the sample size in Niz Dalgaon was reduced to 22, while the sample size in Barujhar and Sialmari was 20 (each). By this reallocation, we also came closer to the representation of each community at the sub-division level. In the sample, we have Boro households (51.65%), Mohammedan households (21.98%), Assamese households (15.38%), and other communities such as Tea Gardeners, Bengalis, Nepalis, etc. (10.99%). Details of the sample size from each village with its characteristics are given in table III.3.1. During our first visit to these villages, we also prepared a complete list of households for each village, identifiable by the name of the head of particular households. In doing so we did not face much difficulty except in

Bauajhar and Sialmari. We also found that, in these two villages, the numbers of households were much more than the impression we had got from the Census 1991 and the Circle office information. As a matter of fact, many households settled in these villages only after 1991.

Table III.3.1: Salient Features of Sample Villages

Sample Villages	No. of house-holds		No. of Sample House-holds	Communities Living in the village	Distance from Sub-divisional Head quarters (kms)	Distance from the nearest town (kms)	Electrification
	1991	2002 \$					
Barigaon Gerua	49	53	30	Boros	15	15 (U)	No
Bhagdal Gaon	163	186	30	Many*	35	3 (O)	Yes
Kalbari	89	107	30	Boros, Assamese	15	15 (U)	No
Sapkhaiti-2	46	42	30	Boros	3	3 (U)	Yes
Niz Dalgaon	236	372	22	Assamese	35	3 (D)	Yes
Baruajhar	349	777	20	Muslims	30	7 (D)	No
Sialmari	96	154	20	Muslims	45	8 (K)	No
All Villages	1028	1691	182	-----	-----		-----

\* Inclusive of Boros, Assamese, Nepalis, Tea gardeners and Bengalis; U = Udalguri, O = Orang, D = Dalgaon, K = Kharupetia. \$ = As enumerated by us on our first visit to the villages.

**III.3(ii). Random Selection of Sample Households :** Having decided the sample villages and the number of samples to be drawn from each village, we went ahead to draw random samples from these villages. As mentioned earlier, we had already enumerated the households in each village (with the name of the head of the household). Next, we arranged the households in an ascending lexicographic order of the name of the heads of households and assigned to them a serial number 1 to  $N_i$ . Then, uniformly distributed random numbers lying between 1 and  $N_i$  (inclusive) were generated for each village. Here  $N_i$  is the total number of households in the village  $i$  ( $i=1,2,...,7$ ) as found in our enumeration. These random numbers indicated as to which

households to survey in each village. Since there cannot be any relationship between the lexicographic ordering of names and the random numbers generated by us, we hold that every household (in a village) got an equal chance of being selected.

**III.3(iii). Data Collection :** In the second visit to the villages we served a detailed questionnaire to the (randomly chosen) head of the respective households in each village. In most cases they were to be explained as to what information we needed from them. Sometimes the respondent had to seek assistance of other members of the family to give the information. Generally we could fill in two (occasionally three) questionnaires per day. Every evening, after filling in the questionnaires, we crosschecked the information for consistency, and in case of some inconsistency, we met the respondents on the subsequent day and removed the inconsistencies. The program of data collection for a village lasted for some 16 days on an average, albeit with intervals of a few days during the span. Occasionally, we could not meet some head of the household. But meeting him on some other day was not a problem. We could collect data from all the seven villages in a little over six months. The period was from December 2002 to June 2003.

**III.3(iv). Tabulation of Data :** From the questionnaires we transferred data to spreadsheets (Microsoft Excel) in 182 rows (one row for each household) and varying columns (one column for each variable) in different sheets (one sheet for each conceptual category, whose variables are closely interconnected and covered by a head in the questionnaire). The first four items of the questionnaire were related to identification. From Q.05 to Q.31 were relating to the items/ item groups as given below:

Q.No.05: Number of Family Members, sex, age, educational standard, occupation, etc.

Q.No.06: Number of Employees in the household.



- Q.No.07: Property Income (per year)
- Q.No.08: Landed Property, Sale, Purchase, Mortgage, Thika, Sharecropping, etc.
- Q.No.09: Participation of Family Members in Agriculture.
- Q.No.10: Production in agricultural Land (in mound); Sale & Purchase of Crops.
- Q.No.11: Income Accruing from Orchard
- Q.No.12: Plot size used in different crops
- Q.No.13: Irrigation facilities on agricultural land and investment on them
- Q.No.14: Investment in Cultivation
- Q.No.15: Area under HYV Crops (in bigha)
- Q.No.16: Source of Input for HYV Crops
- Q.No.17: Sources of Agricultural Credits
- Q.No.18: Wage Rates Of Agricultural Labourers (in Rupees and Mounds)
- Q.No.19: Area of Fallow land and reasons for remaining fallow
- Q.No.20: Information about Industry Factory and Mill
- Q.No.21: Wage Rates of Industrial / Daily Labourers
- Q.No.22: Family member's Engagement in Business Activities
- Q.No.23: Income Earned by the Households from Miscellaneous Sources
- Q.No.24: Rate of Interest on Borrowing/Loan for any purpose
- Q.No.25: Addition to Last Year's Property
- Q.No.26: Weekly Consumption Expenditure on Non-durable Goods (in Rupees)
- Q.No.27: Expenditures on Durables Goods
- Q.No.28: Expenditures on Education, Social & Religious Ceremonies (in Rupees) and respondent's remarks
- Q.No.29: Savings of the Households (in Rupees)
- Q.NO.30: Distance of the Village from Facilities

For further analysis, these data/variables (or groups of variables) were processed in various ways depending on the requirement and the method/techniques applied in analysis.

### III.4. Methods/Techniques of Analysis

Apart from tabulation and finding the descriptive statistics (such as mean, standard deviation, etc.) where required, we have used three statistical methods/techniques : (i) Regression analysis, (ii) Discriminant analysis, and (iii) Gini index (as a measure of inequality). Additionally, we have generated uniformly distributed random numbers for sampling as mentioned in the previous section 3(ii). Below we provide a brief introduction to these methods of analysis.

**III.4(i). Regression Analysis :** If we aim at explaining the variations in a variable by variations in a number of other variables, we use regression analysis. Regression analysis (linear) assumes that the dependent variable (regressand),  $y$ , is a linear function of  $X = (x_1, x_2, \dots, x_m)$  such that  $y = X\beta$ .

The (regression) parameters,  $\beta = (\beta_1 \ \beta_2 \ \dots \ \beta_m)'$ , may be visualized as

$\beta_j = \frac{\partial y}{\partial x_j}$  ;  $j = 1, 2, \dots, m$ . In the population, however,  $y$  may be influenced by

many other variables uncorrelated with  $X = (x_1, x_2, \dots, x_m)$ . Hence, if we draw a sample (consisting of  $n$  individuals,  $n > m$ ) and we describe our sample as  $(y[n], X[n, m])$ , no  $\beta$  (howsoever we choose them) will exactly satisfy the relationship  $y = X\beta$ . A discrepancy vector  $u = (u_1 \ u_2 \ \dots \ u_n)'$  will make up the equality relationship such that  $y = X\beta + u$ . Fixing the  $X[n, m]$  matrix, if we draw  $g$  repeated samples, we will obtain  $g$  number of discrepancy vectors,  $u^{(1)}, u^{(2)}, \dots, u^{(g)}$ . In using the method of linear regression analysis we assume that  $E(u_i^{(1)}, u_i^{(2)}, \dots, u_i^{(g)}) = 0 \ \forall \ i = 1, 2, \dots, n$ . Here  $E(\cdot)$  is the expectation of  $(\cdot)$ . Moreover, it assumes that  $E(u_i u_j') = [\sigma^2] \ \forall \ i, j = 1, 2, \dots, n$  is a diagonal matrix with strictly positive diagonal elements all equal. Additionally, it assumes that  $X[n, m]$  is non-stochastic and of full rank  $m$ . Under these (Gauss-Markov) assumptions,  $\beta$  is estimated by the Least Squares method, which

gives us  $\hat{\beta}_{OLS} = (X'X)^{-1}X'y$  and this  $\hat{\beta}_{OLS}$  is the best linear unbiased estimator of the population parameter vector,  $\beta$ . However, when the Gauss-Markov conditions are not satisfied by  $\hat{u}$ , or  $X$ , suitable methods such as Feasible Generalized Least Squares, or Instrumental variable methods are applied (Greene, 2003, chapter 10).

Non-linear regression analysis deals with the situation where in the relationship  $y = f(X | \beta)$ ,  $f$  is intrinsically non-linear in  $\beta$ . Fitting of nonlinear regression equations is done by iterative methods such as quasi-Newton, Hooke-Jeeves, or Rosenbrock's pattern search are applied. Standard errors of estimated parameters are often obtained by jackknifing or bootstrapping method (Greene, 2003, pp. 924-925).

**III.4(ii). Discriminant Analysis** : Discriminant Analysis is a (multi-variate) statistical method to decide whether two (or more) samples drawn from apparently different parents can be statistically distinguished from each other. The technique of Discriminant Analysis runs in five steps. These are:

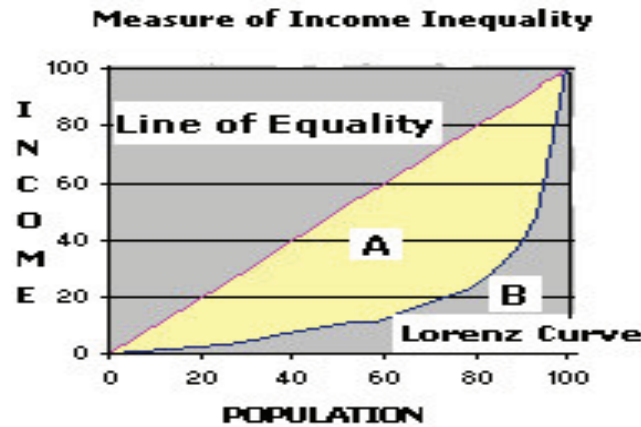
- (1). *Finding the vectors of sample means and differences*: Define Sample Mean ( $M_1$  and  $M_2$ ), Pooled mean ( $M$ ) and the vector of differences between means ( $D = M_1 - M_2$ ).
- (2). *Finding Pooled Variance-Covariance matrix*: Using Pooled Mean ( $M$ ) we find out the variance-Covariance Matrix ( $V$ ) of the Pooled sample.
- (3). *Solution for weights ( $W$ ) such that  $W = V^{-1}D$* . We invert the variance covariance matrix ( $V$ ) to obtain  $V^{-1}$ .
- (4). *Computation of  $\delta_1$ ,  $\delta_2$  and  $\delta$* : We define:  $\delta_1 = M_1W$ ;  $\delta_2 = M_2W$  and  $\delta = MW$
- (v) *Finding discriminant scores,  $d = XW$* .

The discriminant function  $\delta$  divides  $[d]$  score into two sets, one with  $d$  less than  $\delta$  and the other with  $d$  greater than  $\delta$ . If the value of the score ( $d$ ) for an observation belonging to set #1 is conformal to its original membership, the discriminant function is powerful for the purpose. However, if there are

many defections (members originally belonging to one set is misclassified as belonging to the other set), the discriminant function is not reliable (Kendall and Stuart, 1968, Ch. 54, pp. 314-341).

**III.4(iii). Gini Index** : Inequality in income distribution is often measured in terms of the Gini index, which is graphically presented by the Lorenz diagram. If we measure along the x axis the cumulated proportion of the population variable and along y axis the cumulated proportion of the income variable, the diagram obtained is called the Lorenz curve diagram.

**Figure : III.4.(iii).1.**



The Gini index is the Gini coefficient expressed in percentage form. The Gini coefficient is calculated as the ratio of areas on the Lorenz curve diagram. If the area between the line of equality and the Lorenz curve is A and the area underneath the Lorenz curve is B, then the Gini coefficient is given by  $A/(A+B)$ . The Gini coefficient is often calculated with the more practical Brown's formula ([Wikipedia](https://en.wikipedia.org/wiki/Gini_coefficient), 2004) given as

$$G = \left| 1 - \sum_{i=0}^{n-1} (x_{i+1} - x_i)(y_{i+1} + y_i) \right|$$

where  $G$  = Gini Coefficient;  $X$  = Cumulated proportion of the population variable;  $Y$  = Cumulated proportion of the income variable. In developed

economies Gini index is often between 24 to 36 (exceptionally, USA has exhibited Gini index higher than 40 for the last several decades), while in some countries such as Mexico, Latin America it exceeds 50. In India the value of Gini index is about 32.5 (the United Nations Human Development Report 2004).

**III.4(iv). Generation of Uniformly distributed Random Numbers :** On PCs, we generate uniformly distributed random numbers  $0 < R < 1$  by the following (power residue) algorithm and then transform them into integers  $J$  lying between 1 and  $N \geq 2$  such that  $J = \text{int}(R \times N) + 1$ .

- (1). Declare IU and IV as the two 2-byte integers.
- (2). Feed a seed, IU (preferably odd and of five digits, but less than 32766)
- (3). Define  $IV = 259 \times IU$
- (4). If  $IV \geq 0$  then  $R = IV$ ; Re-initiate  $IU = IV$ ; Standardize  $R = R \times 0.3051851E-04$ .

Store/print the random number R

Go to step (3) to generate the next random number with the re-initiated IU.

Else

- (5). Replace IV by  $IV + 32767 + 1$ ;  $R = IV$ ; Re-initiate  $IU = IV$ ;  
Standardize  $R = R \times 0.3051851E-04$ .

Store/print the random number R

Go to step (3) to generate the next random number with the re-initiated IU.

### **III.5. A Note on the Local Measures of Area and Weight**

In this investigation we have used local measures of area and weight. A hectare makes 7.5 *bighas* (measure of the area of land plot). Similarly, a quintal makes 2.5 *monds* (a measure of the weight of agricultural produce such as paddy). We preferred to use local (traditional) measures because they helped in communication and handy interpretation.

Daimari, Prasen (2005) A Study on Structure of the Economy of Udalguri Subdivision, Assam. Doctoral Dissertation, Dept. of Economics, North Eastern Hill University, Shillong (India).

## Chapter IV

### A Description of the Sample Villages

#### IV.1. Introduction

As it has been mentioned in the preceding chapter, we have selected 7 villages from the study area. The salient features of these villages are represented in the table below. Next, we describe the features of these villages.

Table IV.1.1: Salient Features of Sample Villages

Sample Villages	No. of house-holds		No. of Sample House-holds	Communities Living in the village	Distance from Sub-divisional Head quarters (kms)	Distance from the nearest town (kms)	Electrification
	1991	2002					
Barigaon Gerua	49	53	30	Boros	15	15 (U)	No
Bhagdal Gaon	163	186	30	Many*	35	3 (O)	Yes
Kalbari	89	107	30	Boros, Assamese	15	15 (U)	No
Sapkhaiti-2	46	42	30	Boros	3	3 (U)	Yes
Niz Dalgaon	236	372	22	Assamese	35	3 (D)	Yes
Baruajhar	349	777	20	Muslims	30	7 (D)	No
Sialmari	96	154	20	Muslims	45	8 (K)	No
All Villages	1028	1691	182	-----	-----		-----

\* Inclusive of Boros, Assamese, Nepalis, Tea gardeners and Bengalis; U = Udalguri, O = Orang, D = Dalgaon, K = Kharupetia.

#### IV.2. Barigaon Gerua

Barigaon Gerua is situated in the Northwestern part of the subdivision at 15 kilometers away from the Headquarters (Udalguri). It is surrounded by other villages, mostly inhabited by Boros, and having similar economic

activities and livelihood pattern. Barigaon gerua is inhabited by the people of Boro community, which belongs to the constitutionally classified Scheduled Tribe category. The people of this village are the believers in Christianity. The infrastructure facilities of the village are very poor. This village is connected to other parts of the area by an un-graveled (kutcha) road. The mode of transport of the village is bicycle. The people of this village have to travel 7 kilometers south to reach a metalled road to get a bus stand, and around 12 kilometers southwest to reach a railway station. The village has a Lower Primary (LP) school. The students of class V to X standards have to travel 3 kilometers either on-foot or by bicycle to reach their school. For the Higher Education, students have to go to Udalguri College situated at the Subdivision Head Quarters. People of this village give much emphasis on schooling of their children and send them to various educational institutions.

The village Barigaon Gerua is not electrified; it does not have any telephone facilities either. The residents have to go to Udalguri to obtain banking services. The post office is situated at a distance of 3 kilometers in a nearby village. There is a small weekly market at a distance of 5 kilometers in which the people of the village can sale their merchandise like, paddy, vegetables and other household products, and purchase some necessary consumer goods. It is a small market place where people do not get all the necessary commodities for their consumption. They have to travel 15 kilometers to get medical treatment. Almost every household possesses its own well as a source of drinking water.

The village is inhabited by 49 households. Thirty (30) sample households of the village have been surveyed for the study. The total population of the sample households is 168 and the average family size is 5.60. The literacy rate of the sample households is 89.81 percent. The working population of the sample is 55.36 percent of the total (sample) population. Out of the working population, 59.17 percent constitutes the main working population and 40.83 percent are the marginal workers - all engaged in agriculture.

The non-workers constitute 44.64 percent of the total sample population. Again, out of the main workforce, cultivators make 50.27 percent; agricultural and other labourers constitute 7.50 percent; around 9.86 percent is engaged in animal husbandry; 3.42 percent in fishing, repairing, construction, etc.; 13.08 percent in new Tea Plantations; 9.43 percent in household industry; 3.22 percent in trade and commerce; and only 3.21 percent of the sample main workforce is engaged in the employment of government services like teaching, transport and communication, etc. This classification is based on the main occupation of the workforce. A number of main workers in most of the aforesaid categories, however, are also engaged part-time in some other occupations such as fishing, household industries, weaving, etc. (Table IV.2.1)

The institution of keeping household servants and hiring wage-labourers, both male and female, is prevalent in those households, which do not have enough of workforce, so much so that, it (household servants and wage-labourers) constituted around 24.76 percent of the total agricultural workforce in the sample. The households hire wage-labourers for ploughing the land, plant transferring (from the seed bed to the transplantation fields), transplantation, and harvesting. A household hires two types of labourer; (i) full time and (ii) part time, for raising the crops, especially paddy. The full time labourer is usually hired on yearly basis. The part time labourers are hired on daily or monthly basis, and the majority of them are engaged for plant transferring, transplanting and harvesting. The male labourers hired at the annual basis (household servants) are engaged mainly in agricultural activities and such female servants are engaged in household activities, like, cooking, house cleaning, weaving and washing cloths, taking care of children, etc., as well as helping the male- workers in the paddy field in transplantation. In 88.46% of cases of ploughmen and 100.00% cases of harvesting labourers, the wages are paid in kind, which is paddy. The yearly wages of ploughman ranges from 7.5 to 35 mounds of paddy. This rate depends on the age, working capability and



Table IV.2.1. : Occupational Distribution of the Sample population

Sl. No	Occupational Distribution	Total	Average	% of the Total
01	<b>Population</b>	<b>168.0</b>	<b>5.60</b>	<b>15.29*</b>
	Male	77.0	2.57	45.83
	Female	91.0	3.03	54.17
02	Age below 15	44.0	1.47	26.19
	Age between 15-59	120.0	4.00	71.43
	Age 60 & above	4.0	0.13	2.38
03	Literate (ex 0-6 years)	141.0	4.70	89.81
	Illiterate (ex 0-6 years)	16.0	0.53	10.19
04	<b>No. of Workers</b>	<b>93.0</b>	<b>3.10</b>	<b>55.36</b>
05	<b>Cultivators</b>	<b>46.9</b>	<b>1.56</b>	<b>50.27</b>
	Full time	35.0	1.17	75.00
	Part time	27.0	0.39	25.00
06	<b>Agricultural Labourers</b>	<b>4.1</b>	<b>0.14</b>	<b>4.39</b>
	Full time	1.0	0.03	21.43
	Part time	7.0	0.10	78.57
07	<b>Other Labourers</b>	<b>2.8</b>	<b>0.10</b>	<b>3.11</b>
	Full time	2.0	0.07	70.00
	Part time	2.0	0.03	30.00
08	<b>Hired labours</b>	<b>30.6</b>	<b>1.02</b>	<b>24.76**</b>
	Full time	23.0	0.77	75.49
	Part time	7.6	0.25	24.51
09	<b>Animal Husbandry</b>	<b>9.2</b>	<b>0.31</b>	<b>9.86</b>
	Full time	0.0	0.00	0.00
	Part time	21.0	0.31	100.00
10	<b>Engaged in Fishing</b>	<b>0.9</b>	<b>0.03</b>	<b>0.96</b>
	Full time	0.0	0.00	0.00
	Part time	2.0	0.03	100.00
11	<b>Engaged in Plantation</b>	<b>12.2</b>	<b>0.41</b>	<b>13.08</b>
	Full time	10.0	0.33	80.49
	Part time	5.0	0.07	19.51
12	<b>Household Industries</b>	<b>8.7</b>	<b>0.29</b>	<b>9.43</b>
	Full time	0.0	0.00	0.00
	Part time	20.0	0.29	100.00
13	<b>M.P.S. &amp; Repairing</b>	<b>0.9</b>	<b>0.03</b>	<b>0.96</b>
	Full time	0.0	0.00	0.00
	Part time	2.0	0.03	100.00
14	<b>Construction Works</b>	<b>1.3</b>	<b>0.05</b>	<b>1.50</b>
	Full time	1.0	0.03	60.00
	Part time	1.0	0.01	40.00
15	<b>Trade &amp; Commerce</b>	<b>3.0</b>	<b>0.10</b>	<b>3.22</b>
	Full time	3.0	0.10	100.00
	Part time	0.0	0.00	0.00
16	<b>T. &amp; Communication</b>	<b>1.0</b>	<b>0.03</b>	<b>1.07</b>
	Full time	1.0	0.03	100.00
	Part time	0.0	0.00	0.00
17	<b>Other Services</b>	<b>2.0</b>	<b>0.07</b>	<b>2.14</b>
	Full time	2.0	0.07	100.00
	Part time	0.0	0.00	0.00

Note: \* The percentage of sample population in the village to the total of sample population in all seven sample villages. \*\* The percentage of hired labours has been derived by adding its number with the total number of workers in the village, i.e.,  $30.6/(93 + 30.6) \times 100 = 24.76\%$ .

experience of the labourer. Some farmers, with small size of agricultural land holding, hire ploughmen on monthly or even on daily basis. Wage rate of a ploughman hired on monthly basis ranges from Rs.400 to Rs.900 per month depending on the same principle of age, working capability and experience of the worker. But the wage rate of the hired labourer on the daily basis remains more or less fixed at Rs.50 per day. The village committee has fixed the wage rate of transplanting at Rs.12 for a working period of 5 hours and Rs. 24 for a working period of 10 hours a day, and that of plant transferring, at Rs.5 per 6 bunches, and are paid in cash.

It is to be noted here that, apart from the agricultural activities, the workers hired on monthly and yearly basis (household servants) have to perform many other activities like, taking care of bullocks and cows, fire-wood cutting, marketing, handicraft works, etc. They get their food and lodging in their master's house which are not be given to the workers of daily basis. Wage rate of harvesting ranges from 1 mound to 2 mounds a bigha, the rate depending on distance from the owner's house to the paddy field, and also, on the thickness of the crops.

In calculating the average daily wage rate of the labourers, the wages received in kinds have been converted into the monetary value by taking into account the existing average price of paddy of the area. To the wages of the full time labourers who get food, lodging and other facilities from the master's house, some amount is to be added. That is not so for the part time labourers. Accordingly, it has been found that the prevailing rate of daily wages in the village is Rs. 41 for ploughman, Rs. 50 for plant transferring, Rs. 24 for transplantation (female) and Rs. 52.44 for harvesting. (Table IV.2.2).

A few years back the farmers of the village managed to cultivate their agricultural fields through the institution of mutual help and cooperation among each other. The system of hiring labourers has emerged at a large

Table IV.2.2 : Average Daily Wage Rate and Percentage  
of Payments made in Cash/Kind to Agricultural/Other Labourers.

Sl. No.	Type of Labour	Wage Rate (Rs.)/per head		Paid in Cash	Paid in Kind	From the Village	From outside the Village
		Skilled	Un- skilled				
01	Agricultural Labour :						
	Ploughman (male)	---	41.00	3 (11.54)	23 (88.46)	1 (3.85)	25 (96.15)
	Plant Transferring	---	50.00	425 (100)	0 (0.00)	425 (100)	0 (0.00)
	Transplantation	---	24.00	1446 (100)	0 (0.00)	422 (29.18)	1024 (70.82)
	Wedding	---	---	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
	Harvesting	---	52.44	0 (0.00)	168 (100)	34 (20.24)	134 (79.76)
02	Other Labours :						
	(a) Daily Labourer	---	45.00	3 (100)	---	---	---
	(b) Carpenter	120.00	---	1 (100)	---	---	---

Note: figures inside the brackets represent the percentages of the respective totals.

scale only in the recent years. There are two reasons for this: first, because of the influence of the market economy on this rural areas where, just like any other commodity, labour can now be sold and purchased in the market; and secondly, because of the short span opportune to carrying out of the showing/transplantation activities. This is so due to the fact that the rainy season is very short and sometimes unreliable. Since agriculture in the area is rain-fed, the farmers have to be in hurry to cultivate their lands. In order to do this, they have to have enough work force so that they can complete cultivating their fields within the short rainy season. However, some form of mutual help, exchange of labour and cooperation still exists amongst the farmers of the village.

There is some form of division of labour on the basis of gender as cultivation is concerned. To plough in agricultural fields is exclusively the job

of the male folk. Traditionally, the women are not allowed to touch the plough. The act of plant transferring from the seedbed, where the seed is sown, is also done by the male-folk. But the work of transplanting of paddy is taken care of exclusively by the women-folk in this village. Farmers need to hire five female workers per bigha (1 bigha = 0.13 hectare) for transplantation. The male workers take the responsibility of harvesting the crops. In some households, which are unable to resort to hiring of labour, both male and female workers of the family join hands in harvesting their crops. While male workers keep themselves busy in plowing, the women-folk cook food and then carry the food for the male-folk working in the field. So, women of this village are also very active in helping the male-folk through preparing and providing food, transplanting, harvesting, etc.

Moreover, the women-folk of this village participate in many other activities, weaving, fishing, marketing, etc. Around 66.67 per cent of the households have their own weaving implements. They weave attires for themselves as well as for other members of the family and thereby reduce expenditures on these items. About 2.15 percent of women also undertake weaving on commercial basis. The women of this village also participate in many other economic activities, like rearing of cattle, pig, fowls, eri-worm, etc.; and some of them run small tea stalls in the weekly markets which also brings some income for the family. So, apart from keeping themselves busy in many household activities, the women of this village help the household in many other ways too.

It is clear from the above discussion that, agriculture is the main occupation of the people of this village. They cultivate agricultural crops with a very old and outdated traditional method. They depend absolutely on human and bullock power for their agricultural activities. The main implements of farmers of this village are wooden plough, spades, sickles, etc. Very few of the households use bullock-cart (26.67% households) and trolley (6.67% households) as the means of carrying home their crops from the agricultural fields as well as transporting merchandise to the market for sale. Use of

manures, chemical fertilizers, pesticides, etc. is hardly prevalent in the village. The farmers of the village have a general belief that utilization of chemical fertilizers reduces the original fertility of the soil and, if they do not use these fertilizers in the successive cultivations, they do not get good crops thereafter.

The main crop in the village is paddy. Since the village is situated at a high level, cultivation depends exclusively on the Monsoon rain. There are no irrigation facilities available. There is no canal flowing through the agricultural lands of the village. The shallow tube well cannot be dug due to presence of stones under the land surface. As a result, 81.14 percent and 98.35 per cent of the cultivable area of this village remain fallow in the summer and spring seasons respectively. Farmers can cultivate mainly the winter rice, like *Sali*, *Aijong*, *Ranjit*, *Laxman*, etc. and very few of them, having low-land, can cultivate the summer rice, called *Ahu* in the local parlance. The average productivity of paddy is 8 mounds per bigha. The so-called high yielding varieties (HYVs) of paddy covers an area of 211 bighas (39.91%) of the total of 528.7 bighas of area cultivated by the sample households. It is to be noted here, that these HYV seeds, which farmers use for cultivation, were introduced long back and people have been still using them on local exchange basis or by purchasing from local market. So, the high yielding capacity of these seeds has declined and they have become just like the ordinary traditional seeds. Besides paddy, farmers also cultivate other crops like, jute, potato, tomato, cabbage, chili, ginger, etc. But area under cultivation of these crops is negligible covering around 2.70 percent only of the total cultivable area covered in the sample.

So, the village is out of reach of 'Mechanization' and 'Commercialization' of agriculture in the sense that farmers do not use any kind of machine in their paddy field and they produce crops to meet their yearly needs. Due to lack of proper transport facility, farmers do not get satisfactory price for their produce. The price of paddy ranges from Rs. 150 in the harvest season to Rs. 200 in the peak price season. Most of the farmers in the village are not

in a position to produce surplus of paddy. But, still then, they have to sale paddy at low harvest price to meet their farm maintenance cost, and have to purchase the same at high peak price to meet their consumption needs. Very few better-off farmers can wait for the peak price and receive comparatively satisfactory price for their produce.

Besides the sources of income as stated above, most of the households of the village earn some income from their homestead lands too. About 86.67 percent of the sample households possess bamboo groves, which is one of the most important materials in the rural lives. Most of them live in huts made of bamboo and thatch. The number of households possessing tin-roofed house is negligible. Bamboo is used in every aspect of the lives of the rural people - hut building, fencing, firewood, supporting staff to creeper vegetable, etc. Around 63.33 percent of sample households earn some income from the sale of bamboo. Their homestead lands are also full of areca nut plants and betel-leaves. About 77 percent of the households of the village have this traditionally most important fruit in their homestead lands. Whenever a visitor or a guest comes, they feel proud of it if they can provide him or her at least a piece of areca nut with betel-leaf before and after serving tea. In most of the cases, even if they cannot serve tea, it is considered shameful if they cannot serve their visitors with a piece of this important traditional fruit and leaf. The other main reasons for cultivating this fruit is that it requires low investment and little care. Once a plantation is done, it starts giving fruits from 8 to 10 years onwards and lasts for around 25 to 30 years. Further, the farmers do not have to bear any maintenance cost on these plants.

Two to three years ago, the areca nut was sold in sacks (as a measuring unit). But, of late, its measuring unit for sale has been the weight, i.e., kilogram, quintal, etc. However, it is to be noted here that, one sack-full of areca nuts weighs around one quintal or a little more. Therefore, whatsoever is the measuring unit this does not make much difference to the farmers. Earlier the farmers could sell a sack-full of pre-matured areca nut

at Rs. 500 and a sack-full of fully matured ones at Rs. 1200. In the present system of measurement too they receive Rs. 500 to Rs. 1200 per sack-full of areca nut depending on the same principle of pre-maturity and maturity. Of course, the prices may fluctuate here and there because of the market forces of demand and supply. In fact, during the last two years, the farmers of the area have not received the reasonable prices for areca nuts due to the falling demand. The demand has fallen because a lot of areca nuts and *suparis* have entered the markets from the neighbouring countries.

Homestead lands of many household are also full of other fruit bearing trees, like, coconut, banana, mango, orange, jackfruit, litchi, etc. which also fetch some income for many of them. They also grow valuable plants such as timber as well as other trees in their lands. The valuable trees bring incomes and the other trees are a source of firewood, which save the households from expenditures on them.

Table IV.2.3 : Income from Various Sources.

Sl. No.	Sources of Income	Income	Average Income	% to total Income
<b>I</b>	<b>Primary Sector</b>	<b>1163958.00</b>	<b>38798.60</b>	<b>84.33</b>
01	Agriculture	659474.00	21982.47	47.78
02	Labour	67304.00	2243.47	4.88
03	Animal husbandry	63840.00	2128.00	4.63
04	Fishery	16490.00	549.67	1.19
05	Orchard	216850.00	7228.33	15.71
06	Plantation	140000.00	4666.67	10.14
<b>II</b>	<b>Secondary Sector</b>	<b>92860.00</b>	<b>3095.33</b>	<b>6.73</b>
07	Mini-rice Mill	39000.00	1300.00	2.83
08	Cottage Industry	13860.00	462.00	1.00
09	Construction	40000.00	1333.33	2.90
<b>III</b>	<b>Tertiary Sector</b>	<b>123500.00</b>	<b>4116.67</b>	<b>8.94</b>
10	Trade & Commerce	51500.00	1716.67	3.72
11	Services	72000.00	2400.00	5.22
12	Property	0.00	0.00	0.00
	<b>Total</b>	<b>1380318.00</b>	<b>46010.61</b>	<b>100.00</b>
13	Borrowings	8400.00	280.00	0.61

The largest part of income of the sample households is generated from agriculture, which alone contributes around 47.78 percent of the total income, followed by orchard (15.71%), plantations (10.14%), construction works (2.90%), animal husbandry (4.63%), services (5.22%), selling labour (4.88%), trade and commerce (3.72%), mini-rice-mills (2.83%), and the rest of 2.19% income is generated from fishery (Table IV.2.3).

After harvesting their crops, people of the village organize various social as well as religious ceremonies. They give thanks to the Almighty God, by offering whatever little amount they can from their produce, for giving them good harvests of crops. They celebrate two main religious ceremonies, namely, the Christmas and Good Friday. The rich families spend fortune, especially on Christmas, on new dresses, foods, decorations, etc. During this Christmas season, they invite friends, relatives and, near and dear ones.

Besides these, all the social ceremonies, like marriage, are organized in the post-harvest season, because during this period every farmer's household possesses rice, vegetables become available in the market, people become free from agricultural works, and also weather remains dry. The rich people spend huge amounts of money on such happy occasions. The poorer section of the society makes small budgets for such occasions, mostly within its means. Apart from these, some well-to-do parents celebrate birthday of their children too, which also requires some amounts of expenditure. People of the village give much emphasis on the education of their children. Well-to-do parents send their children to some costly private institutions for education.

The largest part of their income is spent on consumptions of non-durable goods, which amounts to 78.41 percent of the total spending, out of which, 42.37 percent is home-grown items in the form of imputed consumption expenditure. The expenditure on durable consumption goods is at 11.41 percent, on education at 5.41 percent, religious ceremonies at 2.40 percent,



and social ceremonies at 0.12 percent, repairing and maintenance costs are at 2.26 percent.

Table IV.2.4 : Annual Expenditure on Consumable and Non-consumable Goods

Sl. No.	Expenditure Items	Total	Owned	Purchased	Average of Total
01	Non-Durable Consumption Goods	988366.00	418784.00	569582.00	32945.53
		78.41%	42.37%	57.63%	78.41%
02	Durable Consumption Goods	143760.00	5600.00	138160.00	4792.00
		11.41%	3.90%	96.10%	11.41%
03	Education	68150.00	0.00	68150.00	2271.67
		5.41%	0.00%	100.00%	5.41%
04	Cultural Festivals	0.00	0.00	0.00	0.00
		0.00%	0.00%	0.00%	0.00%
05	Social Ceremonies	1500.00	0.00	1500.00	50.00
		0.12%	0.00%	100.00%	0.12%
06	Religious Ceremonies	30200.00	0.00	30200.00	1006.67
		2.40%	0.00%	100.00%	2.40%
07	Maintenance & Repairing Costs	28470.00	8100.00	20370.00	949.00
		2.26%	28.45%	71.55%	2.26%
	Total	1260543.61	432484.00	827962.00	42018.12
		100.00%	34.31%	65.68%	100.00%

As suggested by the sample, people of this village have a very low level of savings. The average propensity to save is only 4.3 percent of the income. The following table (IV.2.5) indicates that people keep 73.83 percent of the savings at home, 23.76 percent in banks, 1.05 per cent in LIC, 1.05 percent in Postal deposits and only 0.30 percent in other financial institutions. The people of the village have different opinions as regards to their saving in Banks, LIC, Postal department, etc. The highest amount of saving occurred in the village during 1995-99 (Table IV.2.5), which was the result of good rainy seasons for paddy cultivation as well as a satisfactory price that the farmers could get for their produce. Out of 30 sample households, only 16.67 percent households have savings in banks, 16.67 percent of them do not have knowledge of saving in banks, 16.67 percent of the households do not save in banks because of low rate of interest, to 13.33 percent, banks are far away from home which makes it difficult for

them to save, and 36.67 percent of them do not have enough money to save in the banks. There has been only one household having LIC policy, 56.67 percent admitted their ignorance about savings in LIC, 6.67 per cent households are not interested, to 10.00 percent, it is far away, and 23.33 percent do not have money for saving in LIC. Again, in Postal Savings, too, there are only 3 (10.00 %) households that have made use of its availability, 53.33 per cent is ignorant about it, and 36.67 per cent households do not have money to save in it. Similarly, financial investment in company shares, securities, etc. is also very meager. Only one household has such investment, 16.67 per cent of the households do not have any knowledge of such investment avenues, 30.00 per cent households are not interested and, 50.00 per cent households do not have money to invest in such enterprises.

Table IV.2.5 : Savings of the Households in Different Institutions.

SL. No.	Saving Institutions	Before 1990	During 1990-94	During 1995-99	During 2000-02
01	At Home	0.00	35000.00 (100.00 %)	293000.00 (64.68 %)	162950.00 (92.09 %)
02	Bank	0.00	0.00 (0.00 %)	158000.00 (34.88 %)	0.00 (0.00 %)
03	LIC	0.00	0.00 (0.00 %)	0.00 (0.00 %)	7000.00 (3.96 %)
04	Post Office	0.00	0.00 (0.00 %)	2000.00 (0.44 %)	5000.00 (2.83 %)
05	Others	0.00	0.00 (0.00 %)	0.00 (0.00 %)	2000.00 (1.13 %)
	Total	0.00	35000.00	453000.00	176950.00

Thus, the people of the village Barigaon Gerua are mainly engaged in cultivation. Very few of them join other economic activities. The production of most of the farmers is subsistence-ridden. A handful of farmers are in a position to produce surplus and can sale their produce pleasantly in the market. Those farmers, who are unable to produce surplus, have a distress sale in order to meet other household requirements.

### **IV.3. Bhogdal Gaon**

Bhogdal Gaon is situated at the Eastern boundary of Udalguri Subdivision. It lies at around 35 kilometers east of the Subdivisional Head Quarters and 3 kilometers South of the National Highway No.52. It is a large village in which both Scheduled Tribe and General categories of people inhabit. There are 163 households in the village with total population of 1113 out of which 41.15 per cent is the Scheduled Tribe Population. The tribal population is constituted by the Boro community and the General population, by many communities like, Assamese, Ex-Tea Garden workers, Bengali, Nepali, etc. The people of this village are the believers of Hinduism.

The infrastructure facilities of the village 'Bhogdal Gaon' is a little better off than that of 'Barigaon Gerua' in many respects, viz. it is situated just 3 kilometers away from the National Highroad No.52, there is a P.W.D. graveled road passing through it, the village is fully electrified, it has a weekly market facility and the bank and the bus stand facilities at a distance of 3 kilometers. The railway station is located at a distance of 16 kilometers. The modes of transport of the people of this village are bus and bicycle. They can approach to various facilities on-foot, too.

A total of 30 sample households of the village have been surveyed for the study. It has been found that the average size of population of the village is 6.23. The literacy rate of the village is 69.19 percent. The total number of workers in the sample households is 94, which constitutes 50.27 percent of the total (sample) population. The percentage of dependents is 49.73. The main workers constitute 53.19 percent of the total working population in the sample, which is only 26.74 percent of the total sample population. Of the working population, 63.19 percent is engaged in agriculture, 2.77 percent in other labourers, 7.98 percent in animal husbandry, 0.64 percent in fishing, 9.36 percent in household industries, 1.28 percent in construction works, 7.34 percent in trade and commerce and the rest (7.45%) in other services (Table IV.3.1.).

Table IV.3.1 : Distribution of Population according to Age, Sex, Literacy and Occupation.

Sl. No.	Occupational Distribution	Total	Average	% of the Total
01	<b>Family Members</b>	<b>187.0</b>	<b>6.23</b>	<b>17.02*</b>
	Male	103.0	3.43	55.08
	Female	84.0	2.80	44.92
02	Below 15 years	50.0	1.67	26.74
	Age 15-59 years	129.0	4.30	68.98
	Age 60 and above	8.0	0.27	4.28
03	Literate	119.0	3.97	69.19
	Illiterate	53.0	1.77	30.81
04	<b>Number of Workers</b>	<b>94.0</b>	<b>3.13</b>	<b>50.27</b>
05	<b>Cultivators</b>	<b>59.4</b>	<b>1.88</b>	<b>63.19</b>
	Full time	35.0	1.17	62.23
	Part time	42.0	0.71	37.77
06	<b>Agricultural labourers</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
07	<b>Other labourers</b>	<b>2.6</b>	<b>0.09</b>	<b>2.77</b>
	Full time	2.0	0.07	77.78
	Part time	1.0	0.02	22.22
08	<b>Hired labourers</b>	<b>3.9</b>	<b>0.13</b>	<b>3.98**</b>
	Full time	0.0	0.00	43.75
	Part time	3.9	0.13	56.25
09	<b>Animal Husbandry</b>	<b>7.5</b>	<b>0.25</b>	<b>7.98</b>
	Full time	0.0	0.00	0.00
	Part time	13.0	0.25	100.00
10	<b>Engaged in Fishing</b>	<b>0.6</b>	<b>0.02</b>	<b>0.64</b>
	Full time	0.0	0.00	0.00
	Part time	1.0	0.02	100.00
11	<b>Plantation</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
12	<b>Household Industry</b>	<b>8.8</b>	<b>0.29</b>	<b>9.36</b>
	Full time	3.0	0.10	23.08
	Part time	10.0	0.19	76.92
13	<b>M.P. S &amp; Repairing</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
14	<b>Construction</b>	<b>1.2</b>	<b>0.04</b>	<b>1.28</b>
	Full time	0.0	0.00	0.00
	Part time	2.0	0.04	100.00
15	<b>Trade and Commerce</b>	<b>6.9</b>	<b>0.23</b>	<b>7.34</b>
	Full time	4.0	0.13	56.52
	Part time	5.0	0.10	43.48
16	<b>Transport &amp; communication</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
17	<b>Other services</b>	<b>7.0</b>	<b>0.23</b>	<b>7.45</b>
	Full time	7.0	0.23	100.00
	Part time	0.0	0.00	0.00

Notes: \* The percentage of sample population in the village to the total of sample population in all seven sample villages. \*\* This has been derived by adding its number with the total number of workers in the village, i.e.,  $3.9/(94 + 3.9) \times 100 = 3.98\%$ .

The primary sector activities are the dominant source of income and employment in the village. They still practice agricultural cultivation by a very old method, and farming is absolutely rain-fed. They use human and bullock powers in their farming. The main implements used in farming are wooden plough with iron ploughshare, iron-hoe with bamboo handle, sickle, etc. which are made in a very old and traditional manner. As many as 13.33 percent of the households possesses trolley and about 10.00 percent households have bullock carts, which they use as means of transportation for their crops and merchandise. Machines, manures, chemical fertilizers and pesticides, etc. are scantily used in the village. This is due to ignorance of the farmers, and in certain cases, due to lack of capital with the farmers. It may be noted that while in Barigaon Gerua use of fertilizers and pesticides is feared as it is believed to affect soil fertility adversely in the long run, the farmers of Bhagdal Gaon do not use these inputs on account of ignorance and lack of investible capital.

The main crop in the village is paddy, which occupies 98.53 percent of the total cultivated areas. The village is situated at a high level of land and hence cultivation depends exclusively on the monsoon rain. The irrigation facilities are not available to the farmers of the village. They do not have canal irrigation facilities for cultivation. The shallow tube well (STW) as a means of irrigation is being used in only 32 bighas out of 305.9 bighas of cultivated land, and that too, only for the winter crops. As a result, 93.98 percent and 99.52 percent of the area cultivated by the sample households remain fallow in the summer and spring seasons respectively. The main varieties of paddy cultivated are *Ranjit*, *Aijong*, *Nepali Aijong*, *Kajlee*, etc., and very few of the farmers, having low cultivable land, can cultivate the summer rice, called *Ashu* in the local parlance. The average productivity of paddy is 8 mounds per bigha. Besides paddy, the farmers also cultivate other crops like, potato, tomato, cabbage, brinjal, chili, etc. But the area under cultivation of these crops is negligible, covering around 1.74 percent of the total cultivable area. So, as far as the study of sample households

indicates, the village is far from 'mechanization' and 'commercialization' of agriculture. Agricultural production is subsistence ridden. Many households run in a deficit in the farming enterprise.

Hiring of labourers, both male and female, is prevalent in the village. Labour is hired on contractual basis. The reasons for hiring of labour in cultivation are the same as that of the previous village (Barigaon Gerua). But unlike in Barigaon Gerua village where labour payments are made in kinds, wages of the labourers in this village are paid mostly in cash. Moreover, they find it uneconomical to hire labourers on yearly basis, because the season of cultivation for most of the farmers lasts for 6 months only. Moreover, there is an abundant supply of wage labourers from the village(s) within and without. Therefore, the farmers need to hire some labourers on daily, monthly and on contractual basis. About 96.02 percent of the workforce in the agriculture is managed from the family labour and the rest of 3.98 percent is the hired labour force, of which 94.16 percent is supplied from the village itself. All labourers are demanded for agricultural cultivation. The hired labourers are engaged in the same activities as were found in the first village. Wages of labourers hired on monthly basis ranges from Rs.300 to Rs.1350 per month, depending on the same principle of age, working capability and experience of the worker. Hired labourers get their food and lodging in their master's house. Inclusive of their food, lodging and other facilities getting from the master, the daily wage rate of a monthly-ploughman amounts to Rs.50.56. The daily wage rate of the ploughman is fixed at Rs.60. Working hour of a daily-ploughman is 5 hours a day. Hiring of daily and contractual labourer is very significant, for uprooting of plants from the nursery and for harvesting the crops. For uprooting, wage rate is fixed at Rs.6 per six bunches. Women labourers work in transplanting and harvesting in the fields of medium and relatively bigger farmers. The wage rate of paddy transplantation is Rs. 40 per day. Labourers do plantation for 10 hours a day. Wage rate of harvesting ranges from Rs.75 to Rs.105 per bigha. The average wage rate of harvesting is found to be Rs. 87 per bigha.

The small and poor farmers do all these activities by their own family labour. The average daily wage rates of the agricultural as well as other labourers are at the mere subsistence level. (Table IV.3.2).

Table IV.3.2 : Average Daily Wage Rate ( per head) of Agricultural and Other Labourers.

Sl. No.	Type of Labour	Wage Rate (Rs.)/per head		Paid in Cash	Paid in Kind	From the Village	From outside the Village
		Skilled	Un-skilled				
01	Agricultural Labour :						
	Ploughman (male)	---	51.44	32 (96.97)	1 (3.03)	31 (93.94)	2 (6.06)
	Plant Transferring	---	60.00	110 (100)	0 (0.00)	68 (61.82)	42 (38.18)
	Transplantation	---	39.21	530 (100)	0 (0.00)	530 (100)	0 (0.00)
	Weeding	---	---	0	0	0	0
	Harvesting	---	29.00	81 (100)	0 (0.00)	81 (100)	0 (0.00)
02	Other Labours :						
	(a) Daily Labourer	---	43.33	3 (100)	---	---	---
	(b) Garage Labourer	41.67	---	2 (100)	---	---	---

There is some form of division of labour on the basis of gender as agricultural cultivation is concerned. The ploughing of agricultural fields is exclusively the job of the men folk. The act of plant transferring from the seedbed, where the seed is sown, is also done by the male-folk. But work of transplantation of paddy is taken care of by both men and women in this village (unlike in Barigaon Gerua where women alone are working for transplantation). In some households, which are unable to resort to hiring of labour, both male and female workers of the family join hands in harvesting their crops. While cooking is the primary duty of the women, men take the principal responsibility of raising crops from the agricultural fields. But when more labourers are urgently required, women also

participate in harvesting. Ploughing the agricultural field and uprooting of plants from the nursery are exclusive jobs of men in this village. Earlier, women used to do the husking in the household itself with the help of what is called '*dheki*' or '*dingkhi*' (a wooden implement for husking paddy into rice) in the local parlance. But nowadays, mini-rice mills have become available in the village. So, in most of the cases now, unless some unavoidable circumstances occur, men do this job by carrying it to mills.

Moreover, the women-folk of this village too keep themselves busy in many other activities like weaving, fishing, marketing, etc. Around 33.33 percent of the households have their own weaving implements. They make attires for themselves as well as for other members of the family and thus, reduce expenditures on these items. As a household industry, women of about 6.67 percent families of the village also undertake weaving on commercial basis. Women of the poorer families make rice-beer on commercial basis. Though it is a forbidden activity, they go in for it because it is highly profitable. They make rice-beer out of a very cheap and low quality rice. They hardly invest an amount of Rs. 75 a week and earn around Rs. 150 to Rs. 200. These cottage industries together bring them around 11.24 percent of the income. Almost every household rears cattle, fowls, pig (among the tribal families) etc., which fetches 2.43 percent of their income. Some of them run small tea stalls in the weekly markets to make up the shortage of income from farming. People with no farming activities of their own work as agricultural labourers or as other labourers on daily or contractual basis. The daily labourers earn Rs. 50 per day.

Due to lack of proper marketing facility, farmers do not get satisfactory price for their produce. The price of paddy ranges from Rs. 150 in the harvest season to Rs. 275 in the peak price season. The peak season price of paddy is higher here (vis-à-vis Barigaon Gerua) because of approachability of the village by the traders. Most of the farmers of the village are not in a position to produce surplus. But, still then, they have to sale paddy at low harvest price to meet their farm maintenance cost and



expenses on other necessary goods. In order to recover the shortage food-grains, they have to buy it again at high peak price.

Table IV.3.3 : Distribution of Income From All Sources

Sl. No.	Sources Of Income	Income	Average Income	% to the Total Income
<b>I</b>	<b>Primary Sector</b>	<b>616782.00</b>	<b>20559.41</b>	<b>42.53</b>
01	Agriculture	434828.00	14494.27	29.98
02	Labour	48120.00	1604.00	3.32
03	Animal Husbandry	33650.00	1121.67	2.32
04	Fishery	4950.00	165.00	0.34
06	Orchard	95234.00	3174.47	6.57
07	Plantation	0.00	0.00	0.00
<b>II</b>	<b>Secondary Sector</b>	<b>233150.00</b>	<b>7771.67</b>	<b>16.07</b>
08	Mini-rice Mill	36000.00	1200.00	2.48
09	Cottage Industry	177150.00	5905.00	12.21
10	Construction	20000.00	666.67	1.38
<b>III</b>	<b>Tertiary Sector</b>	<b>600400</b>	<b>20013.34</b>	<b>41.39</b>
11	Trade & Commerce	165200.00	5506.67	11.39
12	Services	409200.00	13640.00	28.21
13	Property	26000.00	866.67	1.79
	<b>Total</b>	<b>1450332.00</b>	<b>48344.40</b>	<b>100.00</b>
14	Borrowing	44700.00	1490.00	3.08

The villagers keep their homestead lands green with different income generating plants and trees. About 80 per cent households have bamboo groves in their homestead lands and some 13.33 percent households earn some amount of income from its sale. Another income generating plant they possess is the areca nut. Around 76.67 percent of the households possess areca nut plants and 50.00 per cent of them earn incomes from its sale. The price situation of areca nut in this village is the same as that of Barigaon Gerua. They also grow fruit bearing trees in their homestead lands. About 60.00 percent households have fruit bearing trees like, coconut, banana, mango, orange, jackfruit, litchi, etc. Almost all of the fruits are used for household consumption, except 6.67 percent households earning some income from it. Apart from these, various trees are also grown, that are used as firewood, which save the households from extra expenditure on

it. So, the households earn around 3.74 percent of its total income from their orchards or homestead lands.

Thus, the people of this village also spend the larger part of their time in agricultural cultivation, which contributes 29.98 percent of their total income. The production of most of the farmers is subsistence-ridden. A handful of farmers are in a position to produce surplus and can at ease sale their produce in the market. Farmers who are unable to produce surplus, have a distress sale in order to meet other household requirements.

Around 3.32 percent of the income is raised from the sale of skilled or unskilled manual labours. Very few farmers join in other economic activities. As mentioned earlier, a handful of individuals engage themselves in trade and commerce. Business establishments like, grocery, fair price shop, cloth stores, etc. involving huge amount of investments are owned by the families of Bengali communities, and tea stall, small hotels, *Paan Gunti*, etc. in the weekly markets, which can be termed as petty trade, are run by the tribal people of the village. Taking all these together, the sample households gets some 11.39 percent of its total income. Some people, especially from poor families, also live on cutting and selling woods from the nearby forests.

Many households rear fish in their own fish-ponds and some of them go in for fishing in the open lakes, rivers, etc. earning around 0.34 percent of the total income. The service sector brings some 28.21 percent of the total income. The rest of the sources of income are household industries (12.21%), animal husbandry (2.32%), orchard (6.57%), mini-rice-mill (2.48%), construction (1.38%) and property (1.79%) (Table IV.3.3). In need households borrow from banks, co-operative societies and village moneylenders, which are 3.08 percents of the income.

Besides farming, during off seasons, both men and women undertake various other activities too. The farmers do all the household activities like,

house repairing, fencing, etc. during the dry season. Some of the small farmers go in for selling their labour after completing their own cultivation.

Table IV.3.4 : Expenditures on Various Items.

Sl. No.	Expenditure Items	Total	Owned	Purchased	Average of total
01	Non-Durable Consumption Goods	1196458.00	442510.00	753948.00	39881.93
		76.89%	36.99%	63.01%	76.89%
02	Durable Consumption Goods	124105.00	3450.00	120655.00	4136.83
		7.99%	2.78%	97.22%	7.99%
03	Education	50500.00	0.00	50500.00	1683.33
		3.25%	0.00%	100.00%	3.25%
04	Cultural Festivals	15850.00	0.00	15850.00	528.33
		1.02%	0.00%	100.00%	1.02%
05	Social Ceremonies	130500.00	0.00	130500.00	4350.00
		8.40%	0.00%	100.00%	8.40%
06	Religious Ceremonies	13850.00	0.00	13850.00	461.67
		0.89%	0.00%	100.00%	0.89%
0	Repairing and Maintenance	22950.00	9100.00	13850.00	765.00
		1.48%	39.65%	60.35%	1.48%
	Total	1554213.00	455060.00	1099153.00	51807.09
		100.00%	29.24%	70.76%	100.00%

The largest part of expenditure of the sample households (76.89% of the total expenditure) is incurred on non-durable consumption goods, like rice, flour, vegetables, fire woods, kerosene, soap, cosmetics, etc., out of which, 36.99 percent is imputed consumption expenditure on parts of home grown or home made item like rice, vegetables, fish, chicken, eggs, etc., and the rest of 63.01 percent, on purchased goods like parts of rice, vegetables, egg, fish, meat, and whole of flour, salt, etc. which are usually not produced at home. The expenditure on consumption durable goods, like T.V., radio, bicycle, furniture, kitchenware, clothes, cover 7.99 percent. Education of primary to graduate standards covers 3.25 percent of the total expenditures. In regards to the social, cultural and religious ceremonies, there is a little difference among the tribal and non-tribal communities of the village. Among the tribal and Assamese communities, there are two main cultural festivals, namely, '*Rangali Bihu*' or '*Rangjali Bwisagu*' and '*Magh Bihu*' or '*Magw*'. The first is a New Year festival, welcoming the

new-year with the hope of good season for agriculture. The second is the post harvest festival, a ceremony of relaxation and enjoyment after raising their crops safely. The tribal community of the village has a custom of weeklong celebration of this festival. In this festival every family spends huge amounts of money. Overall, they spend around 1.02 percent of the total expenditures on these occasions. The Social Ceremonies like marriage, death anniversary, etc. covers 8.40 percent of the expenditures. Religious ceremonies like Durga Puja, Lakshi Puja, etc. covers 0.89 per cent; and maintenance costs of bullocks, repairing costs of bullock carts, trolleys, and other necessary goods, cover 1.48 per cent of the total expenditures (Table IV.3.4).

Table IV.3.5 : Savings of the Households (in Rs.).

SL. No.	Saving Place	Years of Saving			
		1985-89	1990-94	1995-99	2000-03
01	Home Percentage	0.00 0.00	20000.00 28.43	145500.00 33.23	73400.00 38.67
02	Bank Percentage	5000.00 40.48	42000.00 59.70	148200.00 33.84	81610.00 42.99
03	LIC Percentage	7353.00 59.52	7353.00 10.45	143206.00 32.70	34823.00 18.34
04	Postal Savings Percentage	0.00 0.00	1000.00 1.42	1000.00 0.23	0.00 0.00
05	Others Percentage	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00
	Total	12353.00	70353.00	437906.00	189833.00

This village exhibits a very low level of saving and capital formation. The average propensity to save is only 3.3 percent of the income. Table IV.3.5 indicates the saving position of the village over last 18 years. Some households prefer to save at home and do not deposit at any financial institutions. Many sample households deposit their savings at various institutions like banks, LIC, Postal Savings, and other financial Institutions. People of the village could make their highest amount of savings in the period 1995-99, during which the annual average savings of the households was Rs.2919.38. The reason of this was that the farmers could raise a good crop with the favourable Monsoon rain. Additionally, they could

get comparatively better price for their principal crop (paddy). Their savings declined during the year 2000-03 first on account of a decline in the prices of their crops and secondly due to the shortage of the Monsoon rain, especially during 2002.

#### **IV.4. Kalbari Village**

The village Kalbari is situated 10 kilometers away from the subdivisional Headquarters in the southwestern side. The inhabitants from Scheduled Tribe (ST) as well as General of communities. The people ST community are cristians and, those of the General category Hindus. Though they are people of diverse communities and religions, they have been living together for ages, except very minor differences in thoughts and actions. The total population of the village is 477 making in 89 households. Out of these, 62 households belong to ST community having 63.52 percent of the total population of the village, and only 36.48 percent of population is distributed to 27 general community households of the village.

The approach to the village is a PWD road passing through the heart of it from north to south direction. This was a motorable road 15 years ago. Now, motor vehicles cannot ply on this road, because all the bridges on it are broken and have not been repaired as yet. This village does not have power supply. The village has a lower primary school. The students of high school have to travel 3 kms and college level students have to go to Uadalguri, situated at a distance of 10 kilometers, for their higher education. The marketing facility, postal service, etc. are also available at a 3-kilometers' distance, but the banking facility is available at a distance of 10 kilometers. The principal mode of transport is 'bicycle'.

As per the sample survey of 30 households, the average household size of the village is 6.1 persons. The literacy rate of the village is 75.16 percent. Though the total working age group constitutes 78.69 percent of the total

Table IV.4.1 : Occupational Distribution of the Sample Population.

Sl. No	Occupational Distribution	Total	Average	% to the Total
01	<b>Population</b>	<b>183.0</b>	<b>6.10</b>	<b>16.65*</b>
	Male	78.0	2.60	42.62
	Female	105.0	3.50	57.38
02	Age below 15	63.0	2.10	34.43
	Age between 15-59	114.0	3.80	78.69
	Age 60 & above	6.0	0.20	3.28
03	Literate	<b>115.0</b>	<b>3.83</b>	<b>75.16</b>
	Illiterate	38.0	1.27	24.84
04	<b>Number of Workers</b>	<b>87.0</b>	<b>2.90</b>	<b>40.44</b>
05	<b>Cultivators</b>	<b>38.2</b>	<b>1.27</b>	<b>44.01</b>
	Full time	25.0	0.83	65.35
	Part time	30.0	0.44	34.65
06	<b>Agricultural Labourers</b>	<b>6.3</b>	<b>0.21</b>	<b>7.14</b>
	Full time	4.0	0.13	61.90
	Part time	5.0	0.08	38.10
07	<b>Other Labourers</b>	<b>8.3</b>	<b>0.28</b>	<b>9.56</b>
	Full time	7.0	0.23	82.14
	Part time	3.0	0.05	17.86
08	<b>Hired labours</b>	<b>16.9</b>	<b>0.56</b>	<b>16.27**</b>
	Full time	9.0	0.42	75.00
	Part time	7.9	0.14	25.00
09	<b>Animal Husbandry</b>	<b>11.4</b>	<b>0.38</b>	<b>13.13</b>
	Full time	0.0	0.00	0.00
	Part time	26.0	0.38	100.00
10	<b>Engaged in Fishing</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
11	<b>Engaged in Plantation</b>	<b>1.0</b>	<b>0.03</b>	<b>1.15</b>
	Full time	1.0	0.03	100.00
	Part time	0.0	0.00	0.00
12	<b>Household Industries</b>	<b>5.4</b>	<b>0.18</b>	<b>6.11</b>
	Full time	0.0	0.00	0.00
	Part time	12.0	0.18	100.00
13	<b>M.P.S. &amp; Repairing</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
14	<b>Construction Works</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
15	<b>Trade &amp; Commerce</b>	<b>7.0</b>	<b>0.23</b>	<b>8.06</b>
	Full time	3.0	0.10	43.48
	Part time	9.0	0.13	56.52
16	<b>T. &amp; Communication</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
17	<b>Other Services</b>	<b>9.4</b>	<b>0.31</b>	<b>10.83</b>
	Full time	9.0	0.30	96.77
	Part time	1.0	0.01	3.23

Notes: \* The percentage of sample population in the village to the total of sample population in all seven sample villages. \*\* This has been derived by adding its number with the total number of workers in the village, i.e.,  $16.9/(87 + 16.9) \times 100 = 16.27\%$ .

sample population, the actual workers engaged in various activities constitute 76.32 percent of it, which is only 47.54 percent of the total population of the sample households. About 23.68 percent of the workforce remains unutilized. The dependent population amounts to 52.46 percent. A large portion of population of the sample households is engaged in agriculture, which constitutes 51.15 percent of the total working population, out of which 13.96 percent constitutes the agricultural labourers. Other labourers constitute about 9.56 per cent of the total workers. The rest (39.29 percent of the working population) is engaged in petty trade and commerce, construction works, plantation, government and non-government services, etc. (Table IV.4.1).

As it has been mentioned earlier, the majority of people of this village depend on agriculture. Their practice of farming is based on very old and out-dated method. Farmers use human and bullock power to raise their crops. On rare occasions, when a farmer does not possess bullocks, machines, like a hired tractor, is used for ploughing. Farming in the village is absolutely rain-fed. As soon as the monsoon rain starts pouring, farmers begin to put dams on the small rivers to raise water in their agricultural fields. Paddy is their principal crop. They cultivate different varieties of paddy, like, *aijong*, *ranjit*, *masuri*, *pankaj*, *suhagmani*, *ashara*, *ahu*, *sali*, etc. But, due to very old and traditional farming method, these varieties also have no significant advantage in productivity vis-à-vis the more traditional/local varieties. The productivity of paddy in this village ranges from 7 to 10 mounds per bigha, depending on seasonal fluctuations and position (high or low) of the land.

The institution of hiring labour is prominent in this village. The larger part of supply of hired labour comes from outside the village. Farmers hire ploughmen on daily, monthly and yearly basis. Wages of labourers are paid both in cash and kind. The wage rate of the hired ploughman is Rs. 50 per day on the daily basis and 5 mounds of paddy or Rs. 600 per month on monthly basis. Most of the ploughmen employed on the annual basis receive

Table IV.4.2 : Average Daily Wage Rate of Agricultural Labourers.

Sl. No.	Type of Labour	Wage Rate (Rs.)/per head		Paid in Cash	Paid in Kind	From the Village	From outside the Village
		Skilled	Un-skilled				
01	Agricultural Labour :						
	Ploughman (male)	---	47.28	7 (46.67)	8 (53.33)	5 (33.33)	10 (66.67)
	Plant Transferring	---	50.00	276 (100)	0 (0.00)	87 (31.52)	189 (68.48)
	Transplantation	---	27.00	1727 (100)	0 (0.00)	918 (53.16)	809 (46.84)
	Wedding	---	---	0	0	0	0
	Harvesting	---	64.90	0 (0.00)	132 (100)	26 (19.70)	106 (80.30)
02	Other Labours :						
	(a) Daily Labourer	---	48.33	3 (100)	0	---	---
	(b) Carpenter	---	---	0	---	---	---

their wages in kind, which ranges from 15 mounds to 35 mounds according to their age, strength, efficiency and experience. It is obvious therefore, that there is a considerable variation in the wage rates of ploughmen and their wages are highly negotiable. The labourers for plant transferring from seedbed to the fields are hired on contract basis. The wage rate of plant transferring is Rs.5 per 6 bundles. The labourers for transplantation are hired on daily basis at the rate of Rs.12, if the labourers are from the village, and Rs.15 if the labourers are from outside the village. The working hour for transplantation is 5 hours a day (half-a-day). Most of the farmers have to hire labour for harvesting too. The wages for harvesting are paid in kind, ranging from 0.5 mounds to 1.5 mounds per bigha, the rate depending on thickness of crop and distance of paddy field from the village.

Thus, the average daily wage rate paid to ploughmen is found out to be Rs. 47.28; plant transferring - Rs. 50; transplantation - Rs. 27; and that of



harvesting - Rs. 64.90. It is to be noted here that more than 50 percent supply of agricultural labour comes from outside the village (Table IV.4.2).

With regards to division of labour, the same system is prevalent here as that of Barigaon Gerua. Apart from helping men in the agricultural fields, women of this village take very active part in other economic activities like animal husbandry (rearing cattle, fowl and pig) raising eri-worm and weaving, fishing, etc.

Table IV.4.3. : Distribution of Income From All Sources.

Sl. No.	Sources of Income	Income	Average Income	% to the Total Income
<b>I</b>	<b>Primary Sector</b>	<b>798265.00</b>	<b>26608.83</b>	<b>56.13</b>
01	Agriculture	402817.00	13427.23	28.32
02	Labour	86024.00	2867.47	6.05
03	Animal Husbandry	66300.00	2210.00	4.66
04	Fishery	7200.00	240.00	0.51
05	Orchard	135924.00	4530.80	9.56
06	Plantation	100000.00	3333.33	7.03
<b>II</b>	<b>Secondary Sector</b>	<b>25550.00</b>	<b>851.67</b>	<b>1.79</b>
07	Cottage Industry	20550.00	685.00	1.44
08	Mini-rice Mill	5000.00	166.67	0.35
09	Construction	0.00	0.00	0.00
<b>III</b>	<b>Tertiary Sector</b>	<b>598364.00</b>	<b>19945.46</b>	<b>42.07</b>
10	Trade & Commerce	129520.00	4317.33	9.11
11	Services	431244.00	14374.80	30.32
12	Property	37600.00	1253.33	2.64
	<b>Total</b>	<b>1422179.00</b>	<b>47405.97</b>	<b>100.00</b>
13	Borrowing	18400.00	613.33	1.29

A significant part of income of the sample households comes from employment in governmental and non-governmental services, which contributes 30.32 percent of the total income. The percentage share of income from agriculture is around 28.32% of the total income. The rest of incomes are contributed, respectively, by labour (6.06%), animal husbandry (4.66%), fishery (0.51%), household industries (1.44%), orchard (9.56%),

small tea industries (7.03%), mini-rice mill (0.35%), trade and commerce (9.11%) and properties (2.64%). Borrowing from others is around 1.29 percent of the total income (Table IV.4.3).

Table IV.4.4 : Annual Expenditure on Consumable and Non-consumable Goods.

Sl. No.	Expenditure Items	Total	Owned	Purchased	Average of Total
01	Non-Durable Consumption Goods	889880.00	365538.00	524342.00	29662.67
		68.65%	41.08%	58.92%	68.65%
02	Durable Consumption Goods	186150.00	3000.00	183150.00	6205.00
		14.36%	1.61%	98.39%	14.36%
03	Education	110690.00	0.00	110690.00	3689.67
		8.54%	0.00%	100.00%	8.54%
04	Cultural Festivals	6050.00	0.00	6050.00	201.67
		0.47%	0.00%	100.00%	0.47%
05	Social Ceremonies	34700.00	0.00	34700.00	1156.67
		2.82%	0.00%	100.00%	2.68%
06	Religious Ceremonies	34875.00	0.00	34875.00	1162.50
		2.69%	0.00%	100.00%	2.69%
07	Maintenance & Repairing Costs	33940.00	11800.00	22140.00	1131.33
		2.62%	34.77%	65.23%	2.62%
	Total	1296285.00	380338.00	915947.00	43209.50
			29.34%	70.66%	

As regards to the expenditures, 68.65 percent of the total expenditures is spent on non-durable consumer goods like food items, firewood, kerosene, cosmetics, etc.; 14.36 percent on consumer durable goods like T.V., radio, bicycle, furniture, clothes, kitchen-wares, etc.; 8.54 percent on education; 0.47 percent on cultural festivals like *Magh Bihu* and *Rangali Bihu*; 2.82 percent on social ceremonies like marriage, birth anniversaries, death anniversaries, etc.; 2.69 percent on religious ceremonies like Christmas and Good Friday among the Christians, and *Durga Puja*, *Lakshi Puja*, etc. among the Hindus; and 2.62 percent on repairing and maintenance costs of their properties. (Table IV.4.4). People hold all the social and religious ceremonies during the winter, when every one is almost free from farming and other activities.

Savings and capital formation of the village is very low (Table IV.4.5). The annual average savings is found to be very low in the village. The average propensity to save (APS) of the sample households is just 6 percent. As it is seen from the above table (IV.4.5), the farmers usually like to keep their money in their hands. So, around 32.78 percent of the total savings during 2000-2003 was kept at home. The employees in various services use the saving institutions like Bank, LIC and Postal Savings, which are not much familiar to the farmers. The percentage share of savings in banks, LIC and postal savings, during the same period, are 23.65, 34.03 and 0.94 respectively. The savings in other financial institutions like mutual funds, cooperative societies, etc. cover 8.60 percent of the total savings of the sample households.

Table IV.4.5 : Savings of the Households in Different Institutions (in Rs.).

SL NO	Saving Institution	Before 1990	During 1990-94	During 1995-99	During 2000-03
01	At Home <i>% to the Total</i>	0.00 <i>0.00</i>	3000.00 <i>9.78</i>	141900.00 <i>34.61</i>	106700.00 <i>32.78</i>
02	Bank <i>% to the Total</i>	14000.00 <i>87.50</i>	20000.00 <i>65.19</i>	120200.00 <i>29.32</i>	77000.00 <i>23.65</i>
03	LIC <i>% to the Total</i>	0.00 <i>0.00</i>	0.00 <i>0.00</i>	95166.00 <i>23.21</i>	110768.00 <i>34.03</i>
04	Post Office <i>% to the Total</i>	0.00 <i>0.00</i>	7680.00 <i>25.03</i>	19680.00 <i>4.80</i>	3072.00 <i>0.94</i>
05	Other <i>% to the Total</i>	2000.00 <i>12.50</i>	0.00 <i>0.00</i>	33000.00 <i>8.05</i>	28000.00 <i>8.60</i>
	Total	16000.00	30680.00	409946.00	325540.00

#### IV.5. Sapkhaiti Village

In Udalguri subdivision, there are two villages of the same name – Sapkhaiti, distinguished as Sapkhaiti-1 and Sapkhaiti-2. In our study we have drawn samples from the second village that is Sapkhaiti-2. In what follows, we will use Sapkhaiti-2 and Sapkhaiti interchangeably. The village Sapkhaiti (that is Sapkhaiti-2) is situated at just 0.5 kilometers west of Udalguri Subdivision Head Quarters. All the inhabitants of this village belong to ST category. They believe in Christianity. This is the smallest among the

7 villages selected for the collection of primary data. The total number household of the village is 46.

Because of the nearness to the Subdivision Headquarters, this village enjoys almost all the available infrastructure facilities. There are at least three approaches to the village from Udalguri town. It is fully electrified and except occasional and load shading power supply is reliable. Different facilities, like banking, marketing, postal, telecommunication, education, railway, roadway, etc. are available at the nearby Udalguri town, which is situated at a distance of just 0.5 kilometers from the village. This is the village in which the lowest percentage of the working population is engaged in the primary sector and the highest percentage in the tertiary sector, among all the seven selected villages.

A total of 30 sample households were randomly surveyed for the study. The total population of the sample households is 166, and the average size of the household is 5.53 persons. This village has a literacy rate of 92.95 percent, which is the highest among all the seven villages surveyed for the study. The percentage of working age-group population (i.e., within the age group of 15 to 59) is 75.90. The actual working population is only 44.58 percent of the total sample population and 58.73 percent of the total labour-force. Out of this, 64.86 percent constitutes the main working population and 35.14 percent, the marginal workers. A significant portion of the working population of the sample households (37.03%) is engaged in other services. The second chunky occupation of the people of the sample households is agriculture; around 33.24 percent of the working population is directly or indirectly engaged in it. The agriculture of this village depends almost absolutely on rainfall. Farmers of this village can cultivate only the winter varieties of paddy, like, *aijong*, *ranjit*, *bora*, etc. All the cultivable land remains fallow during the rest of the cropping seasons. About 2.30 percent of the working population is engaged as other labours. The rest of the working population is distributed among other activities such as animal husbandry (11.22%), household industries (9.73%), construction (3.65%) and

Table IV.5.1 : Occupational Distribution of the Sample Population.

Sl. No	Occupational Distribution	Total	Average	% of the Total
01	<b>Population</b>	<b>166.0</b>	<b>5.53</b>	<b>15.10*</b>
	Male	82.0	2.73	49.40
	Female	84.0	2.80	50.60
02	Age below 15	32.0	1.07	19.28
	Age between 15-59	126.0	4.20	75.90
	Age 60 & above	8.0	0.27	4.82
03	Literate	145.0	4.83	92.95
	Illiterate	11.0	0.37	7.05
04	<b>Number of Workers</b>	<b>74.0</b>	<b>2.47</b>	<b>44.58</b>
05	<b>Cultivators</b>	<b>24.6</b>	<b>0.82</b>	<b>33.24</b>
	Full time	17.0	0.57	69.51
	Part time	21.0	0.25	30.49
06	<b>Agricultural Labourers</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
07	<b>Other Labourers</b>	<b>1.7</b>	<b>0.06</b>	<b>2.30</b>
	Full time	1.0	0.03	50.00
	Part time	2.0	0.03	50.00
08	<b>Hired labourers</b>	<b>17.5</b>	<b>0.58</b>	<b>19.13**</b>
	Full time	11.0	0.36	62.07
	Part time	6.5	0.22	37.93
09	<b>Animal Husbandry</b>	<b>8.3</b>	<b>0.28</b>	<b>11.22</b>
	Full time	0.0	0.00	0.00
	Part time	23.0	0.28	100.00
10	<b>Engaged in Fishing</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
11	<b>Engaged in Plantation</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
12	<b>Household Industries</b>	<b>7.2</b>	<b>0.24</b>	<b>9.73</b>
	Full time	0.0	0.00	0.00
	Part time	20.0	0.24	100.00
13	<b>M.P.S. &amp; Repairing</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
14	<b>Construction Works</b>	<b>2.7</b>	<b>0.09</b>	<b>3.65</b>
	Full time	2.0	0.07	77.78
	Part time	2.0	0.02	22.22
15	<b>Trade &amp; Commerce</b>	<b>2.1</b>	<b>0.07</b>	<b>2.84</b>
	Full time	1.0	0.03	42.88
	Part time	3.0	0.04	57.12
16	<b>T. &amp; Communication</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
17	<b>Other Services</b>	<b>27.4</b>	<b>0.91</b>	<b>37.03</b>
	Full time	27.0	0.90	98.90
	Part time	1.0	0.01	1.10

Notes: \* The percentage of sample population in the village to the total of sample population in all seven sample villages. \*\* This has been derived by adding its number with the total number of workers in the village, i.e.,  $17.5/(74 + 17.5) \times 100 = 19.13\%$ .

trade and commerce (2.84%). About 55.42 percent population of the sample households depends on 44.58 percent of working population. (Table IV.5.1).

Table IV.5.2 : Average Daily Wage Rate of Agricultural Labourers

Sl. No.	Type of Labour	Wage Rate (Rs.)/per head		Paid in Cash	Paid in Kind	From the Village	From outside the Village
		Skilled	Un-skilled				
01	Agricultural Labour:						
	Ploughman (male)	---	42.07	10 (90.91)	1 (9.09)	0 (0.00)	11 (100.00)
	Plant Transferring	---	50.00	223 (100.00)	0 (0.00)	0 (0.00)	223 (100.00)
	Transplantation	---	30.63	701 (100)	0 (0.00)	0 (0.00)	701 (100.0)
	Weeding	---	0.00	0.00	0.00	0.00	0.00
	Harvesting	---	52.23	15 (1.82)	808 (98.18)	0 (0.00)	823 (100.00)
02	Other Labours :						
	(a) Daily Labourer	---	50.00	3 (100)	---	---	---
	(b) Carpenter	---	---	---	---	---	---

The institution of hiring labour is very prominent in this village. The main reason for this is that most of the farming households have their members engaged in various non-agricultural employments. They cannot participate in agricultural activities fully. Therefore, these households must resort to hiring of labour. The existing wage rate of daily labourer is Rs.60 per day for the ploughman and other manual workers, and Rs. 15 for transplantation by female labourers. And, depending on sex, age and experience, the wage rate of monthly labour ranges from Rs. 300 to Rs. 900 per month. The labourers hired on yearly basis receive wages in both cash and kinds. The wage rate received in cash ranges from Rs. 1500 to Rs. 3500 per annum, and the wage rate in kind ranges from 15 mounds to 35 mounds of paddy per year.

The division of labour in this village is also the same as that of Barigaon Gerua and Kalbari. Apart from household activities, participation of women in various economic activities such as agriculture, weaving, rearing of cattle, pig, fowl, and marketing, etc. is remarkable.

Table IV.5.3 : Distribution of Income From All Sources

Sl. No.	Sources of Income	Income	Average	% to the total Income
<b>I</b>	<b>Primary Sector</b>	<b>385265.00</b>	<b>12842.16</b>	<b>15.04</b>
01	Agriculture	145603.00	4853.43	5.68
02	Labour	22600.00	753.33	0.88
03	Animal husbandry	35900.00	1196.67	1.40
04	Fishery	17050.00	568.33	0.67
05	Orchard	139112.00	4637.07	5.43
06	Plantation	25000.00	833.33	0.98
<b>II</b>	<b>Secondary Sector</b>	<b>295040.00</b>	<b>9834.67</b>	<b>11.51</b>
07	Mini-rice Mill	10800.00	360.00	0.42
08	Cottage Industry	9240.00	308.00	0.36
09	Construction	275000.00	9166.67	10.73
<b>III</b>	<b>Tertiary Sector</b>	<b>1881980.00</b>	<b>62732.66</b>	<b>73.44</b>
07	Trade & Commerce	38520.00	1284.00	1.50
08	Services	1840780.00	61359.33	71.84
09	Property	2680.00	89.33	0.10
	<b>Total</b>	<b>2562285.00</b>	<b>85409.50</b>	<b>100.00</b>
13	Borrowings	113218.00	3773.93	4.42

The services sector contributes the highest amount of income to the economy of the village constituting 71.84 percent of the total income of the sample households. Because of nearness to the town, the village gets more education facilities, leading to more educated persons as well as higher number of service holders in both governmental and non-governmental institutions. This sector is followed by the construction works, which contributes 10.73 percent of its income. Agriculture contributes around 5.68% and orchard contributes 5.43% of the total income of the sample households. The rest of income accrues from labour (0.88%), animal husbandry (1.40%), fishery (0.67%), cottage industry (0.36%), mini-rice mill (0.42%) and trade and commerce (1.50%). The share of borrowing

from banks, co-operative societies and village-moneylenders amounts to 4.42 percent of the total income of the sample households (Table IV.5.3).

Table IV.5.4 : Annual Expenditure on Consumable and Non-consumable Goods.

Sl. No.	Expenditure Items	Total	Owned	Purchased	Average of Total
01	Non-Durable Consumption Goods	1085534.00	376202.00	709332.00	36184.47
		54.42	34.66	65.34	54.42
02	Durable Consumption Goods	332948.00	4690.00	328258.00	11098.27
		16.69	1.41	98.59	16.69
03	Education	235994.00	0.00	0.00	7866.47
		11.83	0.00	0.00	11.83
04	Cultural Festivals	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00
05	Social Ceremonies	275000.00	0.00	275000.00	9166.67
		13.79	0.00	100.00	13.79
06	Religious Ceremonies	26000.00	0.00	26000.00	866.67
		1.30	0.00	100.00	1.30
07	Maintenance & Repairing Costs	39175.00	12200.00	26975.00	1305.83
		1.96	31.14	68.86	1.96
	Total	1994651.00	393092.00	1365565.00	66488.37
			19.71	68.46	

The largest portion of expenditure is incurred on consumption of non-durable goods like, food items and other eatables, firewood, kerosene, etc., which amounts to 54.42 percent of the total expenditures of the sample households (Table IV.5.4). Out of this, around 34.66 percent is imputed consumption expenditure and the rest of 65.34 percent is on purchased goods. The expenditure on durable consumption goods, like car, motorcycle, TV, radio, bicycle, furniture, clothes, etc., remains at around 16.69 percent of the total expenditures. The third largest expenditure, around 13.79 percent of the total expenditures, is incurred on social ceremonies, like marriage, birth and death anniversaries, etc. The rest of the total expenditures is spent on education (11.83%), religious ceremonies (1.30%) and maintenance and repairing of dwelling house, machineries, trolley, bicycles, etc. (1.96%). Usually, different social and religious ceremonies are observed during the winter season. The main social ceremony is marriage. Death anniversary, birthday celebration, etc. are also observed by the well



to do section of the society, but these are not customary. The Christmas and Good Friday are the two main religious ceremonies, which they celebrate with pomp and gaiety.

Table IV.5.5. : Savings of the Households.

SL No.	Saving Institution	Before 1990	During 1990-94	During 1995-99	During 2000-03
01	At Home <i>% of the Total</i>	0.00 <i>0.00</i>	0.00 <i>0.00</i>	17000.00 <i>3.63</i>	25100.00 <i>7.97</i>
02	Bank <i>% of the Total</i>	100454.00 <i>53.03</i>	296647.00 <i>82.82</i>	342079.00 <i>73.00</i>	160000.00 <i>50.80</i>
03	LIC <i>% of the Total</i>	88976.00 <i>46.97</i>	61547.00 <i>17.18</i>	85405.00 <i>18.23</i>	76220.00 <i>24.20</i>
04	Post Office <i>% of the Total</i>	0.00 <i>0.00</i>	0.00 <i>0.00</i>	1086.00 <i>0.23</i>	51285.00 <i>16.27</i>
05	Others <i>% of the Total</i>	0.00 <i>0.00</i>	0.00 <i>0.00</i>	23000.00 <i>4.91</i>	2400.00 <i>0.76</i>
	Total	189430.00	358194.00	468570.00	314978.00

The rate of savings of the people (as indicated by the sample) of the village is very low, the average propensity to save (APS) being only 3.2 percent. Around 33.33 percent households keep their money at home, 30.00 percent households save some money in the banks, 30.00 percent has LIC savings, 10.00 percent has Postal deposits and only 3.33 percent households have little amount of savings with other financial institutions. During the year 2000-2003, the share of savings at home constituted 7.97 percent of the total savings, and those in banks, LIC, Postal Deposits and Other financial Institutions were 50.80 percent, 24.20 percent, 16.27 percent and 0.76 percent respectively (Table IV.5.5).

#### IV.6. Niz Dalgaon

The village Niz Dalgaon is situated some 35 kilometers away from the sub-divisional Headquarters, in the southeastern part of Udalguri Subdivision. This village is relatively larger than the first four villages we have come across so far. It has 236 households and a population of 1419, according to 1991 census. Out of these, 11.98 percent of the total population

Table IV.6.1 : Occupational Distribution of the Sample Population

Sl. No	Occupational Distribution	Total	Average	% of the Total
01	<b>Population</b>	<b>115.0</b>	<b>5.23</b>	<b>10.46*</b>
	Male	67.0	3.05	58.26
	Female	48.0	2.18	41.74
02	Age below 15	38.0	1.73	33.04
	Age between 15-59	75.0	3.41	65.22
	Age 60 & above	2.0	0.91	1.74
03	Literate	107.0	4.86	98.17
	Illiterate	2.0	0.91	1.83
04	<b>No. of Workers</b>	<b>47.0</b>	<b>2.14</b>	<b>40.87</b>
05	<b>Cultivators</b>	<b>13.5</b>	<b>0.61</b>	<b>28.57</b>
	Full time	11.0	0.50	81.97
	Part time	11.0	0.11	18.03
06	<b>Agricultural Labourers</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
07	<b>Other Labourers</b>	<b>5.0</b>	<b>0.23</b>	<b>10.66</b>
	Full time	5.0	0.23	100.00
	Part time	0.0	0.00	0.00
08	<b>Hired labours</b>	<b>1.4</b>	<b>0.06</b>	<b>2.91**</b>
	Full time	1.0	0.05	83.33
	Part time	0.4	0.01	16.67
09	<b>Animal Husbandry</b>	<b>1.1</b>	<b>0.05</b>	<b>2.35</b>
	Full time	0.0	0.00	0.00
	Part time	5.0	0.05	100.00
10	<b>Engaged in Fishing</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
11	<b>Engaged in Plantation</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
12	<b>Household Industries</b>	<b>2.2</b>	<b>0.10</b>	<b>4.69</b>
	Full time	0.	0.00	0.00
	Part time	10.0	0.10	100.00
13	<b>M.P.S. &amp; Repairing</b>	<b>0.2</b>	<b>0.01</b>	<b>0.43</b>
	Full time	0.0	0.00	0.00
	Part time	1.0	0.01	100.00
14	<b>Construction Works</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
15	<b>Trade &amp; Commerce</b>	<b>3.0</b>	<b>0.14</b>	<b>6.40</b>
	Full time	3.0	0.14	100.00
	Part time	0.0	0.00	0.00
16	<b>T. &amp; Communication</b>	<b>5.0</b>	<b>0.23</b>	<b>10.66</b>
	Full time	5.0	0.23	100.00
	Part time	0.0	0.00	0.00
17	<b>Other Services</b>	<b>17.0</b>	<b>0.77</b>	<b>36.25</b>
	Full time	17.0	0.77	100.00
	Part time	0.0	0.00	0.00

Notes: \* The percentage of sample population in the village to the total of sample population in all seven sample villages. \*\* This has been derived by adding its number with the total number of workers in the village, i.e.,  $1.41/(47 + 1.41) \times 100 = 2.91\%$ .

belongs to the Scheduled Caste and 4.44 percent belongs to the Scheduled Tribe communities. The people of the village believe in Hinduism.

The National Highway No.52 passes through the western part of the village in the North-South direction. A kachcha road connects the village with the highway. The village has electricity facility. It receives marketing facility, regional rural banking facility, postal service facility, high school education facility, etc. from a small town, called Dalgaon town, situated at a distance of less than 3 kilometers from the village.

A sample survey was conducted in 22 households. The total population of these households is 115, the average household size being 5.23 persons, and literacy rate 98.17 percent. The working age group of persons in the sample households is constituted by only 49.57 percent of the total population. But the percentage of the actual working population is only 40.87 of the total population (62.67 of the total working age-group population). So, this small percentage of actual working population has to support as many as 59.13 percent of the total population. Again, out the actual workers, 82.98 percent constitutes the main workers and the rest of 17.02 percent, the part time workers.

Out of the total working population, 28.57% is engaged in agriculture. The rest of the working population is distributed among different occupations: 10.66% other labourers; 4.69% in household industries; 2.35% in animal husbandry; 0.43% in manufacturing, processing, servicing & repairing; 6.40% in trade and commerce; 10.66% in transport and communication and 36.25% in other services (Table IV.6.1).

As it has been stated earlier that, the largest percentge of the population of the village is engaged in the agricultural sector. Those households, whose working members are employed in other services or do not have family labour, lease-out their cultivable land to other farmers on sharecropping. Paddy is the principal crop of the village. Different varieties of paddy like

*aijong, ranjit, bahadur, ahu, Sali*, etc., are cultivated by the farmers of the village. Among these, *aijong, ranjit* and *bahadur* are the high yielding varieties (HYV) of paddy. But, due to old method of cultivation and low-level technology, their productivity is the same as that of the traditional varieties.

Table.IV.6.2 : Average Daily Wage Rate of Agricultural Labourers.

Sl. No.	Type of Labour	Wage Rate (Rs.)/per head		Paid in Cash	Paid in Kind	From the Village	From outside the Village
		Skilled	Un-skilled				
01	Agricultural Labour :						
	Ploughman (male)	---	47.00	3 (11.54)	0 (88.46)	1 (3.85)	2 (96.15)
	Plant Transferring	---	-----	0.00 (0.00)	0 (0.00)	0.00 (0.00)	0 (0.00)
	Transplantation	---	47.58	256 (100)	0 (0.00)	0 (29.18)	256 (70.82)
	Weeding	---	50.00	91 (100.00)	0 (0.00)	0 (0.00)	91 (100.00)
	Harvesting	---	77.29	345 (100.00)	0 (0.00)	0 (0.00)	345 (100.00)
02	Other Labours :						
	(a) Daily Labourer	---	53.33	3 (100)	---	---	---
	(b) Carpenter	100.00	---	1 (100)	---	---	---

Hiring of labour is prevalent in this village too. Labour is hired on contractual basis. Most of the farmers use their family labour in ploughing, sowing and harvesting. Farmers hire ploughmen on daily, monthly and yearly basis. The existing daily wage of the ploughman is Rs. 50 and that of monthly and yearly ploughman are Rs. 900 and Rs. 4000 respectively. Their daily wage rates turn out to be around Rs.55 and Rs. 36 respectively. The wage rate of transplantation ranges from Rs. 130 to Rs. 140 per bigha, and that of harvesting ranges from Rs. 140 to Rs. 300. The wage rate of harvesting is higher for summer paddies when the fields become full of

water and the harvesting labourers have to struggle in the knee-deep water with leech and other insects, and it is lower for winter paddy, when the paddy fields are dry. The per capita daily wage rates of transplantation and harvesting labourers are around Rs. 47.58 and Rs. 77.29 respectively. (Table IV.6.2).

Like any other traditional villages, this village is also full of green vegetations like bamboo groves, betel nut, betel-leaf, coconut, banana, mango, and many other valuable trees. Around 50 percent households of the village have their own bamboo, 54.55 percent have betel nut, 36.36 percent have betel leaf and more than 63.64 percent households have fruit-bearing and other valuable trees in their homestead lands. Some 23.89 percent of the home products are used for household consumption, and the rest of 76.11 percent of these products add up to 3.40 percent of the annual income of the sample households (Table IV.6.3).

Table IV.6.3 : Distribution of Income From All Sources.

Sl. No.	Sources of Income	Income	Average Income	% to the total
<b>I</b>	<b>Primary Sector</b>	<b>444973.50</b>	<b>20226.07</b>	<b>26.31</b>
01	Agriculture	268783.50	12217.43	15.89
02	Labour	83600.00	3800.00	4.94
03	Animal husbandry	11100.00	504.55	0.66
04	Fishery	4700.00	213.64	0.28
05	Orchard	76790.00	3490.45	4.54
06	Plantation	0.00	0.00	0.00
<b>II</b>	<b>Secondary Sector</b>	<b>4690.00</b>	<b>213.18</b>	<b>0.28</b>
07	Mini-rice Mill	0.00	0.00	0.00
08	Cottage Industry	4690.00	213.18	0.28
09	Construction	0.00	0.00	0.00
<b>III</b>	<b>Tertiary Sector</b>	<b>1242360.00</b>	<b>56470.91</b>	<b>73.43</b>
10	Trade & Commerce	61000.00	2772.73	3.61
11	Services	1166200.00	53009.09	68.92
12	Property	15160.00	689.09	0.90
	<b>Total</b>	<b>1692023.50</b>	<b>76910.16</b>	<b>100.00</b>
13	Borrowings	0.00	0.00	0.00

While men take the responsibility of raising crops and gathering all the necessary goods for the family, women do almost all domestic works, like cooking, washing cloths, cleaning houses, taking care of children, etc. Most of the women weave their own dresses like *mekhela*, *chadar*, scarf, etc.

The largest part of the income (68.92% of the total income of the sample households) comes from the employment in the governmental and non-governmental services like schoolteachers, defense services, drivers, etc. The agriculture contributes the second largest (15.89%) of the total income of the sample households, which is followed by the income from selling manual labour (4.94%), orchard (4.54%), trade and commerce (3.61%), animal husbandry (0.66%), fishery (0.28%), cottage industry (0.28%) and property (0.90%) (Table IV.6.3).

Table IV.6.4 : Annual Expenditure on Consumable and Non-consumable Goods.

SL. No.	Expenditure Items	Total	Owned	Purchased	Average of Total
01	Non-Durable Consumption Goods	734014.00	149976.00	584038.00	33364.27
		73.66%	20.43%	79.57%	73.66%
02	Durable Consumption Goods	180665.00	4690.00	175975.00	8212.05
		18.13%	2.60%	97.40%	18.13%
03	Education	33580.00	0.00	33580.00	1526.36
		3.37%	0.00%	100.00%	3.37%
04	Cultural Festivals	15450.00	0.00	15450.00	702.27
		1.55%	0.00%	100.00%	1.55%
05	Social Ceremonies	0.00	0.00	0.00	0.00
		0.00%	0.00%	0.00%	0.00%
06	Religious Ceremonies	16640.00	0.00	16640.00	756.36
		1.67%	0.00%	100.00%	1.67%
07	Maintenance & Repairing Costs	16200.00	6150.00	10050.00	736.36
		1.63%	37.96%	62.04%	1.63%
	Total	996549.00	160816.00	835733.00	45297.68
		100.00%	16.14%	83.86%	100.00%

The people of this village celebrate three cultural festivals - *Rangali Bihu*, *Magh Bihu* and *Kati Bihu* - with pomp and gaiety. People spend a lot of money in these, especially in the first two, festivals. Social ceremonies, like marriage, death anniversary, etc. are also observed from time to time. With regards to religious ceremonies, most of the households observe two to

three *pujas* according to the Hindu religious doctrines. Apart from the pujas observed by the village society collectively, some households observe other rituals, too.

Around 73.66 percent of expenditure is made on non-durable consumption goods like rice, flour, meat, fish, vegetables, etc.; 18.13 percent on consumption durable goods like motor-cycle, TV, radio, bicycle, furniture, and other necessary durable goods; 3.37 percent on education; 1.67 percent on religious festivals; 1.55 percent on cultural festivals; and the rest (1.63 percent of the total expenditures) is incurred on maintenance and repairing costs (Table IV.6.4).

Table IV.6.5 : Annual Average Savings  
of the Sample Households of Niz Dalgaon Village During 2000-03.

SL NO	Saving Institution	Before 1990	During 1990-94	During 1995-99	During 2000-03
01	At Home	0.00	0.00	30000.00	16000.00
	<i>% of the Total</i>	0.00	0.00	6.22	3.97
02	Bank	0.00	0.00	236500.00	168000.00
	<i>% of the Total</i>	0.00	0.00	49.01	41.64
03	LIC	4368.00	45741.00	211007.00	214694.00
	<i>% of the Total</i>	100.00	100.00	43.73	53.21
04	Post Office	0.00	0.00	5000.00	0.00
	<i>% of the Total</i>	0.00	0.00	1.04	0.00
05	Others	0.00	0.00	0.00	4800.00
	<i>% of the Total</i>	0.00	0.00	0.00	1.19
	Total	4368.00	45741.00	482507.00	403494.00

The village has a very poor capital formation, because the saving of the people is very low (Table IV.6.5). More than 50.00 per cent of the population of the village is engaged in agriculture. They hardly produce any surplus. The annual average savings per household, during the year 2000-2003, was merely Rs. 4585.17 with average propensity to save 6 percent.

#### IV.7. Bruajhar Village

'Baruajhar' is the biggest of all the 7 villages that have been selected for the primary data collection. It is situated at around 30 kilometers away from

the sub-divisional Head Quarters, in the southeastern part of the subdivision. The number of households in the village is 349, and its population size is 2958. People of this village are the believers in Islam religion. This village lies at 0.5 kilometers west of the National Highway No. 52 running in the north-south direction. The village has a *pucca* road on its northern part too. This road connects the village to the national highway. But the roads inside the village are un-graveled *kaccha* ones and are in miserable condition. There is a weekly market at a place called Bishimari, which is situated at a distance of 0.5 kilometers from the village. This market is well known for vegetables.

This village is not electrified. The postal service, high school education, bus stoppage, telephone facility, etc. are obtainable from Bishimari chawk. For banking service, college education, etc., the villagers have to travel some 5 to 8 kilometers.

The literacy rate of the sample households is 57.02 percent. As sample data indicate, working population constitutes 48.51 percent of the total (sample) population, out of which only 52.31 percent take part in gainful activities and 47.67 percent of the total working force remains unutilized. Hence, the village has a very high dependency ratio - 74.63 percent on just 25.37 percent actual workers. The major portion of the working population (63.83% including agricultural labourers) is, fully or partially, engaged in agricultural sector, followed by 10.88 per cent being engaged in trade and commerce; 2.94% in other services; 12.94% other laborers; 1.80% in animal husbandry; 2.94% in servicing and repairing and 1.18% in fishing (Table IV.7.1). Farmers of this locality give more emphasis on *Rabi* crops than *kharifs*. They utilize 60.39 percent of the cultivated area in *Rabi* crops, mostly under vegetables like cabbage, cauliflower, brinjal, tomato, potato, radish, ladies finger, peas, gourds, corner gourd, chili, cucumber, carrot, beans, etc. During the *rabi* crop season selling and buying of these merchandise in bulk becomes an every day affair. Varieties of vegetables are supplied to different parts of the state, especially to the urban areas of



Table IV.7.1 : Occupational Distribution of the Sample Population.

Sl. No	Occupational Distribution	Total	Average	% of the Total
01	<b>Population</b>	<b>134.0</b>	<b>6.70</b>	<b>12.19*</b>
	Male	68.0	3.40	50.75
	Female	66.0	3.30	49.25
02	Below 15	64.0	3.20	47.76
	15-59	65.0	3.25	48.51
	60 and above	5.0	0.25	3.73
03	Literates	65.0	3.25	57.02
	Illiterates	49.0	2.45	42.98
04	<b>Workers</b>	<b>34.0</b>	<b>1.70</b>	<b>25.37</b>
05	<b>Cultivators</b>	<b>14.5</b>	<b>0.73</b>	<b>42.65</b>
	Fulltime	12.0	0.60	82.19
	Part time	7.0	0.13	17.81
06	<b>Agricultural labour</b>	<b>7.2</b>	<b>0.36</b>	<b>21.18</b>
	Full time	4.0	0.20	55.56
	Part time	9.0	0.16	44.44
07	<b>Other labour</b>	<b>4.4</b>	<b>0.22</b>	<b>12.94</b>
	Fulltime	3.0	0.15	68.18
	Part time	4.0	0.07	31.82
08	<b>Hired labour</b>	<b>10.6</b>	<b>0.53</b>	<b>23.77**</b>
	Fulltime	10.0	0.50	94.34
	Part time	0.6	0.03	5.66
09	<b>Animal Husbandry</b>	<b>1.8</b>	<b>0.09</b>	<b>1.80</b>
	Full time	0.0	0.00	0.00
	Part time	5.0	0.09	100.00
10	<b>Fishing</b>	<b>0.4</b>	<b>0.02</b>	<b>1.18</b>
	Full time	0.0	0.00	0.00
	Part time	1.0	0.05	100.00
11	<b>Plantation</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
12	<b>Household industry</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
13	<b>MPS &amp; Repairing</b>	<b>1.0</b>	<b>0.05</b>	<b>2.94</b>
	Full time	1.0	0.05	100.00
	Part time	0.0	0.00	0.00
14	<b>Construction</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
15	<b>Trade &amp; commerce</b>	<b>3.7</b>	<b>0.19</b>	<b>10.88</b>
	Full time	3.0	0.15	78.95
	Part time	2.0	0.04	21.05
16	<b>T.S. &amp; communications</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
17	<b>Other Services</b>	<b>1.0</b>	<b>0.05</b>	<b>2.94</b>
	Full time	1.0	0.05	100.00
	Part time	0.0	0.00	0.00

Notes: \* The percentage of sample population in the village to the total of sample population in all seven sample villages. \*\* This has been derived by adding its number with the total number of workers in the village, i.e.,  $10.6/(34 + 10.6) \times 100 = 23.77\%$ .

Upper Assam, like Tinsukia, Dibrugarh, Zorhat, Sivsagarh, Margherita, and other parts of the state (Assam). But, even then, the farmers express their dissatisfaction with the existing prices of their produce, which, according to them, is very low. Most of the farmers cultivate paddy only for their household consumption.

The farmers of this village have used several modern technologies in the field of agriculture. Most of them use tractors in their agricultural fields instead of bullock powers. They adopt multiple cropping patterns raising three to four crops, especially *rabi* crops, in a year on the same plot of land. On the contrary to what we have found in the first five villages where farmers are hesitant in using chemical fertilizers and pesticides, the farmers of this village use almost all possible inputs in the cultivation of various crops. The farmers of this village are more interested in the HYV seeds of vegetable and cash crops. They put every necessary labour and care into raising the maximum possible output from these crops. The middle and big farmers do capitalistic type of farming, using huge investment of capital on seeds, machines, hired labours, etc., producing surplus for sale and exhibiting profit motive to farming. Most of them cultivate paddy only for household consumption. But whoever produces paddy in large area, he does it with a commercial view. Only four (20.00%) cases of this sort are found in the sample.

The institution of hired labour is very much prevalent in the village. Labour is hired on daily, yearly and contractual basis. The wage of a daily laborer includes Rs. 40 to Rs. 50 and a lunch. So, the real wage rate of a daily laborer is around Rs. 55 a day. The daily labourers are hired for the purpose of sowing, weeding and harvesting of crops. The yearly labourers are hired for all activities related to agricultural and non-agricultural purposes. They get food and lodging from the master. So, their real wage rate remains at around Rs. 38.46/day. Also, they hire ploughmen on contractual basis. The contractual labourers get a wage of Rs. 60 per day, but do not get food or lodging from the master (Table IV.7.2).

Table IV.7.2 : Average Daily Wage Rate of Agricultural Labourers.

Sl. No.	Type of Labour	Wage Rate (Rs.)/per head		Paid in Cash	Paid in Kind	From the Village	From outside the Village
		Skilled	Un-skilled				
01	Agricultural Labour :						
	Ploughman (male)	---	53.31	9 (100.00)	0 (0.00)	0 (0.00)	9 (100.00)
	Plant Transferring	---	-----	0.00 (0.00)	0 (0.00)	0.00 (0.00)	0 (0.00)
	Transplantation	---	49.15	413 (100)	0 (0.00)	127 (30.75)	286 (69.25)
	Weeding	---	50.00	231 (100.00)	0 (0.00)	0 (0.00)	231 (100.00)
	Harvesting	---	54.23	417 (100.00)	0 (0.00)	93 (22.30)	324 (77.70)
02	Other Labours :						
	(a) Daily Labourer	---	56.67	9 (100)	---	---	---
	(b) Carpenter	103.87	---	5 (100)	---	---	---

Division of labour exists in the village on the basis of gender. While men undertake all the outdoor works like farming, managing labours, marketing, trading, and other social and religious works, women confine themselves to all the household activities, like cooking, firewood collection, taking care of children and men, etc. Apart from household works, women have a very little contribution to the earning income, spending and family maintenance.

Apart from agriculture, they have a very limited source of earning income. Their homestead lands are not as income fetching as those of the earlier discussed villages. Only 30 per cent of the Sample households have bamboo, which they use in household consumption, 25 per cent households have betel nut and 5 per cent have betel leaf. So, the major portion of income (57.08%) of the sample households accrues from agriculture. Trade and commerce generates around 8.41 percent of the income. A few years back, almost everyone of the village was solely engaged in agriculture. Most of them adopted agriculture on a commercial basis. This helped some of

them to improve their economic conditions to such an extent that now they are able to divert their activities from agriculture to trade and commerce. Their main business activities are cloth stores, fertilizer stores, grocery, bus-services, etc. This village has the largest number of manual labourers (in comparison to other sample villages under study), both of agricultural and other type and get 11.21 percent of the total income from selling manual labour. Around 14.07 percent annual income of the sample households comes from their properties like rented house, buses, rickshaw, trolley, etc. The services contribute just 2.69 percent of the total income. Rice mill (2.10%), fishery (0.26%), orchard (2.57%) and animal husbandry (1.61%) are some other sources of income for the sample households. People make a huge amount of borrowings, which is 59.68 per cent of the total income. In this village borrowing is mostly for investment (Table IV.7.3).

Table IV.7.3 : Income of the Sample Households from Various Sources.

Sl. No.	Sources of Income	Income	Average Income	% to the total
<b>I</b>	<b>Primary Sector</b>	<b>1383132.00</b>	<b>69156.60</b>	<b>72.73</b>
01	Agriculture	1085568.00	54278.40	57.08
02	Labour	213120.00	10656.00	11.21
03	Animal husbandry	30650.00	1532.50	1.61
04	Fishery	5000.00	250.00	0.26
05	Orchard	48794.00	2439.70	2.57
06	Plantation	0.00	0.00	0.00
<b>II</b>	<b>Secondary Sector</b>	<b>40000.00</b>	<b>2000.00</b>	<b>2.10</b>
07	Mini-rice Mill	40000.00	2000.00	2.10
08	Cottage Industry	0.00	0.00	0.00
9	Construction	0.00	0.00	0.00
<b>III</b>	<b>Tertiary Sector</b>	<b>478800.00</b>	<b>23940.00</b>	<b>25.17</b>
10	Trade & Commerce	160000.00	8000.00	8.41
11	Services	51200.00	2560.00	2.69
12	Property	267600.00	13380.00	14.07
	<b>Total</b>	<b>1901932.00</b>	<b>95096.60</b>	<b>100.00</b>
13	Borrowings	1135000.00	56750.00	59.68

The major portion (70.11 %) of their expenditure is spent on non-durable consumption goods, and 13.34 percent on durable consumption goods. Education did not get much importance in this village until recently.

However, now they have started valuing education. They spend 6.02 percent of their total expenditure on children's education. This is a new development in the village. They celebrate two Ids, i.e., Id-ul-joha and Id-ul-fitre, etc. The rich people of the village spend huge amount of money, some 6.02 percent of their total expenditures, in these celebrations. They, also, hold social ceremonies like marriage, anniversary, etc. in which they spend around 3.89 percent of their total expenditures. The rest of 2.92 percent is spent on repairing and maintenance costs of the properties. (Table IV.7.4).

Table IV.7.4 : Expenditures of the Sample Households.

Sl. No.	Expenditure Items	Total	Owned	Purchased	Average of Total
01	Non-Durable Consumption Goods	884214.00	321184.00	563030.00	44210.70
		70.11%	36.32%	63.68%	70.11%
02	Durable Consumption Goods	168210.00	0.00	168210.00	8530.50
		13.34%	0.00%	100.00%	13.34%
03	Education	75930.00	0.00	75930.00	3796.50
		6.02%	0.00%	100.00%	6.02%
04	Cultural Festivals	0.00	0.00	0.00	0.00
		0.00%	0.00%	0.00%	0.00%
05	Social Ceremonies	47000.00	0.00	47000.00	2350.00
		3.73%	0.00%	100.00%	3.73%
06	Religious Ceremonies	49000.00	0.00	49000.00	2450.00
		3.89%	0.00%	100.00%	3.89%
07	Maintenance & Repairing Costs	36830.00	6050.00	30780.00	1079.00
		2.92%	16.43%	83.57%	2.92%
	Total	1261184.00	327234.00	933950.00	62416.70
		100.00%	25.95%	74.05%	100.00%

The rich households of the village use banks as a place of saving. During 2000-03, out of 20 households surveyed, 7 households had a savings amount of Rs.655200 in the bank, Rs.32983.00 of three households in LIC, Rs.70500.00 of seven households at home and. From the table (IV.7.5) it is clear that, 86.361 percent savings are made in banks, 4.35 percent in LIC and 9.29 percent at home. The other saving institutions are neither attractive to them nor do the people have enough money to save in those institutions. The household average annual savings of the people (sample

households) during the period was Rs.9483.53 and the average propensity to save was just 9.6 percent, highest of all the seven sample villages.

Table IV.7.5 : Distribution of Savings in Different Financial Institutions

SL NO	Saving Institution	Before 1990	During 1990-94	During 1995-99	During 2000-03
01	At Home	0.00	0.00	0.00	70500.00
	<i>% of the Total</i>	0.00	0.00	0.00	9.29
02	Bank	0.00	0.00	0.00	655200.00
	<i>% of the Total</i>	0.00	0.00	0.00	86.36
03	LIC	23415.00	18915.00	28727.00	32983.00
	<i>% of the Total</i>	100.00	100.00	78.22	4.35
04	Post Office	0.00	0.00	8000.00	0.00
	<i>% of the Total</i>	0.00	0.00	21.78	0.00
05	Others	0.00	0.00	0	0.00
	<i>% of the Total</i>	0.00	0.00	0.00	0.00
	Total	23415.00	18915.0	36727.00	758683.00

#### IV.8. Sialmari Village

Sialmari village is situated at around 45 kilometers away from the subdivisional Head Quarters, in the southeastern part of Udalguri Subdivision. Most of the inhabitants of the village are Muslim immigrants. The main approach to the village is a kaccha road. The village possesses a primary school. The villagers have to travel some 5 kilometers to get high school, postal service, banking service, marketing facility, health, bus stoppage, and other facilities. The village is not electrified.

Out of 96 households in the village, we have surveyed 20 sample households chosen at random. The total population of the sample households is 146 and the average size of the household is 7.30 persons. The literacy rate is only 41.74 percent. The working population constitutes 26.03 percent of the total (sample) population and 59.38 percent of the total workforce. Around 40.63 percent workforce remains unutilized. The dependency ratio is 73.97 percent. Out of the working population, 60.53

Table IV.8.1 : Occupational Distribution of the Sample Households.

Sl. No.	Occupational Distribution	Total	Average	% of the total
01	<b>Population</b>	<b>146.0</b>	<b>7.30</b>	<b>13.28*</b>
	Male	79.0	3.90	54.11
	Female	67.0	3.35	45.89
02	Age below 15 Years	72.0	3.60	49.31
	Between 15-59 yrs.	64.0	3.20	43.84
	60 and above	10.0	0.50	6.85
03	<b>Literate</b>	<b>53.0</b>	<b>2.65</b>	<b>41.72</b>
	Illiterate	74.0	3.70	58.28
04	<b>Workers</b>	<b>38.0</b>	<b>1.90</b>	<b>26.03</b>
05	<b>Cultivators</b>	<b>24.2</b>	<b>1.21</b>	<b>63.52</b>
	Full time	20.0	1.00	82.64
	Part time	13.0	0.21	17.36
06	<b>Agricultural labour</b>	<b>3.2</b>	<b>0.16</b>	<b>8.40</b>
	Full time	0.0	0.00	0.00
	Part time	10.0	0.16	100.00
07	<b>Other labourers</b>	<b>2.5</b>	<b>0.12</b>	<b>6.82</b>
	Full time	0.0	0.00	0.00
	Part time	8.0	0.12	100.00
08	<b>Hired labour</b>	<b>3.9</b>	<b>0.20</b>	<b>9.31**</b>
	Full time	3.0	0.15	70.00
	Part time	0.9	0.05	30.00
09	<b>Animal Husbandry</b>	<b>2.2</b>	<b>0.11</b>	<b>5.77</b>
	Full time	0.0	0.00	0.00
	Part time	7.0	0.11	100.00
10	<b>Fishing</b>	<b>1.5</b>	<b>0.08</b>	<b>4.20</b>
	Full time	0.0	0.00	0.00
	Part time	5.0	0.08	100.00
11	<b>Plantation</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
12	<b>Household industry</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
13	<b>MPS &amp; Repairing</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
14	<b>Construction</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
15	<b>Trade &amp; Commerce</b>	<b>1.2</b>	<b>0.07</b>	<b>3.41</b>
	Full time	1.0	0.05	71.43
	Part time	1.0	0.02	28.57
16	<b>T.S. &amp; com.</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>
	Full time	0.0	0.00	0.00
	Part time	0.0	0.00	0.00
17	<b>Other services</b>	<b>3.0</b>	<b>0.15</b>	<b>7.87</b>
	Full time	3.0	0.15	100.00
	Part time	0.0	0.00	0.00

Notes: \* The percentage of sample population in the village to the total of sample population in all seven sample villages. \*\* This has been derived by adding its number with the total number of workers in the village, i.e.,  $3.9/(38 + 3.9) \times 100 = 9.31\%$ .

percent is the main workers and 39.47 percent is the marginal workers that work mainly in the agricultural sector. Among the working population, 81.89 percent is engaged in the primary sector, of which 71.92 percent is engaged in agriculture and others are engaged in animal husbandry (5.77%) and fishing (4.20%). The working population engaged in other labourers constitutes 6.82%; trade and commerce constitutes 3.41% and in other services constitutes 7.89% of the total working population. The rest of the industrial categories are non-existent in the village. (Table IV.8.1).

Agriculture is the main occupation of the village. Around 60.60 percent farmers engage themselves fully on cultivation of their own land. This sector brings 53.04 percent of the total income of the sample households. The small farmers, who do not possess enough cultivable land to work on their own land for the whole year, supply their services as part-time agricultural or other labourers, and add 6.96 percent of the total income. Paddy is the principal crop of the village. The farmers of the village cultivate *Boro*, which is a HYV paddy. The average yield of this variety of paddy ranges from 15 to 25 mounds per bigha. The other crops, cultivated in less quantity of area, are - jute, chili, vegetables, etc. Farmers get very little chance to cultivate *rabi* and *winter* crops because most of the cultivable lands remain submerged under water in these seasons. Their agricultural cultivation methods are a little developed than the first five villages we have come across, in the sense that, most of the farmers of the village use tractor, HYV seeds, manures, chemical fertilizers, pesticides, etc. They also adopt more meticulous practices, like timely use of manure, fertilizers, and weed clearing, etc. in cultivation than the farmers of those five villages.

One of the main sources of income of the village is fishery and it brings around 16.03 percent of the total income of the sample households. Almost all the households possess fishponds. They dig ponds on the low lands which remain submerged under water almost the whole year and hence are unfit for cultivation of any crop. The size of a pond ranges from 1 bigha to 10 bighas per pond. The fish farming requires a huge initial investment,



especially at the time of digging. But, after the first one, the yearly investments become much lower than that of cultivation of paddy, vegetables, etc. Also, its maintenance is not as tedious as that of agricultural cultivation. A single part time worker can manage the whole work of the fish farm. Normally the young fish are released in the pond in the months of March and April. They grow very fast in the big ponds if they get adequate food, and can be sold in the same year. But farmers, who are capable of waiting for good returns, allow their fish to grow fully for two to three years. Around 20 percent households have fishponds of the size of 5 to 10 bighas, and earn income ranging from Rs. 30 thousand to Rs. 100 thousand per annum.

Table IV.8.2 : Income from Various Sources.

Sl. No.	Sources of Income	Income	Average Income	% to the total
<b>I</b>	<b>Primary Sector</b>	<b>1346331.25</b>	<b>67316.56</b>	<b>79.35</b>
01	Agriculture	899976.25	44998.81	53.04
02	Labour	118040.00	5902.00	6.96
03	Animal Husbandry	6300.00	315.00	0.37
04	Fishery	272000.00	13600.00	16.03
05	Orchard	50015.00	2500.75	2.95
06	Plantation	0.00	0.00	0.00
<b>II</b>	<b>Secondary Sector</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
07	Rice Mill / Factory	0.00	0.00	0.00
08	Cottage Industry	0.00	0.00	0.00
9	Construction	0.00	0.00	0.00
<b>III</b>	<b>Tertiary Sector</b>	<b>350400.00</b>	<b>17520.00</b>	<b>20.65</b>
10	Trade & Commerce	58000.00	2900.00	3.42
11	Services	216000.00	10800.00	12.73
12	Property	76400.00	3820.00	4.50
	<b>Total</b>	<b>1696731.25</b>	<b>84836.56</b>	<b>100.00</b>
13	Borrowings	315000.00	4241.83	18.57

Due to low-lying area, this village has very few high lands and the villagers have small areas of homestead lands. As a result, income from bamboo, areca nut, betel-leaf, fruit bearing trees, etc. of the sample households is very low (2.95%) as compared to other sample villages. As many as 5 to 6 families build small huts in a compact manner in small high area of lands,

especially near the road sides, and live together. Some of them build temporary huts even in the low areas during winter season, but as soon as summer comes and rainfall starts pouring, they come back up to the original residence. Services (12.73%), trade and commerce (3.42%), property (4.50%), animal husbandry (0.37%) and services are some other sources of income for the sample households. (Table IV.8.2).

Table IV.8.3 : Average Daily Wage Rate of Agricultural Labourers.

Sl. No.	Type of Labour	Wage Rate (Rs.)/per head		Paid in Cash	Paid in Kind	From the Village	From outside the Village
		Skilled	Un-skilled				
01	Agricultural Labour:						
	Ploughman (male)	---	43.88	4 (100.00)	0 (0.00)	4 (100.00)	0 (0.00)
	Plant Transferring	---	-----	0.00 (0.00)	0 (0.00)	0.00 (0.00)	0 (0.00)
	Transplantation	---	57.45	780 (100)	0 (0.00)	780 (100.00)	0 (0.00)
	Weeding	---	57.29	48 (100.00)	0 (0.00)	48 (100.00)	0 (0.00)
	Harvesting	---	70.43	1002 (100.00)	0 (0.00)	0 (0.00)	1002 (100.00)
02	Other Labours :						
	(a) Daily Labourer	---	60.00	2 (100)	0 (0.00)	---	---
	(b) Carpenter	75.00	---	9 (100)	0 (0.00)	---	---

Division of labour is based on gender. Men do all the outdoor activities right from farming to family maintenance, whereas women take care of all the household activities. But the families that do not have male workers or cannot do without female labour, engage women in various economic activities

Hiring of male labour on daily and yearly contractual basis is prevalent in this village too. Around 85.93 percent of the total workforce is hired from the village itself. The wage rate of a daily ploughman is Rs. 50 and that of

those on yearly basis ranges from Rs. 2000 to Rs. 4000, which is much less than those in other sample villages. As usual, ploughmen get food, lodging and other facilities from the master. It is worth mentioning here that in this village even the daily labourers get one-times food, on the working day, from the master. This raises his real wage rate by around Rs. 10 per day. So, considering all these aspects, the wage rate of a daily labourer is Rs. 60, whereas that of a yearly labourer is only Rs. 32.76. But the skilled labourers get a daily wage @ Rs. 75. (Table IV.8.3).

Table IV.8.4 : Annual Expenditure on Consumable and Non-consumable Goods.

Sl. No.	Expenditure Items	Total	Owned	Purchased	Average of Total
01	Non-Durable Consumption Goods	928691.00	404765.00	523926.00	46434.55
		81.93%	43.58%	56.42%	81.93%
02	Durable Consumption Goods	69145.00	0.00	69145.00	3457.25
		6.10%	0.00%	100.00%	6.10%
03	Education	59250.00	0.00	59250.00	2962.50
		5.23%	0.00%	100.00%	5.23%
04	Cultural Festivals	0.00	0.00	0.00	0.00
		0.00%	0.00%	0.00%	0.00%
05	Social Ceremonies	2000.00	0.00	2000.00	100.00
		0.18%	0.00%	100.00%	0.18%
06	Religious Ceremonies	47300.00	0.00	47300.00	2365.00
		4.17%	0.00%	100.00%	4.17%
07	Maintenance & Repairing Costs	27100.00	6450.00	20650.00	1355.00
		2.39%	23.80%	76.20%	2.39%
	Total	1133486.00	411215.00	722271.00	56674.30
		100.00%	36.28%	63.72%	100.00%

Around 81.93 percent of the total expenditure goes on non-durable consumption goods, out of which 43.58 percent is home made or home grown and 56.42 percent on purchased goods. They spend only around 6.10 percent of their total expenditure on durable consumption goods, 5.23 percent on education, 0.18 percent on social ceremonies; 4.17 percent on religious ceremonies and 2.39 percent on repairing and maintenance of property. Thus, out of the total expenditure, 36.28 percent is met from home grown products in the form of imputed consumption expenditure and 63.72 percent is spent on purchased goods. (Table IV.8.4).

Table IV.8.5 : Savings at different Financial Institutions.

SL. NO.	Saving Institution	Before 1990	During 1990-94	During 1995-99	During 2000-03
01	At Home	0.00	0.00 (0.00 %)	0.00 (0.00 %)	85700.00 (21.77 %)
02	Bank	0.00	42000.00 (100.00 %)	183000.00 (95.02 %)	285800.00 (72.60 %)
03	LIC	0.00	0.00 (0.00 %)	9600.00 (4.98 %)	21380.00 (5.43 %)
04	Post Office	0.00	0.00 (0.00 %)	0.00 (0.00 %)	0.00 (0.00 %)
05	Others	0.00	0.00 (0.00 %)	0.00 (0.00 %)	780.00 (0.20 %)
	Total	0.00	42000.00	192600.00	393660.00

The rate of savings of the people of this village is also very low. The maximum people of this village save their money in banks. The postal saving schemes have not been able to encourage the people of this village to save. Around 70.00 percent informants do not have enough money to save in postal savings, 15.00 percent do not have knowledge about postal savings and 15.00 percent is not interested in saving at this institutions. Saving in LIC has been increasing during the last few years. Many of them cannot afford to save due to lack of sufficient income, even though they are interested to do so. So, the annual savings per household remained at as low as Rs. 4921 during 2000-2003 and the APS during the period was 0.058. (Table IV.8.5).

#### IV.9. Summary of the Description of all the Seven Villages

After having some descriptive ideas about the seven sample villages separately, let us now summarize them together on the basis their various economic considerations. Most of the sample villages selected from different corners of the subdivision (Udalguri Subdivision) for our study, are backward in respects of infrastructures – both physical and institutional, and, as a result, economically backward too. The approach to most of the villages like Barigaon Gerua, Bhodal, Kalbari, Sapkhaiti, Baruajhar and Sialmari is katcha road, and only Niz Dalgaon is partially connected to a

pucca road. The average distance of the sample villages from the nearest town is 7.71 kilometers. Four villages (Gerua, Kalbari, Baruajhar and Sialmari) of the seven sample villages (57.14%) are not electrified. The children of these villages have to travel up to an average of around 4 kilometers for high school education and more than 10 kilometers for college education. Very remote villages like Gerua, Kalbari and Sialmari are more backward in transport and communication. Amenities like financial institutions, postal service, markets, etc. are very much lacking in these villages. As whole, we can say that these sample villages are under-developed and backward in almost every respects.

As it has been found in the discussions of the economic activities of the sample households of the sample villages, the economy of these villages is predominantly agricultural which is manifested in low per capita income and a very high share of agricultural sector in the gross regional product (GRP). The characteristic features of less developed, predominantly agricultural economies are reflected in a low level of per capita income, and second, in a disproportionately high share of agriculture sector in the gross regional product. Both as a consequence and as a cause, the majority of the population in such region depends on the agricultural sector for its livelihood. At the front of institutional structure of such economies, it is remarkable that in their societies farming is more or less a way of life rather than an industry (Mishra, 1984, p-1). It has been found that around 49.87% of the total working population is engaged in agriculture, of which, 45.44% is constituted by farmers and 4.43% is agricultural labour, and many more are indirectly dependent on it. So, agriculture is the principal occupation of this section of the working population generating around 40.17% of the total income (32.19% of the total income) of the sample households, and they are so much attached to the farming activities in such a way that apart from agriculture they cannot think of, or find even if they want, any other activities. Of course, members of a few households have been fortunate

Table IV.9.1 : Population and Occupational Distribution of all Sample Households.

	Village	Barigaon Gerua	Bhagdal Gaon	Kal-bari	Sap-khaiti	Niz Dal-gaon	Barua-jhar	Sial-mari	All 7 Villages	Percent to Total
1	<b>Population</b>	<b>168</b>	<b>187</b>	<b>183</b>	<b>166</b>	<b>115</b>	<b>134</b>	<b>146</b>	<b>1099</b>	<b>100.00</b>
	Male	77	103	78	82	67	68	79	554	50.41
	Female	91	84	105	84	48	66	67	545	49.59
2	Age below 15	44	50	63	32	38	64	72	363	33.03
	Age between 15-59	120	129	114	126	75	65	64	693	63.06
	Age 60 & above	4	8	6	8	2	5	10	43	3.91
3	Literate (ex 0-6 years)	141	119	115	145	107	65	53	745	67.78
	Illiterate (ex 0-6 years)	16	53	38	11	2	49	74	243	22.11
4	<b>No of Workers</b>	<b>93</b>	<b>94</b>	<b>87</b>	<b>74</b>	<b>47</b>	<b>34</b>	<b>38</b>	<b>467</b>	<b>42.49</b>
5	<b>Cultivators</b>	<b>46.9</b>	<b>59.4</b>	<b>38.2</b>	<b>24.6</b>	<b>13.4</b>	<b>14.5</b>	<b>24.2</b>	<b>221.2</b>	<b>45.44</b>
	Full time	35	35	25	17	11	12	20	155	70.07
	Part time	27	42	30	21	11	7	13	151	29.93
6	<b>Agricultural Labourers</b>	<b>4.1</b>	<b>0</b>	<b>6.2</b>	<b>0</b>	<b>0</b>	<b>7.2</b>	<b>3.2</b>	<b>20.7</b>	<b>4.43</b>
	Full time	1	0	4	0	0	4	0	9	43.48
	Part time	7	0	5	0	0	9	10	31	56.52
7	<b>Other Labourers</b>	<b>2.8</b>	<b>2.6</b>	<b>8.3</b>	<b>1.7</b>	<b>5</b>	<b>4.4</b>	<b>2.7</b>	<b>27.5</b>	<b>5.89</b>
	Full time	2	2	7	1	5	3	0	20	72.73
	Part time	2	1	3	2	0	4	8	20	27.27
8	<b>Hired labours</b>	<b>30.6</b>	<b>3.9</b>	<b>16.9</b>	<b>17.5</b>	<b>1.41</b>	<b>10.6</b>	<b>3.9</b>	<b>84.81</b>	<b>15.34*</b>
	Full time	23	0	9	11	1	10	3	57.00	67.21
	Part time	7.6	3.9	7.9	6.5	0.41	0.6	0.9	27.81	32.79
9	<b>Animal Husbandry</b>	<b>9.2</b>	<b>7.5</b>	<b>11.4</b>	<b>8.3</b>	<b>1.1</b>	<b>1.8</b>	<b>2.2</b>	<b>41.5</b>	<b>8.89</b>
	Full time	0	0	0	0	0	0	0	0	0.00
	Part time	21	13	26	23	5	5	7	100	100.00

	Village	Bari- gaon Gerua	Bhagdal Gaon	Kal- bari	Sap- khaiti	Niz Dalga on	Barua- jhar	Sial mari	All 7 Villa- ges	Per cent to Total
10	<b>Fishing</b>	<b>0.9</b>	<b>0.6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.4</b>	<b>1.6</b>	<b>3.5</b>	<b>0.75</b>
	Full time	0	0	0	0	0	0	0	0	0.00
	Part time	2	1	0	0	0	1	5	9	100.00
11	<b>Plantation</b>	<b>12.2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13.2</b>	<b>2.83</b>
	Full time	10	0	1	0	0	0	0	11	83.33
	Part time	5	0	0	0	0	0	0	5	16.67
12	<b>Household Industries</b>	<b>8.7</b>	<b>8.8</b>	<b>5.3</b>	<b>7.2</b>	<b>2.2</b>	<b>0</b>	<b>0</b>	<b>32.2</b>	<b>6.92</b>
	Full time	0	3	0	0	0	0	0	3	9.29
	Part time	20	10	12	20	10	0	0	72	90.71
13	<b>M.P.S. &amp; Repairing</b>	<b>0.9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.2</b>	<b>1</b>	<b>0</b>	<b>2.1</b>	<b>0.45</b>
	Full time	0	0	0	0	0	1	0	1	47.62
	Part time	2	0	0	0	1	0	0	3	52.38
14	<b>Construction Works</b>	<b>1.3</b>	<b>1.2</b>	<b>0</b>	<b>2.7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5.2</b>	<b>1.13</b>
	Full time	1	0	0	2	0	0	0	3	56.60
	Part time	1	2	0	2	0	0	0	5	43.40
15	<b>Trade &amp; Commerce</b>	<b>3</b>	<b>6.9</b>	<b>7</b>	<b>2.1</b>	<b>3</b>	<b>3.7</b>	<b>1.3</b>	<b>27</b>	<b>5.78</b>
	Full time	3	4	3	1	3	3	1	18	66.67
	Part time	0	5	9	3	0	2	1	20	33.33
16	<b>Transport &amp; Communication</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>1.28</b>
	Full time	1	0	0	0	5	0	0	6	100.00
	Part time	0	0	0	0	0	0	0	0	0.00
17	<b>Other Services</b>	<b>2</b>	<b>7</b>	<b>9.4</b>	<b>27.4</b>	<b>17</b>	<b>1</b>	<b>3</b>	<b>66.8</b>	<b>14.30</b>
	Full time	2	7	9	27	17	1	3	66	98.80
	Part time	0	0	1	1	0	0	0	2	1.20

Notes: \* This has been derived by adding its number with the total number of workers in the village, i.e.,  $84.81/(467 + 84.81) \times 100 = 15.34\%$ .

enough to come away from agriculture, who have joined other economic activities as their main occupation. The Occupational distribution of population as found in Census 2001 is given in table IV.A (appendix).

The second important occupation which absorbs less labour but generate sufficiently significant portion of income of the sample households is the other services sector. This sector has absorbed only 14.30% of the total working population and generated around 25.71% of the total GRP (34.58% of the total income) of the economy of the sample villages. This indicates that the other services as an occupation, and hence, income from this source, is distributed in a highly unequal manner, leading to the differences in their living standard from the other income groups of people of the society. (Table IV.9.2)

Table IV.9.2 : Income of the Sample Households from various Sources.

Sl. No.	Sources of Income	Income	Average Income	% to the Total
<b>I</b>	<b>Primary Sector</b>	<b>6138707.00</b>	<b>33729.15</b>	<b>50.71</b>
01	Agriculture	3897050.00	21412.36	32.19
02	Labour	638808.00	3509.93	5.28
03	Animal Husbandry	247740.00	1361.21	2.05
04	Fishery	327390.00	1798.85	2.70
05	Orchard	762719.00	4190.76	6.30
06	Plantation	265000.00	1456.04	2.19
<b>II</b>	<b>Secondary Sector</b>	<b>691290.00</b>	<b>3798.30</b>	<b>5.71</b>
07	Mill / Factory	130800.00	718.68	1.08
08	Cottage Industry	225490.00	1238.96	1.86
9	Construction	335000.00	1840.66	2.77
<b>III</b>	<b>Tertiary Sector</b>	<b>5275804.00</b>	<b>28987.93</b>	<b>43.57</b>
10	Trade & Commerce	663740.00	3646.92	5.48
11	Services	4186624.00	23003.43	34.58
12	Property	425440.00	2337.58	3.51
	<b>Total</b>	<b>12105801.00</b>	<b>66515.39</b>	<b>100.00</b>
13	Borrowings	1634718.00	8981.97	13.50

Plantation serves a little better purpose from the permanent occupation point of view in the sense that around 2.83% of the total workforce is engaged in it and whoever has been engaged in it are mostly working on



full time basis. Also their income generation is growing up slowly contributing some 2.19% to the total income of the sample households.

The rest of the activities like animal husbandry, fishery, household industries, trade and commerce, construction, etc. also definitely play some role in the economy, but from the viewpoint of occupation, most of these are not of permanent in nature. People carry out these activities as their part time work. Still then, the households, which have undertaken these part time works along with their other engagements, have been being benefited a lot. So, out of the total income of the sample households, around 2.05% comes from animal husbandry, 2.70% comes from household industries, 2.77% income comes from construction works and around 5.48% comes from trade and commerce. (Table IV.9.2).

Table IV.9.3 : Occupational Distribution of Population  
in the Sample Villages based on Sample Households Survey

Index	Bari gaon Gerua	Bhog dal Gaon	Kal bari	Sap khaiti	Nizdal Gaon	Barua jhar	Sial mari	All 7 Villages
W/P (%)	55.36	50.27	47.54	44.58	40.87	25.37	26.03	42.49
C/W (%)	50.43	63.19	43.91	33.24	28.51	42.65	63.68	47.37
L/W (%)	4.41	0.00	7.13	0.00	0.00	21.18	8.42	4.43
H/C (ratio)	0.65	0.07	0.44	0.71	0.11	0.73	0.16	0.38
W <sub>1</sub> /W (%)	81.83	74.57	74.94	46.76	41.70	83.24	88.95	70.28
W <sub>2</sub> /W (%)	11.72	10.64	6.21	13.38	5.11	2.94	0.00	7.14
W <sub>3</sub> /W (%)	6.45	14.79	18.85	39.86	53.19	13.82	11.05	22.57
P=Population; W=Workers; C=Cultivators; L=Agricultural Labourers; H=Hired Labourers; W <sub>1</sub> = Workers in the primary sector; W <sub>2</sub> =Workers in secondary Sectors; W <sub>3</sub> = Workers in Tertiary sector								

As table IV.9.3 indicates, the overall worker population ratio (W/P) is about 42.5 percent; the lowest in Barujhar (25.37%) and the highest in Barigaon Gerua (55.36%). The percentage of cultivators among the workers (C/W) is lowest in Nizdal Gaon (28.51%) and highest in Sialmari

(63.68%) with an overall figure of 47.37 percent. Workers' participation in the primary sector is about 70 percent (overall) with the minimum in Nizdal Gaon (41.70%) and the maximum in Sialmari (88.95%). On the other hand, workers' participation in the tertiary sector is the least in Barigaon Gerua (6.45%) and the highest in Nizdal Gaon (53.19%), with the overall figure of 22.57 percent. In Sapkhaiti we find the maximum participation in the secondary sector, 13.38 percent, but the overall figure for all the seven villages is only 7.14 percent.

Table IV.9. 4 : Percentage Distribution of  
Income from Different Sources in the Sample Villages

Sources of Income	BariGaon Gerua	Bhogdal Gaon	Kalbari	Sapkhaiti	Nizdal Gaon	Baruajhar	Sialmari	All 7 Villages
<b>Primary</b>	<b>84.33</b>	<b>42.53</b>	<b>56.13</b>	<b>15.04</b>	<b>26.31</b>	<b>72.73</b>	<b>79.35</b>	<b>50.71</b>
Agricult	47.78	29.98	28.32	5.68	15.89	57.08	53.04	32.19
Labour	4.88	3.32	6.05	0.88	4.94	11.21	6.96	5.28
Animal husband	4.63	2.32	4.66	1.40	0.66	1.61	0.37	2.05
Fishery	1.19	0.34	0.51	0.67	0.28	0.26	16.03	2.70
Orchard	15.71	6.57	9.56	5.43	4.54	2.57	2.95	6.30
Plantation	10.14	0.00	7.03	0.98	0.00	0.00	0.00	2.19
<b>Secondary</b>	<b>6.73</b>	<b>16.07</b>	<b>1.79</b>	<b>11.51</b>	<b>0.28</b>	<b>2.1</b>	<b>0</b>	<b>5.71</b>
Mini-rice Mill	2.83	2.48	0.35	0.42	0.00	2.10	0.00	1.08
Cottage Industry	1.00	12.21	1.44	0.36	0.28	0.00	0.00	1.86
Construction	2.90	1.38	0.00	10.73	0.00	0.00	0.00	2.77
<b>Tertiary</b>	<b>8.95</b>	<b>41.39</b>	<b>42.07</b>	<b>73.44</b>	<b>73.43</b>	<b>25.17</b>	<b>20.65</b>	<b>43.57</b>
Trade & Commerce	3.73	11.39	9.11	1.50	3.61	8.41	3.42	5.48
Services	5.22	28.21	30.32	71.84	68.92	2.69	12.73	34.58
Property	0.00	1.79	2.64	0.10	0.90	14.07	4.50	3.51
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
Borrowings	0.61	3.08	1.29	4.42	0.00	59.68	18.57	13.50

As presented in table IV.9.4, there are significant variations in the household incomes derived from different sources. Overall, agriculture contributes 32.19% of the total income, although different villages exhibit varying percentages ranging from 5.68% (Sapkhaiti) to 57.08% (Baruajhar). Cottage industries contribute the maximum in Bhogdal Gaon

(12.21% of the total income), but nil in Barujhar and Sialmari. Percentage contribution to income from trade and commerce also is the largest (11.39%) in Bhogdal Gaon. Service provides as large as (more than) 2/3<sup>rd</sup> of the total income in Sapkhaiti and Nizdal Gaon, while its contribution is very little in Barigaon Gerua and Barujhar villages.

The wage rate of the labourers varies according to the nature of work. The average daily wage rate of agricultural labourers ranges from Rs. 22.47 for weeding to Rs. 57.22 for harvesting. The wage rate of other labourers (working outside agriculture) is also not much different from that of agricultural labourers. The average wage rate of a skilled male labourer is Rs. 62.93 and that of an unskilled labourer is Rs. 49.21 (Table IV.9.5).

Table IV.9.5 : Average Daily Wage Rate of Agricultural/other Labourers.

Sl. No.	Type of Labour	Wage Rate (Rs.)/per head		Paid in Cash	Paid in Kind	From the Village	From outside the Village
		Skilled	Un-skilled				
1	Agricultural Labour :	---					
	Ploughman (male)	---	46.57	68	33	42	59
	Percentage	---		67.33	32.67	41.58	58.42
	Plant Transferring	---	30.00	1034	0	580	454
	Percentage		---	100	0	56.09	43.91
	Transplantation	---	39.29	5853	0	2777	3076
	Percentage	---	---	100	0	47.45	52.55
	Weeding	---	22.47	370	0	48	322
	Percentage	---	---	100	0	12.97	87.03
	Harvesting	---	57.22	1860	1108	234	2734
	Percentage		---	62.67	37.33	2.68	97.32
2	Other Labours :						
	Daily Labourer	---	49.21	26	---	---	---
	Percentage	---	---	100	---	---	---
	Miscellaneous	62.93	---	18	---	---	---
	Percentage	---	---	100	---	---	---

The expenditure of the sample households can be classified in to expenses on (1) Non-durable consumption goods, (2) Durable consumption goods,

(3) Education, (4) Cultural festivals, (5) Social ceremonies, (6) Religious ceremonies and (7) Maintenance and repairing costs. The expenses on non-durable consumption goods include all the food items, firewood, gas-cylinder, kerosene, cosmetics, appliances, etc. and covers around 70.61% of the total expenditures of the sample households. Out of this, around 36.96% expenses are met out of home grown goods and the rest of 63.04% is spent on purchased goods (Table IV.9.6). The expenses on consumer durable goods include the items like motor vehicle, motorcycle, bicycle, television, radio, furniture, kitchenware, telephone, refrigerator, etc. and constitute around 12.69% of the total expenditures. In this case, the percentage of homemade products can meet only 1.78% of the total expenses on the durable goods in the form household industries. The rest of 98.22% expenses on durable goods are spent on purchased items.

Table IV.9.6 : Annual Expenditure on Consumable and Non-consumable Goods.

Sl. No.	Expenditure Items	Total	Owned	Purchased	Average of Total
01	Non-Durable Consumption Goods	6707157.00	2478959.00	4228198.00	36852.51
		(70.61%)	(36.96%)	(63.04%)	(70.61%)
02	Durable Consumption Goods	1204983.00	21430.00	1183553.00	6620.79
		(12.69%)	(1.78%)	(98.22%)	(12.69%)
03	Education	634094.00	0.00	634094.00	3484.03
		(6.68%)	(0.00%)	(100.00%)	(6.68%)
04	Cultural Festivals	37350.00	0.00	37350.00	205.22
		(0.39%)	(0.00%)	(100.00%)	(0.39%)
05	Social Ceremonies	490700.00	0.00	490700.00	2696.15
		(5.17%)	(0.00%)	(100.00%)	(5.17%)
06	Religious Ceremonies	219815.00	0.00	219815.00	1207.78
		(2.31%)	(0.00%)	(100.00%)	(2.31%)
07	Maintenance & Repairing Costs	204665.00	59850.00	144815.00	1124.53
		(2.15%)	(29.24%)	(70.76%)	(2.15%)
	Total	9498764.00	2560239.00	6938525.00	52191.00
		(100.00%)	(26.95%)	(73.05%)	(100.00%)

The expenses on education, cultural festivals, social and religious ceremonies are relatively lower and all of these are spent on purchased items. Repairing and maintenance costs of all the consumer durable goods

and items like fencing, house repairing, maintenance costs of bullock, etc. constitute around 2.15% of the total expenditures of the sample households, out of which 29.24% is met from home-grown products, especially, bamboo. So, the largest portion of the expenditure is to be made on non-durable consumption goods.

Table IV.9.7 : Savings of the Sample Households at Different Financial Institutions

SL. NO.	Saving Institution	Before 1990	During 1990-94	During 1995-99	During 2000-03
01	At Home	0.00	58000.00	627400.00	540350.00
	Percentage	0.00	9.65	25.29	21.08
02	Bank	119454.00	400647.00	1187979.00	1427610.00
	Percentage	48.64	66.68	47.88	55.70
03	LIC	124112.00	133556.00	573111.00	497868.00
	Percentage	50.54	22.23	23.10	19.42
04	Post Office	0.00	8680.00	36766.00	59330.00
	Percentage	0.00	1.44	1.48	2.31
05	Others	2000.00	0.00	56000.00	37980.00
	Percentage	0.81	0.00	2.26	1.48
	Total	245566.00	600883.00	2481256.00	2563138.00

The rate of saving of the sample households is very low. The annual rate of saving is just 5 percent of their income (Table IV.9.7). This meager saving is not enough even for contingencies. As a result, most of the households cannot invest in productive activities.

## Appendix

**Table IV.A: Village-wise Occupational Distribution of Population (Census 2001)**

Occupations	Barigaon Gerua	Bhodal	Kalbari *	Sapkhaiti	Niz Dalgaon	Baruajhar	Sialmari
Population	296	1157	650	230	1892	5209	1127
Male	149	607	340	120	992	2668	571
Female	147	550	310	110	900	2541	556
Workers	152	260	200	120	566	1366	418
Male	79	249	172	85	531	1296	297
Female	73	11	28	35	35	70	121
Non-workers	144	897	450	110	1326	3843	709
Male	70	358	170	45	461	1372	274
Female	74	539	280	65	865	2471	435
Cultivators	124	190	108	35	244	595	124
Male	62	185	93	25	239	584	113
Female	62	5	15	10	5	11	11
Agricultural Labourers	11	17	32	7	139	450	132
Male	6	17	28	5	126	446	108
Female	5	0	4	2	13	4	24
Household Industries	2	3	3	8	4	37	21
Male	2	2	1	2	2	24	2
Female		1	2	6	2	13	19
Others	15	50	57	70	179	284	141
Male	9	45	49	53	164	242	74
Female	6	5	8	17	15	42	67

\* Note : The Census 2001 does not provide information on Kalabari Village. We have estimated the occupation distribution figures for this village.

Daimari, Prasen (2005) A Study on Structure of the Economy of Udalguri Subdivision, Assam, Doctoral Dissertation, Dept. of Economics, North Eastern Hill University, Shillong (India)

## **Chapter-V**

### **An Outline of the Rural Economy of Udalguri Sub-Division**

#### **V.1. The Features of Rural Economy of Udalguri**

The description of the sample villages presented in the earlier chapter provides us an outline of the rural economy in the study area. In the following sections we present the salient features of the same.

**V.1(i). Primacy of Agriculture:** The economy of this area is based on primary sector, which is 'traditional agriculture'. Its agricultural production is mostly subsistence ridden and not market ridden. Paddy is the major crop cultivated in the area. It occupies more than 91.42 percent of the total agricultural produce of the area. The share of wheat in the total agricultural production is just 0.04 percent, and those of vegetables and jute are 8.31 percent and 0.22 percent, respectively. Production of other crops, like sugarcane, jute, spices, etc. is negligible. The manufacturing sector has an insignificant role in the economy of the area.

**V.1(ii). Surplus Labour in Agriculture:** There is surplus labour in agriculture making the marginal productivity of family members working on land zero, or near-zero. Around 88.30 percent of the total main workers are engaged in the primary sector out of which, agriculture alone absorbs 77.88 percent of it. The total number of agricultural workers in the sample households is 327 (cultivators – 221, agricultural labourers – 21, and hired labourers (mostly from outside the sample villages) - 85. who cultivate 2114 bighas of land giving about 0.15 workers per bigha of land. At this rate the employment of labour per bigha of land will exceed 40 man-days. Even if we do not include the hired agricultural labourers coming from outside the sample villages (under the assumption that the agricultural labourers from the sample villages also might hire out their labour to the surrounding villages and thus balancing out the 'import' of labourers), the worker land ratio would be 0.11 at which the employment of labour per bigha of land

would be a little over 29 man-days. Now, cultivation of a bigha of land normally requires 12 to 15 man-days. This gives us that about a half of the total workers presently working in farming are in fact unemployed in disguise. Even if we assume that cultivation of a bigha of land requires 20 man-days, then too,  $1/3^{\text{rd}}$  of the agricultural workers are unproductively employed.

Regression analysis of returns on farming suggests that while the marginal productivity of land is a little over Rs. 2000/bigha, the marginal productivity of hired labour (par day) is about Rs. 100/bigha. On the other hand, the marginal productivity of family labour employed in farming is zero (or near-zero), if not negative. First, agricultural output (in Rs.) is regressed on land, family labour, hired labour and other expenses (representing capital, etc) including the intercept (non-homogenous model). The regression constant is statistically not different from zero. Therefore, in the next analysis intercept term has been dropped (homogenous model).

Table V.1.1 : Non-homogenous Regression Summary : Dependent Variable = Production (Rs.)

Variables	Coefficient	Std. Error	't' Value	Prob level
Intercept	-10295.5	11430.88	-0.900673	0.369494
Land (bigha)	2114.5	330.76	6.392725	0.000000
Family Labour (Mandays)	-28.9	30.72	-0.942114	0.347952
Hired Labour (Mandays)	92.6	44.50	2.080487	0.039523
Other expenses (Rs.)	4.8	1.17	4.097084	0.000075

$R^2 = 0.640$ ; Adjusted  $R^2 = 0.628$ ;  $F(4,125) = 55.44$ ;  $p < 0.00000$  Std.Error of estimate: 51906.

Table V.1.2 : Homogenous Regression Summary : Dependent Variable = Production (Rs.)

Variables	Coefficient	Std. Error	't' Value	Prob level
Land (bigha)	2045.373	321.5004	6.36196	0.000000
Family Labour (Mandays)	-51.050	18.4549	-2.76622	0.006525
Hired Labour (Mandays)	88.343	44.2181	1.99789	0.047882
Other expenses (Rs.)	4.931	1.1616	4.24509	0.000042

$R^2 = 0.728$ ; Adjusted  $R^2 = 0.719$ ;  $F(4,126) = 84.30$ ;  $p < 0.00000$ ; Std.Error of estimate: 51867.

We have also fitted Cobb-Douglas type production function with land, family labour, hired labour and other expenses (proxy for capital). It is found that the elasticities with regard to family as well as hired labour are statistically not different from zero. When composite labour (family labour plus hired labour) is used as input, the elasticity remains statistically indifferent from



zero. Since the elasticity (of production, P) with regard to any particular input (say L) is given by  $\eta_{PL} = (\partial P / \partial L)(\bar{L} / \bar{P})$ , if  $(\bar{L} / \bar{P}) \neq 0$  and the elasticity  $\eta_{PL}$  is statistically indifferent from zero, it implies that the marginal productivity of L =  $\partial P / \partial L$  is statistically indifferent from zero. Viewed differently, the elasticity  $\eta_{PL} = (\partial P / \partial L)(\bar{L} / \bar{P})$  may be considered as a ratio of *marginal productivity* of L (that is,  $\partial P / \partial L$ ) to the *average productivity* of L (that is,  $\bar{P} / \bar{L}$ ), which may also be interpreted as the product of the marginal productivity of L (that is,  $\partial P / \partial L$ ) and the *average labour-output coefficient* (that is  $\bar{L} / \bar{P}$ ). Since the average productivity of L (or the average labour-output ratio for that matter) will not be infinitely large (or zero for that matter), the conclusion derived above stands that if  $\eta_{PL}$  is not different from zero then the marginal productivity of labour as well cannot be different from zero. As a matter of fact, traditional farming has an insatiable absorption capacity for labour; additional employment of labour reduces the workload and average efficiency of the workers in situ, accommodating for the additional workers and wrapping their zero marginal productivity.

Table. V.1..3 : Regression Summary for Dependent Variable:  $\log_e(P)$

Variables ( $\log_e$ values)	Coefficient	Std. Error	't' Value	Prob level
Intercept	4.557070	0.662496	6.878638	0.000000
Land (bigha)	0.499488	0.106818	4.676070	0.000008
Family Labour (Mandays)	0.001225	0.115111	0.010643	0.991527
Hired Labour (Mandays)	0.021095	0.062358	0.338285	0.735787
Other expenses (Rs.)	0.562071	0.072816	7.719036	0.000000

$R^2 = 0.785$  Adjusted  $R^2 = 0.777$ ;  $F(4,111) = 101.05$ ;  $p < 0.00000$ ; Std.Error of estimate: 0.51465

Table V.1.4 : Regression Summary for Dependent Variable:  $\log_e(P)$

Variables ( $\log_e$ values)	Coefficient	Std. Error	't' Value	Prob level
Intercept	3.822299	0.682353	5.601645	0.000000
Land (bigha)	0.477175	0.095434	5.000038	0.000002
Family labour + Hired Labour (Mandays)	0.171037	0.134350	1.273068	0.205630
Other expenses (Rs.)	0.542676	0.071547	7.584943	0.000000

$R^2 = 0.787$ ; Adjusted  $R^2 = 0.781$ ;  $F(3,112) = 138.56$ ;  $p < 0.00000$ ; Std.Error of estimate: 0.50895

**V.1(iii). Low Productivity of Agriculture:** The agricultural productivity in the area is very low. The average productivity of paddy per bigha cultivable land is only 9 mounds in the good monsoon season, and it declines to just about 6 mounds otherwise. This is the result of a number of other factors like primitive method of cultivation, small size of holdings, lack of irrigation facilities, use of traditional seeds, scanty use of fertilizer, illiteracy of the farmers, etc.

It is to be noted here that the state government (Assam) has launched a World Bank assisted programme for development of agriculture through the distribution of shallow tube well (STW) to needy farmers, especially to those who cultivate *rabi* crops. The state government has started distributing the STWs to the farmers since 1999-2000 under the Samriddha Krishak Yojana (SKY) – a programme to help the needy farmers – with the assistance from the World Bank and NABARD. Out of the 182 sample households, 21 households have received the STW irrigation facility, of which 10 numbers are in the southern part of the study area belonging to immigrant farm families. Most of these farm families have been able to reap the benefit of the STW irrigation under this SKY scheme, whereas, most of the farmers belonging to the indigenous families could not reap the benefit of this STW irrigation facility in the sense that they have not properly used these STWs for raising the productivity of agriculture.

**V.1(iv). Capital Deficiency:** Most of the farmers of the area practise subsistence farming and have little connection with the market sector of the economy. Their marginal productivity is extremely low. Low productivity has led to low real income, low saving, low investment and a low rate of capital formation. The annual average productivity of worker (both family and hired labour taken together) in the agriculture sector, calculated at the existing price level of produce, during 2002-03, was just Rs.12869.82, which is lower than the income (Rs. 13500 per annum @ Rs. 50/day for 270 days) that the same labour can get if he is engaged in some other activities. The average annual productivity of agriculture becomes still lower (Rs. 6601.32 only) if

we include the imputed value of the family labour cost of production at the existing market wage rate of labour (Sen, 1962). The low income in agricultural sector is the result of a number of other factors like primitive method of cultivation, small size of holdings, lack of irrigation facilities, lack of high yielding seeds, scanty use of fertilizer, illiteracy of the farmers, etc. Again, the annual average income per farm family, calculated at the existing prices of different produces was Rs. 30 thousand, whereas the annual average consumption requirements exceed Rs. 52 thousand per household. So, with this low-level productivity of, and income from, agriculture, without having other sources of income, one cannot expect to have a high rate of capital formation in such backward areas.

Since the propensity to save is very low (about 5 percent of the income) in these economies, savings are meagre. Supply of finance from the local money-lenders is not a good alternative since the rates of interest are exorbitant (at the prevailing rates the principal is doubled within a year). Traditional farming cannot support the open market rate of interest. On the other hand, supply of institutional finance, although provided on easy rates, does not come to a small farmer timely and easily. This situation forces the farmers to apply little of non-traditional inputs.

Table V. 1.5 : Credit Facilities (Rs.) in the Study Area.

Sl. No.	Purpose Agencies	Business	Agriculture	Household Consumption
01	Commercial Banks	208000.00 (20.61)	491000.00 (96.65)	100000.00 (73.15)
02	Regional Rural Banks	770000.00 (76.31)	0.00 (0.00)	0.00 (0.00)
03	Co-operative Bank	0.00 (0.00)	12000.00 (2.36)	0.00 (0.00)
04	Co-operative Societies	20000.00 (1.98)	0.00 (0.00)	14700.00 (10.75)
05	Village Money-lenders	11000.00 (1.09)	5000.00 (0.98)	22000.00 (16.09)
	Total	1009000.00	508000.00	136700.00
	(Percentage)	(100.00)	(100.00)	(100.00)

During last 12 years, 3.3 percent farm families received credits (amounting Rs. 491 thousand, i.e. 96.96% of total agricultural credit) from Commercial Banks for purchase of tractor, and other agricultural equipments. Another farmer received Rs. 12 thousand from the co-operatives societies for purchasing bullock. The rest of the farmers have practically not received any sort of credit for agricultural cultivation from the total amount being Rs. 978 thousand (96.92% of total credit for business), and Rs. 100 thousand for purchasing consumer durable goods. The rest of the Agricultural Credit Societies and any other agencies. Credit facilities for business and other purposes are also very scant. There had been only 6 households receiving credits from banks for business and other purposes, credits are supplied by the co-operative societies and village moneylenders, which are borrowed by the poor households for consumption purpose.

The technology used in various production in the area are old and of low quality. Development of an economy depends a lot on advancement of technology relating to the production functions in agriculture as well as in industries. In agriculture, the technological backwardness is reflected, *firstly*, in use of traditional implements of cultivation; *secondly*, in high average cost of production; *thirdly*, in high labour-output and capital-output ratios and low productivity of labour and capital; and *lastly*, in the predominance of unskilled and untrained workers. All of these characteristics are found in the study area.

Most of the farmers of the area do not know about other improved machines, like thresher, harvester, etc., or, even if they know, these are beyond the purchasing capacity of the poor farmers. Only 2 (two) sample medium farm families (one in village Baruajhar and the other in Sialmari village) have managed to obtain tractors for cultivation through the bank credit. Only around 7.69% sample farm families use tractor in cultivation of which 6.59% farmers use tractor on hire basis from others. This is due to the lack of adequate capital, which in turn, is a result of low rate of capital formation.

**V.1(v). Rural Indebtedness:** An evil aspect of the rural economy of the study area is that there exists a considerable extent of indebtedness in the rural masses. The burden of debt has been passed on from generation to generation. Increasing population on agriculture, stagnation of agricultural productivity, lack of crop diversification, scanty adoption of new technologies in the farming, etc., with limited employment opportunities outside agriculture, are sure to lead to greater indebtedness among the rural masses. But, the lack of credit availability from banks has put a limitation to the increasing indebtedness of the rural people. Borrowing loans or incurring debt for productive purposes is not a bad proposition. In fact, it is a necessary element for the proper conduct of the farm operations. Even in the advanced countries, farmers take loan to carry on their works. Such borrowings can be repaid out of the income generated from the production. But, most of the rural farmers borrow money for unproductive purposes, like, to meet family consumption expenditures, performance of social functions connected with marriages, birth and death, etc. since these loans contribute nothing to the production, it becomes very difficult for the borrowers to repay them. In many cases it is found that, farmers borrow money from moneylenders to repay some other loan taken earlier from somebody else, thus they fall in a heavy debt-trap.

Table V.1.6 : Extent of Indebtedness in the Rural Areas.

<i>Sl. No.</i>	<i>Sources Credit</i>	<i>% of Indebtedness to the total families in the Sample</i>	<i>Average Debt per family (Rs.)</i>	<i>Average debt per indebted family</i>
01	Banks	5.49	8516.48	155000.00
02	Rural Co-operative Societies	7.14	220.88	3092.31
3	Village Moneylenders	10.99	281.43	2561.00

During the year 2000 to 2003, banks lent credit to only 5.49 percent of the total sample households, which amounted for Rs. 1550000. (Table V.1.6). This small percentage of farmers belong to the medium and large farm

groups, who borrowed money from banks for purchasing bus, tractor, motor cycle, etc. Around 7.14 percent of poor households borrowed money from Rural Co-operative Societies, out of which around 92.31 percent cases were for meeting their consumption expenditures. The village moneylenders play a major role in giving loan to the rural people.

In the same period, the village moneylenders gave loan to around 10.99 percent households of the study area, which constitutes 46.51 percent of the total cases of loan created during the years. Out of these, around 50.00 percent households borrowed for consumption, 20.00 percent for carrying small business activities, 25.00 percent for agricultural cultivation and 5.00 percent for medical purpose. Though the Assam Money Lenders Act was passed in 1934 with a view to reduce moneylenders' extortions from the debtors, in most of the cases the rates of interests they charge are found to be very high. This has been possible due to the inactive and distressing roles played by the Regional Rural Banks and Co-operative Societies, though these have been established for the main purpose of supplying credits to the villagers.

**V.1(vi). Lack of Marketing Facilities:** Marketing facilities are also not adequate in the area as a result of which the farmers do not get satisfactory price for their produce. There are hardly any agricultural marketing societies in the area. As a result, farmers have to sell their merchandise at the local weekly markets located at a distance not less than 3 to 5 kilometers from each village. Also, the price situations of produces of the farmers are adversely affected by lack of proper road-infrastructure. The main modes of transport of the farmers' produces are bullock cart, trolley, bicycle, etc. Many farmers, who do not possess these transport facilities, have to carry their produces to the market on their shoulders. Most of the farmers have to sell their produces to the local traders at very low price. This discourages the farmers and retards in boosting up the agricultural productivity.

**V.1(vii). Unutilized Resources:** Backwardness of the area is also due to unemployment and under-employment of the natural as well as human resources because of various constraints and problems. The average dependency of the family members on the farmers is very high (around 3.8). Because of the small size of agricultural land holdings, very little labour can raise the crops. The rest of family members remain idle without doing any gainful work. Under-utilization of labour in agriculture has already been pointed out in the earlier section.

One of the most important factor responsible a pace development of the economy of a region is the availability of natural resources or land with all its necessary ingredients like fertility, composition, forest wealth, minerals, climate, water resources, etc. A region possessing these resources in abundance can develop much faster than the other, which does not possess these resources. A. Lewis (1954, p.52) has rightly pointed out that, "other things being equal, men can make better use of rich resources than they can of poor". However, natural resources must be harnessed to create wealth.

The under-development of the backward economy, as that of the study area, is not because of the lack of natural resources, rather because of non-utilization, or under-utilization or misappropriation of these resources. For example, the study area is rich in forest resources, water resources, huge area of plain and fertile landscape, etc., though it does not possess mineral resources. But these available resources have not been utilized in a productive manner, or have been under-utilized in most of the cases. Senseless deforestation, cutting down of trees by poor people for their daily bread, etc. have served the interests of a handful of middle class people and have not brought any development in the area. Therefore, if there comes up some industry, which could use these forest resources for generating forest products, it will lead to a better utilization of these resources as well as the poor people, presently engaged in senseless felling of tree, could get some employment in this industry.

Another important resource available in the area is a number of rivers and tributaries flowing perennially. In spite of this, these rivers have not been a source of water for irrigation, or fish cultivation, rather they have been the cause of the great menace of flood almost every year.

Therefore, the presence of abundant resources is not sufficient for economic development; it requires a proper exploitation through improved techniques so that there is a little wastage and they can be used for longer time.

**V.1(viii). Lack of Enterprise and Management:** Another characteristic feature of the economy of this area is the lack of enterprise, which is proved by absence of manufacturing sector in the area. The force of custom, distrust of new ideas and the exercise of intellectual curiosity, combine to create an atmosphere inimical to experiment and innovation. The small size of the market, lack of capital, absence of freedom of contract and of law and order, also hamper enterprise and initiative. So, absence of entrepreneurial initiative has resulted in the backwardness of the area. Land, labour and capital are the vital factors of production and as such they fail to contribute to their optimum capacity, without the fourth factor - the entrepreneur.

**V.1(ix). Existence of Non-monetary Exchange:** There still exists non-monetary economic system, especially in some of the tribal villages, and exchanges are made in barter terms. The barter system of exchanges prevails in the form of payment of wages of hired labourers in kind, local exchanges of paddy seeds of one variety with another, borrowing and repayment of food-grains in kind, etc. Actually, those labourers employed in ploughing and harvesting, in the remote villages, receive wages in kind.

During the year 2002-03, around 32.67 percent hired ploughman and around 37.33 percent hired harvesting labourers were found being paid in kind (Table V.1.7). Of course, the barter system of exchange is being eliminated gradually even from the tribal areas with the influence of modern market economy. We see the merchants, now, going to the villages to buy



paddy from rural farmers, which has encouraged to certain extent to produce commodities in a larger volume.

Table V. 1.7 : Percentage Cases of Non-monetised Transactions in Agricultural Sector.

Sl. No.	Type of Labour	Average Wage Rate (Rs.)/per head	Paid in Cash	Paid In Kind
01	Ploughman	46.57	68	33
	Percentage	---	67.33	32.67
02	Harvesting	57.22	1860	1108
	Percentage	---	62.67	37.33

**V.1(x). Economic Dualism:** The economy of this area, or for that matter, the economy of any backward area, is of dualistic nature. This feature is found more prominently in production technology of agriculture and in the prevailing financial system. In the agricultural sector, more than 81.06 percent farm households use their very old and traditional methods of cultivation. At the same time, there are also some farmers, though less in number, who have undertaken the modern way of cultivation in their agriculture, using the new technologies, like tractors, STW for irrigation, HYV of seeds, etc. The primitive way of cultivation results in very low yields, whereas the modern techniques of cultivation are more efficient and give high yields at low cost of production. (Table V.1.8).

Table V.1.8: Productivities of Traditional and Modern Techniques.

Sl. No.	Methods of Cultivation	No. of Households	Area under crops	Productivity/bigha (Rs.)
01	Traditional	142	1867.45	1531.80
02	Modern	40	884.10	4163.90

Again, the financial dualism is prevalent in the fact that, while there are some organized money markets in the town areas, functioning with relatively low rate of interest, at the same time, there are also some unorganized money markets in the rural areas in the form of village money-lenders, who charge high rates of interest for lending to the borrowers. In

the rural areas, the village moneylenders supply credits in more than 29.58 percent of cases.

**V.1(xi). Lack of Industrial Development:** This area is totally backward in regard to industries. Manufacturing industry of any kind is absent in the area. In the recent years, some unemployed youths have started growing tea in the northern part of the subdivision on partnership basis. Since tea industry requires a huge amount of working capital, it is not possible for the poor youths to carry the cultivation alone. So, there are 10 to 15, or more, partners in a group, and are called the 'Small Tea Growers'. Those who had begun with it early have already received the benefit from this industry, but now most of them are facing various types of difficulty.

**V.1(xii). Socio-cultural Constraints:** There are also socio-cultural constraints in the smooth functioning of the economy of the area. Lack of capital, no doubt, is a serious obstacle but it is not the only obstacle to economic development. Economic development has much to do with human endowments, social attitudes, political conditions and historical accidents. Capital is a necessary but not a sufficient condition of progress. In the backward societies, there exist some social institutions, which display such attitudes that are not conducive to economic progress of the area. Attitudes like involving inferior valuation attached to business roles, permanent attachment to land, non-acceptance of the new technologies, non-allowance of women to participate in the common economic activities and confining them to house-hold activities, in some religious groups, etc. are some of the elements of social resistance to economic change in the area. It has been observed that many farmers are not using fertilizers, HYV seeds, pesticides, etc, simply because they have held somewhat wrong notions about their application.

Another characteristic feature of the economy of such a backward area is the social attitude towards education, which is further inimical to economic progress. Purely academic education, that trains people for government and

other clerical jobs, is preferred to technical and professional education, adding more fuel to educated unemployment problem. There is prejudice against manual work, which is despised and ill-rewarded. This sort of social attitudes towards various works hinders the economic development of a region.

## **V.2. Distribution of Income and Expenditure**

In the following section we present the income distribution and consumption pattern of the sample households in the villages under study.

**V.2(i). Income from Various Sources :** In the backward rural economy, the major share of the income is generated from the primary sector. However, the percentage share of the tertiary sector has been growing slowly in the rural areas, especially in the service sub-sector. This indicates mainly two things: *firstly*, the change in the attitudes of the rural people towards other activities apart from agriculture. Earlier, rural people were so much attached to the agricultural activities that they could not think of any other activity than agricultural cultivation, but now they participate in lot other economic activities apart from agriculture. *Secondly*, the number of educated persons has also increased in these areas, for which they have now become eligible for employment in some government or non-government organizations.

These facts become clear from table V.2.1. Around 51.89 percent of the accounted gross income accrues from the primary sector, in which agriculture alone contributes around 77.42 percent of the primary sector and around 40.17 percent of the gross income. The contribution from the homestead lands, which are called '*Bari*' in the local parlance, has declined, to a certain extent, during the last few years. This is due to the decline in the prices of areca nut, which is the most common crop found in the homestead lands of almost every household of the rural areas of the region. This is one of the negative impacts of the liberalization on the rural

economy. As the markets for agricultural produces have been opened up, rice areca nut, *supari*, etc. have entered in the Indian markets and due to abundant supply of these agricultural goods, their prices have gone down. Still then, the rural people earn around 4.68 percent of their gross income from the homestead lands. There is an ample feasibility for fishery production, especially in the southern part of the study area. But, due to high initial investment requirements, most of the people have not been able to undertake this activity in a profitable way, and it contributes only around 2.41 percent of the gross income. Plantation is in its initial stage in the area and has played increasingly important role in the economy of the area. At the present stage, it has contributed around 1.63 percent to the gross income.

Table V.2.1 : Percentage Share of Contributions of Different Sectors to Gross Income.

Sl. No.	Source of Income/Sector	Total	% to the Sectoral total	% to the Gross Income
01	Primary Sector	8449599.80	100.00	51.89
	Agriculture	6541846.00	77.42	40.17
	Animal Husbandry	487725.00	5.77	3.00
	Fishery	392310.00	4.64	2.41
	Orchard	762719.00	9.03	4.68
	Plantation	265000.00	3.14	1.63
02	Secondary sector	923470.00	100.00	5.67
	Household Industries	130800.00	14.16	0.80
	Repairing & Processing	457670.00	49.56	2.81
	Construction	335000.00	36.28	2.06
03	Tertiary Sector	6910522.00	100.00	42.44
	Property	425440.00	6.16	2.61
	Trade & commerce	663740.00	9.60	4.08
	Financial services	1634718.00	23.66	10.04
	Other services	4186624.00	60.58	25.71
	Total	16283592.00	100.00	100.00

Note: Percentage shares of different sectors have been calculated at the existing commodity and factor prices in the study area.

The secondary sector plays the least important role among the three sectors in regards to its contribution to the gross income, whose share is just over 5.67 percent. The sub-sectors under this head, like household industries,

processing and repairing and construction, respectively contribute 0.80 percent, 2.81 percent and 2.06 percent to the gross income.

The tertiary sector is the second largest contributor (42.44%) to the gross regional income of the area. In this, the other-services sector, like services of the teachers, doctors, nurses, police, defense, office clerks, etc., plays a major role, which contributes around 25.71 percent to the gross income. The other contributions of this sector accrue from financial services generating 10.04 percent, trade and commerce with 4.08 percent and rents, interests, etc. of capital and properties contributing 2.61 percent to the gross income of the area.

**V.2(ii). Patterns in Consumption Expenditure** : Expenditure incurred by households consists of expenditure on basic necessities relating to food, clothing and housing; social necessities such as education, cultural festivals, social ceremonies, religious ceremonies; acquisition and maintenance of consumer durables such as house, automobiles, cycles, furniture; and investment like acquisition and repairing/maintenance of properties and assets, like bullocks, repairing of bullock cart, trolley, rickshaw, mini-rice mill, etc. Again, the consumption expenditure can be sub-divided into (i) consumption of non-durable goods, viz., all the food items, fruits, fire-wood, cooking gas, kerosene, cosmetics, etc., and (ii) consumer durable goods, viz., motor-cycles, television, radio, bicycle, furniture, kitchen-wares, electrical, telephone, etc.

As regards to expenditure, our sample households spend major portion of their income on consumption of food items. From table V.2.2 it is clear that around 70.61 percent of the total expenditures is spent on non-durable goods or food items, out of which 36.96 percent is imputed consumption and 63.04 is spent on purchased goods. The expenditure on durable goods is around 12.69 percent of the total expenditure, out of this, only 1.78 percent constitutes the homegrown or home made goods, and rest of 98.22 percent is spent on purchased goods. The expenditure on children's education have

been increasing gradually in the area over last few years. Around 6.68 percent of the total expenditures were spent on this head. The maximum amounts of expenses in this head go to the lower to high school level education. The rests of the expenditure is incurred on cultural festivals by 0.39 percent, social ceremonies by 5.17 percent; religious ceremonies by 2.31 percent, and repairing and maintenance costs by 2.15 percent.

Table V.2.2 : Percentage Distribution of Expenditures.

Sl. No.	Heads of Expenditures	Total	% to respective total	% to total
01 (NDE)	Non-durable Consumption Goods	6707157.00	100.00	70.61
	Owned	2478959.00	36.96	26.10
	Purchased	4228198.00	63.04	44.51
02 (DE)	Durable Consumption Goods	1204983.00	100.00	12.69
	Owned	21430.00	1.78	0.23
	Purchased	1183553.00	98.22	12.46
03 (OE)	Education	634094.00	100.00	6.68
	Owned	0.00	0.00	0.00
	Purchased	634094.00	100.00	6.68
04 (OE)	Cultural Festivals	37350.00	100.00	0.39
	Owned	0.00	0.00	0.00
	Purchased	37350.00	100.00	0.39
05 (OE)	Social Ceremonies	490700.00	100.00	5.17
	Owned	0.00	0.00	0.00
	Purchased	490700.00	100.00	5.17
06 (OE)	Religious Ceremonies	219815.00	100.00	2.31
	Owned	0.00	0.00	0.00
	Purchased	219815.00	100.00	2.31
07 (OE)	Repairing & Maintenance	204665.00	100.00	2.15
	Owned	59850.00	29.24	0.63
	Purchased	144815.00	70.78	1.52
	Total	9498764.00	100.00	100.00

Table V.2.3 presents the average consumption expenditure of households according to per capita annual income classes. There are 66 households in the Rs. 0-5 thousand (per capita annual) income group. Their average annual household income is Rs. 20.8 thousand and on an average they spend 37.7 thousand. There are 47 households in the next group (Rs. 5-10 thousand per capita annual) whose average annual household income is Rs.

39.7 thousand and they spend Rs. 42.8 thousand. These two income groups spend more than their income and evidently, they are prone to be indebted. In the next income group onwards, income is larger than expenditure.

Table V.2.3 : Mean Consumption, Income and Family Size under Different Per Capita Annual Income Classes (in Rs 000)

Class	N	F	Y	C	NDE	DE	OE	OWN	PURCH
0-5	66	6.44	20807.77	37664.86	30100.32	3222.65	4341.89	11308.92	26355.94
5-10	47	5.70	39692.66	42832.34	31865.00	5313.51	5653.83	13038.45	29793.89
10-15	23	5.87	69809.35	48317.09	35717.96	4031.52	8567.61	12873.17	35443.91
15-20	16	5.88	100954.25	70603.38	45574.88	8317.25	16711.25	17018.25	53585.13
20-25	9	5.56	119236.00	80526.44	49352.00	15880.00	15294.44	17741.56	62784.89
25-30	9	7.44	208380.11	110580.56	68127.33	15670.56	26782.67	24678.67	85901.89
30-40	7	4.86	169505.57	72683.86	45741.43	15599.57	11342.86	18815.14	53868.71
Above 40	5	5.20	299633.40	106013.20	58933.20	24720.00	22360.00	23836.00	82177.20
All	182	6.04	66445.07	52191.01	36852.51	6620.786	8717.714	14067.25	38123.76

NDE = Non-durables; DE=Durables; OE=Others (education, cultural, social, religious, repairing etc)

Table V.2.4 : Index of Mean Consumption, Income and Family Size under Different Per Capita Annual Income Classes (in Rs 000)

Class	N	F	Y	C	NDE	DE	OE	OWN	PURCH
0-5	66	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
5-10	47	88.51	190.76	113.72	105.86	164.88	130.22	115.29	113.04
10-15	23	91.15	335.50	128.28	118.66	125.10	197.32	113.83	134.48
15-20	16	91.30	485.18	187.45	151.41	258.09	384.88	150.49	203.31
20-25	9	86.34	573.04	213.80	163.96	492.76	352.25	156.88	238.22
25-30	9	115.53	1001.45	293.59	226.33	486.26	616.84	218.22	325.93
30-40	7	75.47	814.63	192.98	151.96	484.06	261.24	166.37	204.39
Above 40	5	80.75	1440.01	281.46	195.79	767.07	514.98	210.77	311.80
All	182	93.76	319.33	138.57	122.43	205.45	200.78	124.39	144.65

NDE = Non-durables; DE=Durables; OE=Others (education, cultural, social, religious, repairing etc)

In table V.2.4 we present the indices of expenditure incurred by different (per capita annual) income groups, taking Rs. 0-5 thousand income group as the basis. It is observed that the index of expenditure on non-durable goods rises very slowly in response to the increase in income. On the other hand, the index of expenditure on durables (DE) rises much steeply than the NDE index.

In table V.2.5 we report the regression coefficients when total consumption expenditure, C, is regressed on income (Y) and family size (F). The

regression equation thus obtained is  $C = a_1Y + a_2F + e$ . As presented in the table (V.2.5),  $a_1 = 0.301$  and  $a_2 = 5051.476$ . Thus, the marginal propensity to consume (net of family size effects) is 0.3 and marginal expenditure per capita (net of income effect) is Rs. 5 thousand (per year). Both the coefficients are statistically significant as their t values are quite large (11.95 and 13.10 respectively). Similar exercises have been carried out for consumption expenditure on non-durable consumption goods (NDE), durables (DE) and other items (OE).

Ordinary regression coefficients are not scale free, as they are the partial derivatives of the dependent variable with respect to the independent variables. Therefore, regression coefficients across the equations cannot be compared if variables are measured in different units. Nor can the regression coefficients in the same equation be compared with each other to assess their relative importance in explaining the dependent variable. For such comparison beta coefficients are used.

Table V.2.5 : Regression Summary for Dependent Variable: C (Total Consumption Expenditure).

Explanatory Variable	Beta Coefficient	Coefficient	Std. Error	Computed t Value	Prob Level
Y = Income	0.477824	0.301	0.0252	11.95079	0.000000
F = Family Size	0.523815	5051.476	385.5780	13.10105	0.000000

$R^2=0.854$  Adjusted  $R^2= .852$ ;  $F(2,180)=525.73$ ;  $p<0.0000$ ; Std. Error of estimate: 24593.

Table V.2.6: Regression Summary for  
Dependent Variable - NDE (Consumption Expenditure on Non-Durables)

Explanatory Variable	Beta Coefficient	Coefficient	Std. Error	Computed t Value	Prob Level
Y = Income	0.371431	0.155	0.0124	12.49936	0.000000
F = Family Size	0.660969	4209.662	189.2593	22.24283	0.000000

$R^2= 0.919$  Adjusted  $R^2= .918$ ;  $F(2,180)=1024.7$ ;  $p<0.0000$ ; Std. Error of estimate: 12072.

Table V.2.7: Regression Summary for  
Dependent Variable - DE (Consumption Expenditure on Durables).

Explanatory Variable	Beta Coefficient	Coefficient	Std. Error	Computed t Value	Prob Level
Y = Income	0.498939	0.0604	0.0096	6.295097	0.000000
F = Family Size	0.196985	365.0837	146.8938	2.485359	0.013855

$R^2=0.426$  Adjusted  $R^2= .419$ ;  $F(2,180)=66.69$ ;  $p<0.0000$ ; Std. Error of estimate: 9369.3.



Table V.2.8: Regression Summary for  
Dependent Variable: OE (Consumption Expenditure on Other Items).

Explanatory Variable	Beta Coefficient	Coefficient	Std. Error	Computed t Value	Prob Level
Y = Income	0.493379	0.0861	0.0141	6.084710	0.000000
F = Family Size	0.178508	476.7299	216.5479	2.201499	0.028972

$R^2=0.399$ ; Adjusted  $R^2= .392$ ;  $F(2,180)=59.712$ ;  $p<.00000$ ; Std. Error of estimate: 13812.

A comparison of beta coefficients across tables V.2.6 through V.2.8 suggests that in explaining the consumption expenditure on non-durables (NDE), family size is much more relevant than income, while in explaining DE and OE, income is more potent. That is to say that income elasticity of NDE is much less than that of DE and OE. On the other hand, NDE responds more to family size than to income changes, while DE and OE respond less to family size and more to income variations. These findings are compatible with the economic theory.

Table V.2.9: Regression Summary for  
Dependent Variable: C (Total Consumption Expenditure).

Explanatory Variable	Beta Coefficient	Coefficient	Std. Error	Computed t value	Prob level
Intercept	-	29396.19	2559.382	11.48566	0.000000
Y = Income	0.712224	0.34	.025	13.61274	0.000000

$R^2=0.507$ ; Adjusted  $R^2= .505$ ;  $F(1,180)=185.31$ ;  $p<.00000$ ; Std. Error of estimate: 26112.

Table V.2.10: Regression Summary for  
Dependent Variable: NDE (Consumption Expenditure on Non-Durables).

Explanatory Variable	Beta Coefficient	Coefficient	Std. Error	Computed t value	Prob level
Intercept	-	24074.83	1424.004	16.90644	0.000000
Y = Income	0.714837	0.19	0.014	13.71467	0.000000

$R^2= 0.51099207$ ; Adjusted  $R^2=0.50827536$ ;  $F(1,180)=188.09$ ;  $p<.00000$ ; Std. Error of estimate: 4528.

Table V.2.11: Regression Summary for  
Dependent Variable: DE (Consumption Expenditure on Durables)

Explanatory Variable	Beta Coefficient	Coefficient	Std. Error	Computed t value	Prob level
Intercept	-	2615.498	913.3854	2.863520	0.004687
Y = Income	0.446899	0.060	0.0090	6.702308	0.000000

$R^2=0.19971877$  Adjusted  $R^2= .19527276$ ;  $F(1,180)=44.921$   $p<.00000$  Std.Error of estimate: 9318.9

When consumption expenditure is regressed on income and family size, there is no need to include an intercept in the regression model since for  $F=0$  and  $Y=0$ ,  $C$  must be zero. However, when  $C$  is regressed on  $Y$  alone, intercept must be included, since even if income is nil, the household will consume something (may be by de-saving, borrowing, etc.). Accordingly, we have regressed  $C$ ,  $NDE$ ,  $DE$  and  $OE$  on  $Y$  and presented the regression coefficients in tables V.2.9 through V.2.12. We find that marginal propensity to consume is uniformly small for  $C$ ,  $NDE$ ,  $DE$  and  $OE$ .

Table V.2.12: Regression Summary for  
Dependent Variable: OE (Consumption Expenditure on Other Items)

Explanatory Variable	Beta Coefficient	Coefficient	Std. Error	Computed t value	Prob level
Intercept	-	2705.855	1356.988	1.994015	0.047660
Y = Income	0.450574	0.090	0.013	6.771382	0.000000

$R^2=0.20301655$ ; Adjusted  $R^2= .19858887$ ;  $F(1,180)=45.852$ ;  $p<.00000$ ; Std.Error of estimate: 13845.

In table V.2.13 we present some descriptive statistics regarding income and main heads of consumption with their income elasticity. The income elasticity of consumption expenditure on non-durable goods is the lowest (0.3425), followed by those of  $DE$  (0.60) and  $OE$  (0.69). Thus,  $NDE$  is strongly income-inelastic while  $DE$  and  $OE$  are more income-elastic although the elasticity in each case is well below unity. Such income elasticities suggest abject poverty at the general level. People spend only on the necessities.

Table V.2.13: Regression Summary for  
Dependent Variable: OE (Consumption Expenditure on Other Items)

Variable	Mean	Regression Coefficient	Income Elasticity	Standard Deviation
C	52191.01	0.34	0.4329	37096.55
NDE	36852.51	0.19	0.3425	20718.53
DE	6620.79	0.06	0.6021	10388.15
OE	8717.71	0.09	0.6860	15465.26
Y	66445.06	-	-	77015.26

We have also investigated into the effects of the distance of the village from the urban center on the households' consumption expenditure. We have used two measures of distance :  $DU$  = distance of the village from Udalguri

township and DT = distance of the village from the nearest urban settlement (like Orand, Dalgaon or Kharupetia as the case may be). These distance measures are used as the regressors to explain variations in the ratios such as  $(DE+OE)/(NDE+DE+OE) = NDE/C$  and  $PUR/(PUR+Home) = PUR/C$ . The households consume partly their home-grown articles (HOME = expenditure on which is obtained by imputing their market value) and partly those purchased from the market (PUR). These together (PUR + Home) make up the total consumption expenditure, C. It has been observed that some 1/4<sup>th</sup> of the total expenditure on consumption is attributable to home-grown articles, although this proportion is larger in case of poorer households and non-durable consumer goods. It is expected that proximity to town would enhance the ratio of consumption expenditure on DE+OE and purchased articles to the total expenditure on consumption.

Table V.2.14: Regression Summary for  
Dependent Variable: DE+OE (Consumption Expenditure  
on Durables plus Other Items) as a ratio to Total Consumption Expenditure

Variable	Beta Coefficient	SEE of Beta	Regression Coefficient	SEE of Reg Coefficient	Computed t value	Prob level
Intercept			.372424	.029990	12.41835	.000000
DU	-.378037	.072136	-.004154	.000793	-5.24061	.000000
DT	-.195494	.072136	-.005589	.002062	-2.71007	.007381

R<sup>2</sup>= 0.14015007 Adjusted R<sup>2</sup>=0.13054281; F(2,179) =14.588 p < 0.00000 Std.Error of estimate: 0.14023

Table V.2.15: Regression Summary for  
Dependent Variable: Consumption Expenditure on  
Purchased Goods as a ratio to Total Consumption Expenditure

Variable	Beta Coefficient	SEE of Beta	Regression Coefficient	SEE of Reg Coefficient	Computed t value	Prob level
Intercept			.801381	.029094	27.54477	0.000000
DU	-.062546	.075102	-.000640	.000769	-.83281	.406060
DT	-.271050	.075102	-.007220	.002001	-3.60907	.000399

R<sup>2</sup>=0.06797952 Adjusted R<sup>2</sup>= 0.05756588; F(2,179)=6.5279; p< 0.00183 Std.Error of estimate: 0.13604

In table V.2.14 we find that the ratio of consumption expenditure on DE+OE to the total consumption expenditure declines as DU and DT increases. That is to say that the households in the villages near to the township allocate relatively larger part of their budgets to consumption of durable goods and other items. The beta coefficient associated with DU is larger (than that of DT) suggesting that distance from Udalguri matters more than the distance

from the smaller town in the vicinity of the villages. This finding is in conformity with our expectation.

Similarly, as shown in table V.2.15, the ratio of expenditure on purchased goods to the total consumption expenditure decreases as the distance from the nearest town increases. However, in this case, impact of the nearest town alone is statistically significant. Distance from Udalguri town is statistically ineffective, although the coefficient is negatively signed.

Daimari, Prasen (2005) A Study on Structure of the Economy of Udalguri Subdivision, Assam, Doctoral Dissertation, Dept. of Economics, North Eastern Hill University, Shillong (India)

## **Chapter-VI**

### **Ownership and Supply of Factors of Production**

#### **VI.1. Introduction**

The main concern of this chapter is to present the role played by the households as owners and suppliers of the factors of production. As we all know production of goods and services requires the use of factors of production, which are called agents of production. Since economic growth is dependent on the expansion of the total production, and hence the level of income, the availability of efficient productive resources or agents of production is vital to the process of economic growth. Therefore, the volume of production and income of any economy depends upon the supply of various factors of production and their efficiency or productivity.

Some economists have classified factors of production into only two categories, namely, land and labour, or nature and man, on the ground that they are the only original or primary factors. According to them, capital does not have an independent origin and is merely an outcome of the combined efforts of land and labour, while organization or enterprise is a special form of labour.

But, whatever the origin, being a man-made instrument of production, capital is capable of being expanded while the supply of land is fixed. This has made capital a distinct and important factor of production different from land. Similarly, the entrepreneur's work is different from that of a labour, and hence, he is also paid remuneration on a different basis. Thus, the formal classification of the factors of production, which has been still followed by the economists, is of four-fold: (1) land, (2) labour, (3) capital and (4) entrepreneurship.

Each and every term used to denote the factors of production has a special meaning in economics. Land, in economics, does not mean merely the soil,

as is used in the ordinary sense. It includes all the elements over it, like air, water, its surface and underneath, which can be used for production of any good. Similarly, labour does not merely mean the physical or mental exertion, but all types of work done by human being for monetary reward. Likewise, by capital is meant the whole of the stock of wealth consisting of machines, tools, implements, raw materials, etc., which can be made use for the production of further goods. Organization or entrepreneurship sets the above three factors together and assigns their respective works bearing all the risks and uncertainty of production. The entrepreneur, as a factor of production, initiates and directs the production activities and bears the risks.

In spite of this ideal scheme of classification, it is not easy to classify the agents of production so clearly in practice. Land of real life has does have the scarcity element in it, but since it is developed by human effort, it partakes the properties of capital. Similarly, skill formulation among the workers after experience and training gives rise to human capital formation and the role of this capital is intermingled with labour. Organization, management and human capital often combine into one when the productive activities are carried out at the household level. The decision of consumption and investment are closely interconnected when enterprises are run at the family level and such interconnections often blur the ideal classification between capital, organization and management (Morishima, 1976, pp. 124-125).

## **VI.2. Land**

Land stands for all natural resources which yield an income or which have exchange value. It represents those natural resources, which are useful and scarce, actually or potentially. In order to start with any productive work, land is the first required factor. But, for any plot of land may not be suitable for each and every productive activity. For example, a low-lying plot of land suitable for paddy cultivation does not suit for tea plantation, or for setting up of a rice mill unless some necessary transformation on the plot of land is done. So, the land-use and pattern of economic activities of any region are

the outcome of geographic features, climatic variables, periodical differences, historical processes, and social and economic institutions. In a given physical milieu, man as an active agent, modifies the landscape and uses it to fulfill his needs with the technology within his disposal. Hence, it is obvious that the pattern of land utilization is affected by the types of living, which are represented by social values and certain institutional beliefs, of the people of the area concerned. Here, we shall ponder a little while on the distribution of land in the various uses in the study area.

In 1950, the Ministry of Agriculture recommended a standard classification and uniform definition to be adopted by states all over India, though the Committee on improvement in Agricultural Statistics, for the sack of clarity and workability, has further revised the definition and expansion. The land areas, geographically accessible for major uses, are classified into following nine broad categories:

*Forest Covers:* These are the plots of land, which are classed or administered as forests under legal enactment. The forests under grazing land, or crops within the forests are included in the area under forest. As presented in table VI.2.1, there is no land under forest covers in the subdivision.

*Area under Non-agricultural Use:* This category of land covers all lands occupied by settlements, road, railways, and bed of streams, ponds and canals. Around 7.77% of the geographically accessible land for different uses is utilized for non-agricultural purposes.

*Barren and Uncultivable Lands:* This include those plots which are barren and uncultivable due to bare-rocky foot-hills, plateaus, mountains, deserts, etc. Around 11.91% of the total geographically accessible area falls under this category.

*Permanent Pastures and other Grazing Lands:* This category, occupying around 4.26% of the total geographically accessible area, embraces all

grazing lands, which may be permanent meadows, and village common pastures.

*Area under Miscellaneous Tree, Crops, Etc.:* This includes all cultivable lands, which are not included in the area sown, but are put to some agricultural use other than seasonal cropping, and this category covers around 9.54% of the total geographically accessible area.

*Cultivable Wasteland:* This denotes the area of land considered by present judgment as cultivable, but actually not cultivated during the current year and the last few years or more in succession. It is left untilled on account of physical, social and economic limitations. But, some proportions of it could be, in no circumstances, brought under tillage without reclamations such as the waterlogged lands. This category occupies around 3.66% of the total geographically accessible area of the subdivision.

*Current Fallow Land:* It means the land left unsown during the current agriculture year only to regain fertility, and also remained un-cropped due to other economic reasons. Around 2.46% of the total geographically accessible area remains fallow in a year.

*Other Fallow Lands:* This comprises all lands, which were previously taken up for cultivation, but are temporarily kept unsown for a period not less than one year, or not more than five years, because of non-availability of means of farmers, restricted and un-dependable supply of moisture, and un-remunerative character of agriculture, etc. and covers around 3.53% of the total geographically accessible area.

*The Net-sown Area:* This category of land represents the extent of cultivated area actually sown during the current agricultural year. It may be referred to as 'net cropped area' too. This represents the differences between the total geographical area and the sum total of area under above classes. This



category occupies around 56.89% of the total geographically accessible area of the subdivision.

Table VI.2.1 : Percentage Distribution of Land  
of the Subdivision into Geographically Accessible for Major Uses.

Name of Circle	Forest Covers	Land put to non-agril. uses	Barren & uncultivable land	Permanent Pastures & Grazing Lands	Area under misc. trees, crops, etc.	Area of Cultivable waste	Area of Current Fallow	Area of other Fallow	Net Area Sown	Total
	1	2	3	4	5	6	7	8	9	10
Mazbat	0.00	9.41	12.26	5.08	5.37	2.92	1.21	4.47	59.28	100.00
Udalguri	0.00	6.61	6.98	3.48	7.39	5.77	4.08	2.94	62.74	100.00
Dalgaon	0.00	7.29	16.48	4.21	15.87	2.27	2.08	3.17	48.63	100.00
Total	0.00	7.77	11.91	4.26	9.54	3.66	2.46	3.53	56.89	100.00

Source: Sub-divisional Committee on Agricultural Statistics, Udalguri, 1994-95.

We are concerned with how the cultivable lands of the area are distributed among population of the area, and how these lands are being utilized for various productive purposes. For this purpose, let us throw a light on the existing system of landholding and utilization of lands into various economic activities. The landholding structure of any agrarian area is generally complex and dynamic. Its degree of dynamism depends primarily on the area's socio-cultural and political systems.

For the purpose of agricultural census, an operational holding is defined as the land, which is wholly or partially used for agricultural production and is operated as a single technical unit by one person alone, or with others, without regard to title, legal form and size. An operational holding managed by the person of the same household is considered as an individual holding, and the member of the household, who is responsible for the management of the holding, is considered as holder. When two or more persons jointly share the economic and technical responsibility for the operation of an operational holding, each of them is treated as the holder if they belong to different households, and the holding is considered as a joint holding.

Table VI.2.2 : Distribution of Lands into Different Uses (*in Bigha*)

Sl. No.	Types of Land Holding	Area	% to total
01	Total land owned	2506.90	100.00
02	Area of Home-site lands	453.40	18.09
03	Total Cultivable Land owned (1-2)	2053.40	81.91
04	TCLO & Cultivated	1691.55	82.38
05	Area of <i>Bandhak</i> * land (taken)	399.00	16.68 <sup>+</sup>
06	Sown in <i>Bandhak</i> land (taken)	348.50	87.34
07	Sown in <i>Thika</i> * land (taken)	9.00	100.00
08	Area sown on Sharecropping land	163.20	100.00
09	Area of Double Cropping	45.00	2.66
10	Area of Triple Cropping	4.50	0.27
11	Total area actually sown** (4+6+7+8+11+12)	2751.55	104.84
12	Area of given-out on <i>Bandhak</i>	138.00	6.72
13	Area given-out in <i>Thika</i>	111.50	0.68
14	Area given-out for Sharecropping	243.00	11.83

- Note: 1. TCLO = total cultivable land owned.  
 2. \* *Bandhak* and *Thika* are two of the three tenancy systems prevalent in the area. These systems are explained in detail in the following chapter.  
 3. \*\* including area of double and triple cropping.  
 4. + percentage to the total area cultivated including the mortgaged-in (*Bandhak*) land.

In the light of new strategy for agricultural development adopted by the Government of India during 1966-67, the individual operational holdings, as units of decision-making, gained a special significance in our country. It has become more important on account of the changing socio-economic conditions of the people in the recent times. At present, in almost all states of our country, including Assam, and hence the present study area, the landholding structure is characterized by maximum individual ownership, tenant system, and to a large extent, large-scale estate private ownership.

From the above table (Table VI.2.2), it becomes clear that around 18.09 percent of the total land in their disposal is covered by home-site land and orchards, and remaining 81.91 percent is available for cultivation. Out of the total cultivable land owned (TCLO), the landowners themselves sow around 82.39 percent, and rest is leased out to tenants. The farm families with small size of holding cultivate in other's land as tenants on contractual basis, for which rents are paid either in cash or in kind. This adds around 18.92

percent to the total area actually sown, of which 12.67 percent is taken on *bandhak-system*, 0.33 percent on *thika-system* and 5.93 percent on sharecropping system. Again, the areas under double and triple cropping amount to the extent of the 1.64 percent and 0.16 percent, respectively, of the total area actually sown. These areas under double and triple cropping are very less in relation to the requirements of the region. There are also some absentee landowners, who lease-out their cultivable lands to the tenants on the above-mentioned three tenancy systems. The reasons for such leasing-out of land are many; some of which can be small and uneconomical size of holding leading to poverty, lack of family workforce, family members being employed in other services, etc. These absentee landowners are found to be more in number in those areas, where the people are engaged more in other services. In regards to size of operational holding and land utilization, we shall discuss in detail in the next chapter on Agricultural Cultivation and Its Management.

### **VI.3. Labour**

Labour is another most important factor of production. As nothing can be produced without a plot of land, so is the case with labour. As it has been mentioned earlier, labour does not mean merely a mass of unskilled labour, rather, it means any work, whether manual or mental, which is undertaken for a monetary consideration. Any exertion of mind or body undergone partly or wholly with a view to some good other than the pleasure derived directly from the work is called labour. But, the work done for the sake of pleasure or amusement or love does not fall under the purview of the economic sense of labour.

Though, the higher the size of labour-force, the higher is its contribution to the national, or for that matter, regional economy, it is the quality labour, which is much more important in the present situation. The quality of labour means the productive capacity of the labour. Therefore, the higher is the quality of labour with its higher productivity, the higher it can contribute to

the national or regional income than the mere quantity of labour. The quality of a labour can be developed by imparting skills, education experience to the labours.

On the basis of the definition given above, we find mainly three types of labourers in the area: (1) manual or physical labourers, (2) mental or intellectual labourers and (3) technical labourers.

**VI.3.1. Manual or physical Labourers.** Manual labourers are those, who apply their physical labour in some productive activities to earn remuneration, called wage, either in cash or kind. They are mostly the unskilled persons working in agricultural farms, livestock, under some rich man called - *mahajans*, or in industries, for their daily bread. They may be engaged in their respective works on full time or part time, or daily, monthly or even on yearly basis. In the rural areas, where large-scale manufacturing industries are practically absent, we find only the agricultural labourers.

(a) **Agricultural Labourer.** An agricultural labour is one who exerts his mental and physical strength for bringing out the farms products, and remains in his work for more than one –half of the working days of the year. So, he may be a *family labour* or a *hired labour*. A family agricultural labour is one, who is a member of the family and takes part in the agricultural activities, in a productive manner, for more than one-half of the working days of the year. On the other hand, hired agricultural labour is not a permanent member of the family, but works in the agricultural fields of the master till the contracted period, in return for which he gets contracted amount wages, which may be in the form of cash or kind. An agricultural labourer is usually hired on daily, monthly and yearly basis. The agricultural labourer, hired on monthly and yearly basis, get their free food and lodging in the house of the master. But, apart from cultivation, they do many other activities, like firewood cutting, taking care of bullocks, shopping, etc. In most of the traditional villages, the good masters treat them as their own family members. For the daily labourers, the facility of serving food, in

between the works, depends on the contract between the labourer and the master. In most of the cases, the labourers opt for getting food during the hard work, and sometimes, even after the work. All these, of course, depend on the conditions as to who is in better off bargaining position. So, the labourers have a better chance of winning the bargaining battle during the short and busy monsoon season, when the demand for labour increases sharply in relation to their supply; and have the masters, during the dry and idle seasons of the year.

But, there are certain conditions in some traditional tribal villages, where the wage rates of agricultural labourers of some specified works, like transplantation, are not determined by their demand and supply conditions, rather these are fixed by the village committees, in which the farm owners have the upper hand. In such conditions, the wage rates of the labourers remain at very low, as are found in the sample villages, Barigaon Gerua, Kalbari and Sapkhaiti, where paddy transplantation labourers get wages, respectively at the rates like Rs. 12, Rs. 13, and Rs. 15 per 5 hours of work, or Rs. 24, Rs. 26 and Rs. 30 per day.

It is important to note here that, the monsoon season in the study area is very short (as is the case for whole of the state of Assam), and therefore, most of the farm families cannot carry out cultivation through their family labour alone. So, in order to complete the cultivation, they have to hire labour in spite of employing maximum possible family labours. Farmers use at least six types of labour in cultivation. These are: (i) ploughman, (ii) plant transferring, (iii) transplantation, (iv) weeding, (v) harvesting and (vi) day to day nurturing of crops.

It is clear from table VI.3.1 that, ploughing requires around 35.31 percent, transplantation requires 33.64 percent, weeding or weed management needs only 2.47 percent and harvesting requires 28.58 percent of the total man-days in the whole cultivation period. Again, maximum man-days of family

labour can be used as a ploughman, because in the rests of the works, especially transplantation, require labours in bulk at a time.

Table VI.3.1 : Percentage Distribution of Agricultural Labours in Cultivation.  
(in labour mandays)

Sl. No.	Type of Labour	Total	Family Labour	Hired Labour
01.	Ploughman	35.31	54.90	45.10
02.	Transplantation	33.64	7.10	92.90
03.	Weed-clearing	2.47	0.00	100.00
04.	Harvesting	28.58	3.23	96.77

Table VI.3.2 : Distribution of Skilled and Unskilled Labourers of the Sample Villages

Sl.No.	Type of Labour	Number	% to total
01	Skilled labourers	9	20.00
02	Unskilled labourers	36	80.00
	Total	45	100.00

**(b) Skilled Labourers.** The skilled labourers render their manual labour in repairing works, construction works, transportation, etc. These types of labourers are very scant in the rural areas (20.00% of the total non-agricultural labourers). There are around 18.52 percent of skilled labours serving in transport department, 40.00 percent of it being temporary in their job; 7.41 percent engaged in carpentry; and the rests of 55.56 percent are engaged in the repair works in garages. Apart from this, there are also skilled family laours used in the household industry sector - weaving, which are supplied mainly by the female members.

**(c) Daily Unskilled Labourers under Mahajans.** The farm cultivation of the area depends almost absolutely on the monsoon rain, which lasts for a very short period. Therefore, most of the agricultural labourers and small farmers become jobless after the farm cultivations are over. They go searching for job to the *mahajans* as day labourers. So far there already exist some day-labourers, there becomes surplus of labour in the market. During this off-season, number of employers declines, which means reduced

demand for labour, and increased supply of labour. Sale of daily labour is the only means of livelihood of around 15.95 percent of households of the rural areas. To this number some more is added during off-season to increase it to around 18.65 percent. The rests of the agricultural labourers go for other activities, like petty trades, household works, etc.

**VI.3.2. Mental or Intellectual Labour.** Mental or intellectual labour refers to the services of the educated workers and professionals being employed in the government, semi-government, non-government and individual organizations, who utilize their mental and intellectual labour for the development of the economy and society as a whole, in return for which they are rewarded with remunerations. Some of them are helping the government in maintaining law and order situation, and many in defending the country from external threats. Table VI.3.3 reveals that the maximum numbers of intellectual labour of the rural area are engaged in the education department.

Table VI.3.3: Distribution of Intellectual Labours of the Sample Villages in Various Departments

Sl. No.	Labour in Services	Govt.	Semi-Govt.	Non-Govt	Permanent	Temporary
01	Education	22	0	10	15	17
02	Health	2	0	1	2	1
03	Defense/Police	11	0	0	11	0
04	Railway	1	0	0	1	0
05	Postal	1	0	0	1	0
06	LDA	5	1	0	6	0
07	Pensioner	2	0	0	2	0
08	Grade IV	1	1	1	0	0
09	Village Headman	1	0	0	1	0
10	Petition Writer	0	0	2	0	2
11	Technical	3	0	0	3	0
	Total	49	2	14	42	20

**VI.3.3. Technical Labour.** Technical labour refers to the works undertaken by the technicians, like engineer, tracer, etc. This type of labour requires technical or mechanical expertise, specially trained for the respective purposes. This form of labour is also found to be very rare in the rural areas. Because, people have to spend huge amounts of money in order to acquire

such technical knowledge and experience, which is usually beyond the reach of the poor people. Apart from that, lack of motivation and enthusiasm is another factor responsible for the less number of technical labours in the rural areas.

#### **VI.4. Capital**

The term 'capital' is used in various senses in economics. In ordinary sense, sometimes even in economics, it is used in the sense of money. But, when we talk of capital as a factor of production, it is wrong to confuse capital with money. Of course, money is used to purchase various factors, such as raw materials, machinery, labour, etc. which help the producers produce goods. But, money itself does not directly help in the production of goods. Some economists call it as *working capital* or *money capital*. Again, money capital is not the *real capital*. The real capital consists of machinery, raw materials, factories, fertilizers, etc. which directly assists in the production of goods.

So, capital is defined as the produced means of production. It is the man-made instrument of production. Man has produced it by working with nature. Capital, therefore consists of those physical goods, which are produced for use of future production. Machines, tools and instruments, factories, canals, dams, transport equipments, stocks of raw materials, are some of the examples of physical capitals. For Gill (1975, p-14), "A country's capital is its stock of production, consisting of such items as buildings, factories, machinery, tools, equipment and inventories of goods in stock".

Capital may be classified into *fixed capital* and *working capital*. Fixed capitals are durable-use producers' goods, which are used in production again and again till they wear out. Working capital, on the other hand, are the single-use producers' goods, like raw materials, goods in process and fuel. They are used up in a single act of production. Moreover, money spent on them is fully recovered when goods made with them are sold in the market. All these taken together are called physical capital.



Along with the physical capital, the concept of 'human capital, has been evolved in the minds of the modern economists and given much emphasis in the recent years. By human capital is meant the stock of people equipped with education, skills, health, etc. It has been found that, the increase in the physical capital and advances in the technology alone cannot wholly explain the rate of economic growth in the developed countries. A good part of economic growth in such countries has occurred due to the accumulation of human capital. It has now been realized that, human capital formation is as important in increasing production and productivity as the physical capital formation.

So, whether it is a physical capital or a human capital, they need to be formatted in order to use them for further production. Capital formation, in simple words, means all the produced wealth by which more accumulation of wealth is possible directly or indirectly. It is used in narrow sense as well as broader sense. While in narrow sense, it means the increase in physical capital stock, which includes buildings, machinery, etc.; in broader sense, it includes increase in the non-physical capital or human resources, consisting of public health, efficacy, craft, and visible and invisible capital. Capital formation, thus, refers to the net addition made to the existing stock of capital in a given period of time. It involves a sacrifice of immediate consumption for obtaining more consumable goods in future. Therefore, the essence of capital formation is the diversion of a part of society's currently available resources to the purpose of increasing the stock of capital goods so as to make possible an expansion of consumable output in future.

In this way, the concept can also be extended to cover human capital formation. The term 'human capital formation' means the process of acquiring and increasing the number of persons who have the skills, education and experience which are critical for the economic and the political development of the country. Thus, it is associated with investment in man and his development as a creative productive resource. In its wider sense, investment in human capital means expenditure on health, education and

social services in general; and in its narrower sense, it implies expenditure on education and training.

Capital formation is directly related to level of investment, which in turn, depends on the level of savings. In the rural economies of backward areas, investment in both physical and human capital is very low. The maximum amount of their investment goes in agricultural sector, most of which are meant to produce goods for household consumption. The investments on tractor, installation shallow tube well, commercial crops, land, bullocks, plough, fishery pond, livestock, etc. can be mentioned as some of the real investments on physical capital used in the primary sector. A small portion of their savings is invested on bullock cart, trolley, rickshaw, mini-rice mill, etc. In order make a bigger investment in transports like bus, taxi, auto-rickshaw, etc., they have to take resort to borrowing from financial institutions. Because, their saving alone does not suffice for making such a big investments. The investment in human resource development has been slowly growing in the rural areas. But, most of investments in human resources they make are in primary and high school educations. Investments in technical education, training, etc. are still far behind the urban areas.

#### **VI.4.1. Imperatives of Capital Formation in Rural Areas:**

Capital formation or accumulation undergoes three different stages, namely, (1) creation of saving, (2) mobilization of saving and (3) investment of savings.

**(1) Creation of Saving.** The creation of saving is the first stage of capital formation. There must be an increase in the volume of real savings, so that these may be used for the production of consumption purposes and further may be released for other productive purposes. Therefore, for capital formation, some current consumption has to be sacrificed for obtaining a larger portion of flow of consumer goods in near future.

But, the creation of saving depends on the power to save, will to save and facility to save. The consumer or people must have enough income so that they can spare a portion of that income for saving for using in some productive purposes and to increase the future consumption. This is the point where most of the rural households have to bow down. Their level of income is so low that, they cannot afford to save for future consumption. Around 46.70 percent households expressed their shortage of income for savings in different financial institutions, like banks, LIC, Postal Savings and other financial institutions. Table IV.4.1.

Table VI.4.1 : Percentage Distributions of Savings in Various Financial Institutions.

SL. NO.	Saving Institution	Before 1990	During 1990-94	During 1995-99	During 2000-03
01	At Home	0.00 <i>0.00</i>	9.65 <i>4.73</i>	25.29 <i>51.18</i>	21.08 <i>44.08</i>
02	Bank	48.64 <i>3.81</i>	66.64 <i>12.78</i>	47.88 <i>37.89</i>	55.70 <i>45.53</i>
03	LIC	50.54 <i>9.34</i>	22.27 <i>10.07</i>	23.10 <i>43.13</i>	19.42 <i>37.46</i>
04	Post Office	0.00 <i>0.00</i>	1.44 <i>8.28</i>	1.48 <i>35.09</i>	2.31 <i>56.63</i>
05	Others	0.81 <i>2.08</i>	0.00 <i>0.00</i>	2.26 <i>58.35</i>	1.48 <i>39.57</i>
	Total	100.00	100.00	100.00	100.00

N.B.: The figures in *italics* represent the percentages of total saving in the same institutions in different years.

Around 13.32 percent of households are not interested, even though they can afford to save a portion of their income in various financial institutions. So, they prefer to save at home and reinvest in some productive activities, mainly in land purchase or land mortgage in the rural area itself. And some them spend all in the current consumption itself. Again, family heads of around 21.43 percent of households are still ignorant of saving in the various financial institutions, and around 2.38 percent households expressed the distance factor as the barrier for saving in these financial institutions.

It has been found that the savings of the rural people in various financial institutions have been growing gradually over the last few years. Among the

saving institutions, bank is the most attractive one in which most of the savings are made by the rural people. Other financial institutions like LIC, Postal savings, etc are not much known to the rural people. Around 33.52 percent do not make or cannot afford to save any money from their annual income. Out of the 66.48 percent of the saving households, 4.96 percent save money in four financial institutions including household saving, 21.49 percent make use of three saving institutions, and 30.58 households have savings in two financial institutions including household savings, and 42.98 percent have only household savings. The annual average savings of the households was found to be around Rs. 3146.00 only during the years 2000 – 2003, (Table VI.4.1) which is very low.

**(2) Mobilisation of Saving.** The deposit mobilizations by banks and other financial institutions are very important to boost the process of saving. In order to mobilize savings of the rural people, the banking institutions must open up new branches in their areas to motivate people by giving them deposit as well as credit facilities. Thus, banking facilities give considerable help to promote high rate of mobilization and channelization of savings. In brief, sound and efficient banking system enables investors to invest more and more.

But, such banking and other financial facilities are very discouraging for savings in the rural areas. People of the remote villages have to travel 10 to 15 kilometers to get banking facilities. Other financial institutions, like Life Insurance Corporation of India, do not have any branch office in the study area. Postal saving facilities are available at around three to five kilometers distance, but are quite insignificant in saving mobilizations. So, as whole, various financial institutions have not been able to mobilize much savings in the rural areas.

**(3) Investment of Saving.** The final stage is investment of saving into various capital goods. Investment requires an efficient, dynamic, daring, and skilled entrepreneur. An able and efficient entrepreneur is always ready to

make investments for the production of capital goods. In short, both saving and investment are crucial for capital formation.

A study of last 12 years in the study area shows that, people can easily invest their savings at household and banks at any time they want. But long-term savings in LIC and Post Office can be invested only after their maturity. So, around 5.18 percent of investments out of their savings at household and banks, are reinvested in lending to borrowers, 40.89 percent in petty trade, 28.66 percent in buying cultivable land and taking land mortgage, 21.30 percent in agricultural cultivation and 3.96 percent is reinvested in agricultural machines, like tractors, shallow tube well, etc. Thus, in the rural areas, capital formation occurs mostly in the primary sector, and more specifically, in agriculture alone.

#### **VI.5. Organization or Entrepreneurship (Rural Entrepreneurship)**

An entrepreneur is the economic leader who has the ability to recognize the opportunities for successful introduction of new techniques, new commodities, new sources, to assemble the necessary equipments, machinery, management, and organizes the other factors of production. The functions of an entrepreneur have undergone many changes over the years. To some economists, the function of the entrepreneur is to bear the risk and uncertainty, to some, the coordination of productive resources, to Schumpeter in particular, the introduction of innovations, and still to others, his function is to provide capital. In whatever sense we may view the entrepreneur; he is the kingpin of any business enterprise, because without him the wheels of the industry cannot move even an inch in the economy.

To choose the definition of entrepreneurship most appropriate for the rural area context, it is important to bear in mind the entrepreneurial skills that will be needed to improve the quality of life for individuals, families and communities and to sustain a healthy economy and environment. Taking this into consideration, we will find that each of the traditional definitions has its

own weakness. Defining entrepreneurship as risk-taking neglects other major elements of what we usually think of as entrepreneurship, such as a well-developed ability to recognise unexploited market opportunities. Entrepreneurship as a stabilising force limits entrepreneurship to reading markets disequilibria, while entrepreneurship defined as owning and operating a business, denies the possibility of entrepreneurial behaviour by non-owners, employees and managers who have no equity stake in the business. The Schumpeter's definition leaves little room for innovations that are not on the technological or organizational cutting edge, such as, adaptation of older technologies to a developing-country context, or entering into export markets already tapped by other firms. Therefore, the most appropriate definition of entrepreneurship that would fit into the rural development context, argued here, is the broader one, the one which defines entrepreneurship as: "a force that mobilises other resources to meet unmet market demand", "the ability to create and build something from practically nothing", "the process of creating value by pulling together a unique package of resources to exploit an opportunity" (Petrin, 1994). Entrepreneurship so defined, pertains to any new organization of productive factors and not exclusively to innovations that are on the technological or organizational cutting edge, it pertains to entrepreneurial activities both within and outside the organization.

An entrepreneurial economy, whether on the national, regional or community level, differs significantly from a non-entrepreneurial economy in many respects, not only by its economic structure and its economic vigorousness, but also by the social vitality and quality of life which it offers with a consequent attractiveness to people. Economic structure is very dynamic and extremely competitive due to the rapid creation of new firms and exit of the old ones.

Entrepreneurial orientation to rural development, contrary to development based on bringing in human capital and investment from outside, is based on stimulating local entrepreneurial talent and subsequent growth of indigenous

companies. This in turn would create jobs and add economic value to a region and community and at the same time keep scarce resources within the community. To accelerate economic development in rural areas, it is necessary to increase the supply of entrepreneurs, thus building up the critical mass of first generation entrepreneurs who will take risks and engage in the uncertainties of a new venture creation, create something from practically nothing and create values by pulling together a unique package of resources to exploit an opportunity (Petrin, 1992). By their example they will stimulate an autonomous entrepreneurial process, as well as a dynamic entrepreneurship, thereby ensuring continuous rural development.

It is important to stress that rural entrepreneurship in its substance does not differ from entrepreneurship in urban areas. Entrepreneurship in rural areas is finding a unique blend of resources, either inside or outside of agriculture. This can be achieved by widening the base of a farm business to include all the non-agricultural uses that available resources can be put to or through any major changes in land use or level of production other than those related solely to agriculture. Thus, a rural entrepreneur is someone who is prepared to stay in the rural area and contribute to the creation of local wealth. To some degree, however, the economic goals of an entrepreneur and the social goals of rural development are more strongly interlinked than in urban areas. For this reason entrepreneurship in rural areas is usually community based and has a strong extended family linkages and a relatively large impact on a rural community.

Although agriculture today still provides income to rural communities, rural development is increasingly linked to enterprise development. Since national economies are more and more globalized and competition is intensifying at an unprecedented pace, affecting not only industry but any economic activity including agriculture, it is not surprising that rural entrepreneurship is gaining in its importance as a force of economic change that must take place if many rural communities are to survive. However, entrepreneurship demands an enabling environment in order to flourish.

It can be mentioned here that, the entrepreneur may be educated, trained and skilled or he may be illiterate and uneducated person with high business acumen, which others might be lacking. But he must possess some important qualities, like (i) he is energetic, resourceful, alert to new opportunities, able to adjust to changing conditions and willing to bear the risks and uncertainty in change and expansion, (ii) he introduces technological change and improves the quality of his products, (iii) he coordinates between the management and labourers, and (iv) he expands the scale of operations and undertakes allied pursuits, and reinvests his profits. The role of entrepreneur can be divided into the capitalist, the manager and the entrepreneur. The entrepreneur supplies funds and other resources, supervises and coordinates other productive resources, and plans, innovates and takes ultimate decisions. In the small enterprises, the entrepreneur himself may perform these functions.

Table VI.5.1 : Distribution of Entrepreneurs in Various Enterprises

Sl. No.	Name of Enterprise	Number	Individual	Partnership
01	Farming	133 (34.02%)	107 (80.45)	26 (19.55)
02	Tea Plantation	15 (3.84%)	2 (13.33)	13 (86.67)
03	Grocery	9 (2.30%)	9 (100.00)	0 (0.00)
04	Fishery	49 (12.53%)	49 (100.00)	0 (0.00)
05	Animal husbandry	111 (28.39%)	111 (100.00)	0 (0.00)
06	Mini-rice-mill	8 (2.05%)	8 (100.00)	0 (0.00)
07	Contractor	5 (1.28%)	5 (100.00)	0 (0.00)
08	Cloth store	1 (0.26%)	1 (100.00)	0 (0.00)
09	Seeds & fertilizers	1 (0.26%)	1 (100.00)	0 (0.00)
10	Superi trader	1 (0.26%)	1 (100.00)	0 (0.00)
11	Transport services	2 (0.51%)	2 (100.00)	0 (0.00)
12	Cottage Industry	35 (8.95%)	32 (91.43)	3 (8.57)
13	Fair price shop	2 (0.51%)	2 (100.00)	0 (0.00)
14	Miscellaneous	19 (4.86%)	19 (100.00)	0 (0.00)
	Total	391(100.00%)	349 (89.26)	42 (10.74)

In a backward rural economy, there is always a shortage of land and capital, and surplus of labour, in relation to demand. An efficient entrepreneur is one who can allocate these scarce factors in combination with the available factor



in such a way that the cost per unit of output becomes the least. Generally, such a strict decision-making by the rural entrepreneurs (farm owners), with the aim of getting maximum profit, is very rare. Their decision-making remains, at the most, at which varieties of crop (i.e. paddy, vegetables, spices, etc.) should be produced in which plot of land and of how much area should be used for which crop, so on and so forth, and very few have overcome this stage by diverting their attention from agriculture to some other enterprises like tea plantation, constructions, groceries, fisheries, pig farm, poultry farm, mini-rice mill, etc. Table VI.5.1 shows the number of entrepreneurs who possess different enterprises in the sample villages.

When we talk about the rural entrepreneurship we should keep in mind that, many of the entrepreneurs do not possess a single permanent enterprise in which they are engaged on full time basis. They naturally engage themselves in many other activities, for example, an entrepreneur involved in animal husbandry (which is mostly undertaken by women in the study area) also gets involved in other activities like, weaving, fishery, etc. The permanent or full time entrepreneurs are found mostly in agriculture, tea plantation, grocery, construction, cloth stores, seeds and fertilizer stores, and cottage industries. It is evident from the above table that agriculture is the main enterprise of the sample households of the study area in which around 34.02% of the total entrepreneurs are involved. Around 80.45% farm entrepreneurs carry out farming individually. Some farm entrepreneurs (around 19.55% of total farm entrepreneurs) have a joint venture, especially in case of sharecropping where the farmer and the landowner share the burden of risk and uncertainty. The small tea growers are the newly coming up entrepreneurs in the study area who constitute 3.84% of the total entrepreneurs of the sample households. Most of them (86.67% of the total planters) have undertaken tea plantation on the partnership basis. The main reason of these undertakings on partnership basis is that tea plantation requires huge investments and it becomes almost impossible for most of the rural entrepreneurs to undertake individually. There are a few entrepreneurs

(around 13.33% of the total planters) who have undertaken it on a very small scale. Around 2.30% of the total entrepreneurs of the sample households are engaged in grocery, which are solely individual enterprises of full time entrepreneurs. Fishery is another enterprise of the area in which 12.53 of the total entrepreneurs of the sample households are engaged on part time basis. Animal husbandry is an enterprise carried out by the inhabitants of the sample village on purely part time basis. Around 28.39% of the sample households possess this enterprise. The household industries absorb around 8.95% of the total entrepreneurs of which 91.43% carry it on their own and only 8.57% carry out on partnership basis. The other entrepreneurs involved in mini-rice mills (2.05%), construction (1.28%), cloth stores (0.26%), seeds and fertilizer stores (0.26%), supari making (0.26%), transport services (0.51%), and fair price shop (0.51%), etc. are few in number. The rest of 4.86% of the total entrepreneurs of the sample households are engaged in other miscellaneous enterprises like, *paan ghuntee*, tea stall/hotel, wood selling, meat selling, ice-cream selling, etc.

So, almost every factors of production is more or less found existing in the sample households of the study area though scarcely in almost every respect (except unskilled labour). Majority of the sample households possess, though not abundantly, cultivable lands. The sample households supply labourers to many institutions and activities. But, the area is lagging much behind in cases of capital formation and large-scale enterprises. There is not a single entrepreneur who has introduced small or large-scale manufacturing industry in the sample villages and is not found even in other villages of the study area. If the rural economy is to develop in a pace, development of agriculture must be followed by development of small and large-scale industries, increase in the number of entrepreneurs, rapid rise in capital formation, etc.

Daimari, Prasen (2005) A Study on Structure of the Economy of Udalguri Subdivision, Assam, Doctoral Dissertation, Dept. of Economics, North Eastern Hill University, Shillong (India)

## **Chapter – VII**

### **Enterprise and Productive Activities**

#### **VII.1. Enterprise in a Less-Developed Rural Economy**

Enterprise consists of the functions of decision-making, innovation, organization and allocation of productive resources. Decision regarding what, how much, when and where to produce and sell; finding new goods to produce, new inputs to them, new techniques of production, new markets and new strategies of provisioning; bringing together various factors of production and assigning them their roles appropriately and the associated activities together make an enterprise.

Risk is the innate ingredient of enterprise. Since decision-making, by its very nature, is to choose from among different alternatives varying in their consequences as to the final outcome, an inappropriate decision has an opportunity cost, which introduces risk element into decision-making. In the ever-changing circumstances, no one can assure that any enterprise will attain its most feasible target. Innovations are risky by nature. All human agents in the economy – consumers, workers, producers, etc. – often go by habits, the well established manner of conducting themselves in different circumstances. Innovations are necessarily deviants from the settled habits of conduct and therefore meet resistance. If innovations can survive the resistance against them and prove relatively more beneficial than the prevailing practices, they bring forth fortune to the entrepreneur.

Bringing different factors of production together, assigning them roles and applying them to turn out the goods successfully and efficiently requires understanding not only of the production process, but also the possible matrix of nature and conduct of different factors of production. In different social and cultural milieu this matrix of conduct is different. The entrepreneur has to deal with them suitably. Risk is a natural ingredient of this process also.

Viewed as such, enterprise is not limited to market-oriented, profit-motivated production activities; it includes productive activities in a subsistence-oriented rural economy as well. All farmers, artisans, craftsmen, petty shopkeepers and traders are entrepreneurs in their own right.

Nevertheless, all enterprises are not equally risky, innovative, decision-cum-organization optimal and therefore remunerative. Some of them are only a minor deviation from the most prevailing going concerns, while some others are a class by themselves. Some societies, during some span of time, experience spurt of enterprise, much more daring and innovative, and by unusual frequency of occurrence than what their contemporary societies experience.

There have been many attempts to pinpoint as to what makes some individuals and communities more enterprising than the others. Max Weber (1904) and Tawney (1926) thought, and now Noland (2003) thinks, that a particular type of ethic, which provides a superstructure to the social and economic conduct of the individuals in a community, determines entrepreneurship. Adam Smith (1759) to Robert Putnam (1993) stress on the social capital, the moral fabric of the society, which facilitates enterprise. Lewis (1960) saw the *will to economize* as the most potent drive to enterprise. McClelland (1961) visualized that the 'need for achievement' shaped by training, either formal or informal, in the early stages of an individual life determines individual's entrepreneurial behaviour. Myrdal (1968) spoke of modernization ideals and Liebenstein (1966) considered competitive pressure as the most potent drive to enterprise.

Hirschman (1958) recognized development via directly productive activities, but stressed on the role of social overhead capital that helps materialize the entrepreneurship. In absence of social overhead capital, individuals cannot go in for any substantial enterprise. Especially in the rural setting of underdeveloped economies, Theodore Schultz (1970) attributed poor performance of farmers to unavailability of modern inputs that could raise

the yield rate in agriculture. For Galbraith (1980) poverty itself limits the scope of enterprise by making the poor most risk-averse. Douglass North (1981), while recognizing the role of resource base and infrastructure, holds that institutions play a major role in promoting enterprise. Unless institutions are favourable, resource base and infrastructure do not matter much.

There is some truth in each view mentioned above. Additionally, one has to look into one more fact that we would call the 'predicament of the poor'. Poverty is self-reinforcing. Poverty leads to exclusion of an individual from the sphere that empowers him to venture on any enterprise. First, he is born and brought up in a milieu that imparts only a poor 'need for achievement'. Secondly, poverty holds him back from education, training and attainment that may facilitate entrepreneurship. Poverty makes him unworthy of obtaining institutional finance. Mass poverty often stresses on the moral fabric or the social capital that facilitates the success of any enterprise. The islands of affluence in the vast ocean of poverty often turn corrupt, inefficient and anti-development only because mass poverty is readily a subject to exploitation and subjugation, which cannot retaliate or stand against the predatory instincts and prowess of the few privileged ones. Poverty weakens the power to pressurize the government, which keeps poorer areas bereft of all infrastructural facilities. Poverty makes people accommodative, ready to absorb all injuries without the slightest disapproval or indignation. Poverty makes people risk-averse, as the protest against the powerful is evidently risky. Poverty kills or limits the flight of imagination, so much necessary for innovation. In short, the predicament of the poor limits the scope of enterprise.

Nevertheless, enterprises in the rural areas of the Indian economy are picking up momentum. The initiative of the rural people, particularly that of tribals, in participating in the market exchange in lieu of their observing traditional system of transaction, which may be described as a process of 'micro-transformation', is now observable (Danda, 1993, p. 39). But, this

type of initiation and its resultant consequences cannot put much influence on the whole rural economy.

The market mechanism has laid its influence on every aspect of the rural economy of the backward areas, like that of their economic resources, economic activities, economic relationships, etc. Such influences are manifested in their individual ownership of land, inheritance of community property by individuals, differentiation of professions, specialization of roles, widening of the relationship of their economic network, etc. As a result, most of the rural economies have lost many of their distinctive characteristics and identity, giving way to the institutional economy. Under such circumstances, it is very difficult to ascertain as to where the characteristics of the primitive economy ends and modern institutionalized economy begins. But, if we closely examine the sequences of development, evidences of transformation on the basis of increasing degree of specialization becomes conspicuous. This, however, suggests a scheme of development without necessarily indicating the point or points of major breakthrough.

Whatever the course or stages of transformation that might have taken place in the rural economies, one thing is clear that, these economies have transformed into more complex and organized form. This has become possible because of the influences of modernization, commercialization and mechanization of agriculture, trade and commerce, industrialization, etc. on these economies.

The acts of production in a rural economy, like that of our study area, refers practically to the primary production, like agriculture, forest, fishery, fishing, and live-stock, etc. with a negligible amount production of cottage industries. So, here, we may call agricultural farm the major enterprise of the rural areas, because the main objective of these farms is to produce goods (crops) not only for household consumptions, but also for sale in order to buy other necessary goods. An attempt has been made to study the

households as the production units, or the owners of the various enterprises, and problems they face while carrying out such enterprises.

## **VII.2. Agriculture**

Agriculture dominates the economy of the sub-division. Out of 88.30 percent of the total main workers that are engaged in the primary sector, agriculture alone absorbs 77.88 percent of it. Around 32.19 per cent of the area's income is contributed by agriculture. The most of the agricultural crops are cultivated with very old and primitive techniques using animal power, wooden ploughs, iron or steel hoes, and with very scanty use of manures.

As contrary to the traditional agriculture relying heavily on indigenous inputs, such as simple wooden plough and other primitive agricultural tools, animal power, etc.; the modern agriculture makes use of better techniques of production, chemical fertilizers, improved varieties of seeds called HYVs, pesticides, agricultural machines, extensive irrigation, and diesel and electricity as power. These resources or farm inputs are produced outside the agricultural sector.

The principal factors responsible for modernization of agriculture are: (1) Economic and (2) Personal factors (Singh, 1976, p.9). The 'willingness' and 'ability' on the part of the farmers to adopt the modern inputs in their farms, which can also be termed as demand for modernization, along with the availability of the inputs, constituting the supply of modernization, determine the rate of modernization of agriculture. The personal factors like education, age, instincts, culture, tradition, institutions, etc. determine the willingness to accept the modern techniques. Ability to modernize the farming depends upon economic factors like creation of necessary infrastructures, capacity to invest, risk bearing capacity, etc. Again, the factors, which affect the propensity to adopt, are irrigation facilities, size of holding, additional returns due to modernization, availability of market for their produce, i.e., profitability, increased income, liquidity position, etc.

When all these factors arrive at in a favourable position, the rate of growth of modernization in agriculture moves in a positive direction, and vice-versa.

Once modernization of agriculture is adopted successfully, the new technologies lead to continuous expansion in area under crops, total production and productivity. These become possible with the help of '*mechanization of agriculture*', instead of depending fully on human and bullock powers, and '*commercialization of agriculture*' with shift in agricultural production from food crops to cash crops. Mechanization of agriculture, as a part of modernization, consists of replacing or assisting, or both, animal and human labour in farming by mechanical power, whenever possible. It means, in other words, employment of machinery, in one way or other, in all farming operations, ranging from breaking up of soil to the marketing and sale of produce of farming. Thus, tractor ploughing dispenses with the drought animals and wooden plough. The combined-rill performs the operations of sowing and putting the fertilizer simultaneously. The combined harvester-thresher has simplified the work of reaping and threshing into a joint process and rendered obsolete the use of sickle, etc. Thus, mechanization makes agricultural activities very simple and more productive, but at the same time, extensive use of agricultural machinery leads to displacement of labour in the agricultural sector.

Commercialization of agriculture is another characteristic of its modernization. It generally means increasing relative importance of cash crops in the peasant production and upward trend in the involvement of the peasantry in the product market. But, in the present situation, most of the food crops such as rice, wheat, etc. are also produced in surplus and marketed on large scale. Therefore, it is not correct to say, that importance of only cash crops increases with the commercialization of agriculture and only cash crops can be classified as commercial crops. It is the purpose of production of any crop (i.e. crop marketing), which classifies them as commercial crops. Commercialization of agriculture is not limited only to



increasing involvement of peasantry in the product market, or in other words, the increasing relative importance of cash crops in the peasant production, it also includes the changes that take place in labour and land markets (Nair, 1986, p. 77). This definitely affects the cropping pattern, land and labour markets, internal or external markets of agricultural produce, and leads to integration of agricultural product markets through movement of their prices between markets. The more irrigation facilities and scientific yield-raising technology are used, the more output of agricultural crops can be raised. As a result of rapid increase in the agricultural production, it can be expected to reduce proportionately the area under different crops, and this area could be used to grow some other commercial crops. Thus, increase in commercialization of agriculture, *first*, leads to changes in its cropping pattern. *Second*, the new technology makes farmers more market-oriented, since in this system, they can produce more than that in the traditional agriculture. *Third*, it gives boost to agricultural employment because of diverse job opportunities created by multiple cropping and shift towards hired workers. *Fourth*, it strengthens the linkages between agriculture and industry both forward and backward. Even in the traditional agriculture, its forward linkage with industry remains always strong, since it supplies many of the raw materials of the industry; but backward linkage of agriculture from industry becomes weak. But, modernization as well as commercialization of agriculture creates a larger demand for inputs produced and supplied by industries to agriculture and, thus, the backward linkage also becomes stronger. The increase in the demand for certain agricultural produces, which are used as raw materials in certain industries, leads to increase in acreage under these crops.

But, these types of technological changes leading to modernization, mechanization and commercialization of agriculture have been able to generate a very little influence on the agricultural activities and the economy of the rural people of the present study area. Only a handful of farmers, medium and large landowners, have gone in for modernization of agriculture

(in Baruajhar and Sialmari). This group of few farmers is the immigrants from the neighbouring country – Bangladesh. They use some of the modern techniques like tractors, shallow tube wells, improved seeds, chemical fertilizers, etc. Almost all the indigenous farmers, whether small or big, have failed to adopt the new techniques of production.

Because of abundant supply of fertile virgin land, the indigenous cultivators in the early days did not feel the necessity for improved farm practices. But in the present situation where farmers have low agricultural productivity, and hence low-income generation from agricultural sector, they should have looked for some changes in their farming techniques, which would raise their farm income and standard of living. Generally farmers have the attitude of reluctance to adoption of new and improved technology and seeds, use of manures, chemical fertilizers, etc., but the fact is that the farmers in the rural areas are poor and are not in the position to afford to invest the amount of capital required for cultivation of improved seeds by using the all the required inputs. And also that, they do want to bear the risk and uncertainty of investing huge capital in agriculture, because farming in such areas is a gamble of the Monsoon. If the Monsoon is good, farmers get good crops, otherwise not. So, the poor farmers do not want to take this risk of facing loss by heavy investment in agriculture. All innovations involve certain risk of failure.... For affluent farmers.... crop failure means loss of income. This is disagreeable, but this does not involve physical deprivation. To the family that lives on the margin of subsistence, however, failure means hunger... so regarded, risk is not something to be accepted casually. Among the very poor, risk aversion is very high and for reasons that are wholly rational (Galbraith, 1980, pp. 50-51). In recent time, experiencing difficulties due to the increasing pressure of population on land and consequent diminution of cultivable waste land; and also seeing the better farming practices of the fellow immigrants in *Dalgaon* area, some of their neighbouring cultivators have also gradually started adopting better techniques and diverse cropping patterns.

### VII.2(i). Operational Holding and Farm Management

For agricultural efficiency, it is necessary that the farmers have a suitable size of farms. To a certain extent, the size of agricultural land holding determines the character of equipment that can be usefully employed. It is to be noted here that from the point of efficiency, it is not the size of the ownership holding, but the cultivation holding that matters the most.

Table VII.2.1 : Percentage Distribution of Farm Families according to Holding Size

Category of holdings of sample farm families	Per cent Farmers in different Holding Classes, Assam *		Number of owners having TCL	Number of FF cultivated on purely own land	Number of FF cultivated as purely tenants	Number of FF cultivated as mixed of own and tenant	Number of absentee land owners
	1981	1991					
Marginal 0.0 - 7.5 bighas	57.04	59.34	59 (220.8)	20 (90.9)	5 (23.5)	9 (38.5)	13
			38.56%	31.25%	83.33%	14.29%	
Small 7.5 – 30 bighas	37.80	36.41	79 (1159.1)	37 (596.4)	1(8.0)	43 (645.7)	6
			51.63%	57.81%	16.67%	68.25%	
Medium 30 – 75 bighas	4.78	4.00	14 (588.5)	6 (227.5)	0 (0.0)	11(400.5)	0
			9.15%	9.38%	0.00%	17.46%	
Large > 75 bighas	0.39	0.25	1 (85.0)	1 (85.0)	0 (0.0)	0 (0.0)	0
			0.65%	1.56%	0.00%	0.00%	
<b>Total FF</b>	100.00	100.00	<b>153 (2053.40)</b>	<b>64 (999.8)</b>	<b>6 (31.5)</b>	<b>63 (1083.2)</b>	<b>19</b>
			100.00%	100.00%	100.00%	100.00%	

\* Adapted from Basic Statistics of North Eastern Region, NEC, Shillong.

N.B.: 1. TCL = total cultivable land, FF=Farm Family.

2. Figures in the brackets represent area in bighas;

3. The percentages shown below the numbers of farm families belonging to different categories are the % to the total farm families.

The farmers of any area may be classified into four categories according to their size of land holding. Farmers who possess cultivable land below 7.5 bighas are classified under the marginal farmers (Table VII.2.1). Farmers having land between 7.5 bighas to 30 bighas, are called small farmers, those having land between 30 to 75 bighas are called medium farmers, and farmers possessing land 75 bighas and above are called large farms. In the sample villages, on the basis of ownership of land, 29 (15.93% of the total) households do not possess any cultivable lands; there are 38.56 percent

marginal landowners; 51.63 percent small landowners, 9.15 percent medium landowners, and only 0.65 percent large landowners. The marginal and small farm family members do a certain amount of work away from their own farms during off-season; while at the same time, a certain amount of hired labour, coming from both within and outside the village, is employed in the busy season. When we consider the farmers on the basis of cultivation only on their own land, the farm families in marginal farm category becomes 31.25%, the small farm category becomes 57.81%, the medium category becomes 9.38% and that of large farm category becomes 1.56% of the total sample farm families. There are some (12.42% of the total cultivable landowners) absentee landowners who do not under-take agricultural cultivation as their occupation.

There is a category of farmers who cultivate crops on others' land on purely tenant basis. These tenant farmers are less in number (4.51% of the total sample farm families) cultivating only 31.5 bighas of land and majority of them fall under marginal farmer's category. There is yet another category of farmers who cultivate on their own land as well as on tenancy lands leased in from other landowners. This category constitutes 47.37% of the total farm families and 68.25% (43 farm families) of them fall under small farmers category cultivating an area of 56.61% of land, 17.46% (11 farm families) in medium farm category with 36.97 % of cultivated land and 14.29% (9 farm families) in marginal farm category with 3.55% of cultivated lands.

The marginal, small and medium farmers cultivate crops on others lands also as tenants. Among the marginal farms, there are some landless farmers, who cultivate fully rented land, and some small farmers who operate on partly own land and partly rented land. Thus, when we consider the farm size with the tenancy holding, the number of marginal farmers declines to 25.56%, small farmers increases to 60.90%, and that of medium farmers also increases to 12.78%. This indicates that, many marginal farmers do undertake cultivation of crops on others' land by paying rent on

contractual basis. Farmers, who do not have land, also cultivate crops on others' land, and thus, there occurs new entry in the marginal farmers' group. The marginal farmers, on the other hand, always try to increase their size of holdings even by undertaking tenancy cultivation so that it enables them to join the small farmer's category.

Table VII.2.2 : Farm Operation under Tenancy Land.

Sl. NN o.	Category of holdings of sample farm families	Size Group (in bighas)	Own Land			Leased-in Land		
			Total area	Area cultivated by farmer himself	Area leased-out to other farmers	Total Area	Area of leased-in & cultivated	Area leased-in but rented-out
01	Marginal	Up to 7.5	73.6 (18)	8.5	65.1	35.5(10)	4.0	31.5
			8.72%	11.55%	88.45%	29.83%	11.27%	88.73%
02	Small	7.5 to 30	418.5 (28)	183.5	235	24(2)	5.0	19.0
			49.58%	43.85%	56.15%	20.17%	20.83%	79.17%
03	Medium	30 to 75	352 (8)	193	159	59.5 (1)	9.0	50.5
			41.70%	54.83%	45.17%	50.00%	15.13%	84.87%
04	Large	75 and above	0.00	0.00	0.00	0.00	0.00	0.00
			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Total FF		844.1 (54)	385	459.1	119.0 (13)	18.0	101.0
			100.00%	45.61%	54.39%	100.00%	15.13%	84.87%

Note: Figures in the brackets represent number of households.

So is the case with the small farmers that lead them to the medium farm category. The main objective behind the increase in the size of holding is to earn more income for better living. Thus, the farmers are the entrepreneurs in their own sphere as agricultural cultivation is concerned.

Now let us analyze the tenancy system from another angle where the landowners, instead of leasing-in, lease-out their cultivable lands to other tenants. This category of landowners can be classified into: (1) those who partly cultivate by themselves and partly lease-out to tenants and (2) those who lease-in cultivable lands but do not cultivate by themselves and rent out to other tenants for cultivation on contract basis. In the category (1), around 51.85% of the small landowners cultivate 43.85% of their cultivable land by themselves and lease-out 56.15% of their total cultivable land to other

tenants. Again 33.33% of the marginal farmers of this category cultivate only 11.55% of their land by themselves and lease-out 88.45% of their lands. In the category (2), around 76.92% fall under marginal lease-owner and they too cultivate only 11.27% of their leased-in lands by themselves and rent out the rest of 88.73% to other farmers. Among them, the 15.38% tenancy holders, who fall under small farmers' category, cultivate 20.83% of leased-in land by themselves and rent out 79.17% of it to other sub-tenants. There is one tenants tenant, falling under medium category farmer possessing 50.00% of the total leased-in lands, who cultivates only 15.13% of his leased-in lands and rents out 84.87% of it to other sub-tenants. These acts of the lease-owners suggest that they are not farmers by occupation and enjoy a little better off economic conditions. They lease-in lands from the poor and needy landowners mostly under mortgage system and keep on enjoying the benefits by renting these lands out to other sub-tenants.

The tenancy system, prevailing in the area, is of three types. The first type of system is called '*mortgage*'. In this system, the landowners take money from the cultivator. The amount of rent ranges from Rs. 3000 to Rs. 6000, depending on the position, distance, quality, etc. of land. The farmers become much benefited from this system of tenancy, because they can keep on cultivating crops in this plot of land until the landowner can return the equal amount of money to the tenant. This is known as '*bandhak*' system in the local parlance.

The second type of tenancy is the '*thika*' or contractual tenancy system. In this system, the cultivator pays a certain amount of rent to the landowner as contracted. The contract may be made for one or more years. The cultivator pays rent in both cash and kind as has been laid down in the contract. The prevailing rate of rent in this system is 4 to 6 mounds of paddy in kind, and Rs. 1000 to Rs. 1200 in cash, per *bigha* per year. In some cases, the cultivator pays fixed amount of rent to the landowner for a stipulated period, and keep on cultivating the land as much as he can, till the period is over.

The landowner does not have to return the principal amount of rent to the cultivator.

The third type of tenancy, prevalent in the area, is 'sharecropping' called "*adhi system*" in the regional language. In this system, the landowner gives his land to the sharecropper for cultivation. The grains are divided equally into two shares – one for the landowner and the other, for the cultivator. The share of investments, in this system, varies from village to village. In some villages, like Barigaon Gerua, Bhogdal, Kalbari, etc., the landowner supplies the required amount of seeds for cultivation. Then, apart from ploughing materials and cattle, all the expenses are shared equally till the harvesting is over. But, in some villages, the cultivator has to bear all the expenses on cultivation.

Most of the marginal and small farmers take resort to the second and third type of tenancy, though the cases of sharecropping is more in number than that of contractual tenancy. In some cases, the small farmers are also found cultivating on mortgaged lands. But, the medium farmer always go in for the first type of tenancy, in which he has to invest comparatively a little higher amount of capital and has a chance of earning a higher profit.

Some of the poor and marginal landowners lease out their land in mortgage to meet their daily consumption expenditures, and also, it is quite uneconomical to cultivate such a small area of land holding. There are some landowners, who do not have enough labour force, or family members, to look after the farming, and they lease out their lands to other cultivators on any of the above systems.

So, the farming practices in these villages are determined by the ownership holding as well as by tenancy holding. Farmers who possess their own cultivable lands can cultivate and earn livelihood as long as they have labour power. Those farmers who do not possess cultivable lands of their own can also cultivate others' land as tenants. But, differences remain in the matters

that the landowning farmers can take their own decisions as to which crop to cultivate in which plot of land and how much area to utilize for which crop, etc.; the freedom of which is not with the most of the tenant farmers (especially to sharecroppers).

### **VII.2(ii). Labour Management in Farming**

A farmer is one who engages himself in the cultivation of crops on his own land or on others' lands which he has leased-in by paying a contractual amount of rent to the landowner. A farmer may also lease-out a part of his lands and receive rent from his tenants. But a landowner, who possesses land and leases-out his land to receive rent from tenants and do not cultivate any crop by himself at all, is not considered as a farmer. Thus, a farmer can earn income from his land in two ways: (1) by cultivation of his own or leased-in lands and (2) by leasing-out his lands to tenants.

Farming is practiced by using family labour as well as hired labour. It has been found that most of the farmers, whether small, medium or large, use hired labourers in cultivation, of course, larger the area cultivated the more hired labourers will be required for farming. Around 15.37% of the total agricultural labour is hired from within or outside the sample villages.

The labour relations in agricultural sector are heterogeneous. The heterogeneities in labour relations in agriculture are due to qualities, experience, gender, age, etc. which lead to the differences in their market prices. Heterogeneities also occur due to the differences in customs and traditions, cultures, habits, etc. as different from economic factors such as training, skill, expertise, etc. As a matter of fact, the Classical assumption of labour as a 'homogeneous factor of production' becomes irrelevant as far as labour relations in the rural agricultural sector is concerned.

Agricultural labour may be broadly classified in to 'family labour' and 'hired labour' or 'wage-labour' (Rudra, 1982, pp. 326-330). A family labour or a household labour is that labour who engages himself or herself in own family



farm, independent of existing market wage rate of labour. Family labour may again be classified in to full time worker and part time worker. Full time family agricultural labour are those who remain in their farming activities more than half of the farming season. While, the part time farmers are those who engage themselves as permanent workers, but help the full time farmers in the time of needs and in busy season. There are also some family labours, both male and female, who go for seeking their labour to other farmers or to *mahajans* (rich people) during their off season. This of course, again depends on the customs, traditions and socio-economic status of the family, etc., which may not only prohibit the family members to go for selling their labour on others' farms, but their engagement in their own farm activities may be selective in operation, (which is more true in case of female labour). It is a well known fact that the participation of women and children in the family farm as well as in open labour market and other economic activities depend upon the social and economic status of the households (Bharadwaj, 1976). This can be finely traced out from the fact that, the women of the tribal, and so is also the case in lower income group of people in the societies, have a higher participation in many economic activities than the women of the status conscious and class/tradition ridden section of the population who may not be free even if they wanted to participate in many economic activities. On account of consideration of social hierarchy some family members may find acceptable to work on their own farms but not to hire themselves out to other farms. This factor would apply particularly to upper caste families as well as to female family members (Rudra, 1982, p. 329).

Hired labour or wage-labour, on the other hand, covers a very wide variety of labour contracts with various terms and conditions, remunerations and modes of payments. The hired labourers are usually classified in to 'casual labourers' and 'attached labourers' (who are also called farm servants, monthly or annual farm servants, permanent farm servants, etc. the terms depending on the tenure of their services). A casual labourer is one whose

contractual duration of work is for a day and who receives his wages at the end of the day's work, and hence, he is also called a daily farm labourer. He may or may not get his meal on the working day, and this depends upon the contract between the employer and the labourer concerned. The employer may employ in the successive days by extension of works in which case, their contracts may or may not remain the same.

A farm servant or permanent servant, on the other hand, is one whose duration of work is at least more than half of the farming season (usually one year). As such he may be hired on monthly or yearly basis. A monthly farm servant is contracted on monthly basis and he receives his wages partly as an advance installment as soon as he joins the work, or in installments spread over the months, as long as he remain employed, along with every days' meals and a lodging. His service period remains as long as the farm season continues. But in the case of an annual farm servant, the tenure of work is one year. He receives his wages partly in advance installments, and partly in some installments spread over the year or partly at the end of his service period. He gets his daily meal and lodging, and gets a better status in the master's family than the former two types of wage labourers. These labourers are also called attached labourers because in due course of their long services in the master's house they build some sort of attached relationships with the employer, which is usually not seen in case of the casual labourers.

Agricultural labour in the area is employed mainly for four major activities which are: (1) ploughing, (2) plant transferring, (3) transplantation and (4) harvesting. Male labour is employed exclusively for ploughing, while for plant transferring, transplantation, weeding and harvesting both the male and female labourers are employed, though the male labourers main responsibility of plant transferring and harvesting and the female labourers, the transplantation.

It follows that, while cultivating the lands, whether his own or leased-in, a farmer may utilize his own family labour or he may hire wage-labourers from outside the family. The principal reason for involvement of family labour is, though, organizational and managerial, in most of the cases of marginal, small and medium farmers, farmers themselves do both labour and management with the assistance of family labours.

There are many factors which determine the demand for hired labours in agricultural sector even by the small farmers. *Firstly*, the demand for hired labour depends on the area under cultivation- the larger the area under cultivation the larger will be the demand for hired labour. *Secondly*, the market wage rate also determines the demand for hired labour in agriculture. The higher is the wage rate the lower will be the demand for hired labour. In such a case, the family labour will be more demanding than the hired labour. *Thirdly*, the method of cultivation and the seeds which are used for cultivation also determine the demand for hired labour. In case of cultivation of HYV seeds and by improved technology, the demand for hired labour increases due to requirements of more labour and care. *Fourthly*, if the farm family does not have a male worker then definitely labour has to be hired for raising crops. *Fifthly*, in the areas where farming is mostly rain-fed, the demand for hired labour also depends on the rainy season. The shorter the rainy season, the higher will be the demand for hired labour. *Lastly*, there is still another factor which ask for hired labour in the cultivation is the consciousness of 'social status' fostered by some upper class or higher income group of people in the society. Because the value system of the society (at least in an underdeveloped area) is the value system that grows out of the behaviour pattern of the leisure class in the society and stabilizes or changes according to the interests of the leisure class or the dominant class, and to their understanding, substitution of hired labour by family labour is low rated (Mishra, 1984, p. 18)

### **VII.2(iii) Cropping Pattern**

The pattern of cropping, in the study area, is more or less similar to those of the other plain regions of Assam. The main crops, in particular paddy and jute, are cultivated in the rainy season. Other *rabi* crops, like potato, onion, vegetables, rape-seeds, spices, etc., are cultivated in the dry winter season as they require very little rainfall. The peculiarity of the farm practice of this area is that more than 80.00 percent of cultivable land is utilized for the cultivation of paddy alone. There are many reasons behind it. *First*, the cost of production of rice is relatively much lower than the other *rabi* crops, like vegetables, potato, onion spices, etc. The cultivation of these *rabi* crops requires relatively a larger amount of investment and the poor farmers cannot afford to undertake it. *Second*, the method of paddy cultivation requires lesser labour and care than do the other *rabi* crops. It grows as long as it gets water, without getting much care from the farmer. *Third*, most of the farmers of the area are habituated to paddy cultivation, and their paddy cultivation is something like the way of life for almost all the farmers. They cannot think anything else but cultivating paddy. Many of them do not have much knowledge about the methods of cultivation of *rabi* crops. To them, farming mean mainly the cultivators of paddy. For these and many other reasons, paddy is mainly cultivated in the area, though other dry season crops give them better and higher income.

### **VII.2(iv) Cost of Production in Agriculture**

The cost of production of agricultural farm comprises of fixed cost, like land revenue, rent, interest, irrigation, maintenance, depreciation of farm implements, and variable costs, like seeds, manures, wages of farm labourers, fencing, etc. The expenditures on land revenue, irrigation, maintenance and depreciation of farm implements, etc. are of very negligible amount in case of the traditional farmers. So, it is more of the variable costs that affect these farmers most. Again, almost all the farms use their family labours in the cultivation. Some of them participate in cultivation on full time, and some on part time. Some hire labour on daily

basis and some on monthly or yearly basis. Therefore, one needs to be very careful of the services rendered by the family labours and their bullocks as well as by the hired labourers, while calculating the cost of production. An attempt has been made here, to find out the costs of production in different crops cultivated in the study area.

Table VII.2.3 : Cost of Production in Agriculture.

Sl. No	Name of Crops	Crop Yield Per bigha ( <i>in Rs.</i> )	Money Cost*	
			Per bigha	Per mound
01	Paddy	2934.59	912.32	67.27
02	Wheat	2312.50	1700.00	183.00
03	Potato	5340.98	2996.82	81.00
04	Green Vegetables	10686.08	4309.33	34.03
05	Onion	11377.02	3574.47	43.98
06	Chili	7176.19	2841.39	112.96
07	Spices	9363.64	5045.45	304.11
08	Oil seeds, kolai, etc.	1063.77	250.00	127.59
09	Jute	3908.97	1903.64	196.26
	Average of all crops	6018.19	2614.82	127.80

\* The family labour cost is not included in the money cost.

Table VII.2.4 : Cost of Production of Paddy of the Farm Families.

Sl. No.	Size of Farms ( <i>in bighas</i> )	No. of Farm families	Man-days		Yield per-bigha ( <i>in mds</i> )	Money Cost ( <i>in Rs.</i> )	
			Per-bg	Per-md		Per-bg	Per-md
01	0.1 to less than 10	48	12.77	1.21	9.80	538.77	54.98
02	10 to less than 15	35	7.47	0.90	8.27	583.71	70.60
03	15 to less than 20	13	10.13	1.10	9.22	599.78	65.04
04	20 to less than 25	17	12.04	1.17	10.15	708.80	69.85
05	25 to less than 30	5	10.90	1.16	9.36	682.21	72.88
06	30 to less than 40	10	9.57	1.79	10.46	812.82	77.70
07	40 and above	4	10.92	1.01	11.66	812.10	69.62
	Average of all	132	10.72	1.23	9.85	676.88	68.67

From table VII.2.3 we find that in terms of money cost of production the green vegetables absorb a high cost per bigha but the lowest cost per mound. On the other hand, oil-seeds, rap-seeds, etc. need the lowest cost of production per bigha but relatively higher cost per mound. The other *rabi crops*, like potato, onion, chili, etc., also require high cost of production. The

cost of producing jute is also comparatively a higher than that of paddy and wheat; at the same time, returns from these crops are also relatively higher. So, it is the productivity of the crop because of which production cost per mound becomes high or low. In other words, the cost of production per mound becomes high when the productivity of the crop is low, and vice-versa.

The cost of production shown in table VII.2.4 relates to the cultivation of paddy alone. Being the most important staple crop of the region, occupying around 81.22 percent of the farm lands, the results found out on paddy cultivation can give us a reasonably reliable idea on the cost of agricultural production in the area.

The yield per bigha is comparatively a little higher in the lowest size group (0.1 to 10 bighas) than the second group (10 – 15 bighas), but at the same time, the man-days used for per mound production are also high. This group uses most of their family labour and hence, the money cost of production per bigha as well as per mound becomes the least of all the seven categories. Most of the farmers under this group produces at the subsistence level, and sometimes cannot even furnish the bare minimum of the total food-grains required for the family. In the normal or good agricultural season, the farm size of 20 to 25 bighas of traditional farmers group can get higher returns from cultivation. But, among the various size groups, the medium farms category (40 and above), which also adopts modern methods of cultivation to a certain extent, like tractor, fertilizers, pesticides, etc., perform the best of all categories of farmers in the area. The per bigha production costs of the farm of category (40 and above) is high, no doubt, but at the same time, its the production cost per mound of paddy is comparatively lower. Because, they can save labour cost and also machines can work faster than the human labours can do, and reduce the required man-days.

## **VII.2(v) Factors Responsible for Low Productivity of Agriculture**

The average productivity of paddy, as whole, has been low. There are number of reasons for it, and can be discussed in three broad heads, namely, (A) Natural Factors, (B) Techno-economic Factors, and (C) Socio-economic Factors. Let us have a few words on each of these heads.

### **(A) Natural Factors**

As the other regions of the subcontinent, the agriculture of this area is also dominated by nature, especially rainfall. Farmers of the area are so much dependent on rain that, if, in some year, the monsoon becomes unfavourable by not pouring down rainfall, they become helpless and jobless. For example, the data collection year 2003 was affected by a insufficient rainfall. As a result, the normal productivity of paddy of the little higher areas declined from 8 to 9 mounds a bigha to merely 3 to 4. Again, in some years, too much rainfall results in floods over the agricultural fields destroying the already cultivated crops. Thus, the area's agriculture can rightly be termed as the 'gamble in the monsoon'. The pests and insects also attack the crops and lower down the productivity of the farm productivities of the area.

### **(B) Techno-economic Factors**

The farm practice of the area is very poor in adopting better and modern technology. Mention may be made of the following factors under this head:

**(a) Fragmented Holdings.** The size of agricultural holdings of most of the farmers is very small. More than 36.36 percent farmers have less than 10 bighas of farming land, and 72.73 percent farmers do not possess profitable size of holding, which is 20 bighas. The unrelenting population pressure, and lack of alternative employment outside agriculture, has resulted in small, uneconomical and fragmented holdings. "Too many cooks spoil the broth" is the proverb that can be applied to the agriculture of the area.

**(b) Primitive Methods of Cultivation.** Most of the farmers of this area do still follow the aged old traditional methods of cultivation, relying on the primitive wooden plough, crude sickle, hoe, and their human and bullock powers. Only 10.61 percent immigrant farmers of Dalgaon area have made use of own or rented tractors in their farms. Machines, other than tractor, are still not used, or beyond the reach of the farmers due to their cost constraints. The successive cultivation of crops reduces the fertility of soil, which results in the decline in productivity per bigha. But, most farmers of the area do not apply fertilizers and manures in their fields. It has been found that, the average investment on fertilizers happens to be just Rs. 44.05 per bigha of cultivated land. The improved seeds, like HYVs, are used very scantily. Thus, due to these reasons, the productivity of the agriculture has remained at a very low level.

**(c) Lack of Irrigation Facilities.** The irrigation facilities of the area are very poor. The canal irrigation facility is available in only 4.08 percent of the cultivated area. Around 14.95 percent of the cultivated area has a limited shallow tube well (STW) irrigation, 0.43 percent area gets some water from rivers and the major portion of the cultivated area, over 73.66 percent, has to depend totally on rain.

It is to be noted, here that, some of the farmers have been benefited from the state government's STW scheme introduced through the World Bank and NABARD assistance in 1999-2000. As many as 21 farm families of the seven sample villages have received STW set at one third price of its actual price. But, unfortunately, more than 60.00 percent farm families keep it unutilized or under-utilized. On the other hand, the northern part of the study area cannot take the benefit of this scheme, because the shallow tubes cannot be installed there due to presence of stones inside the farm grounds.

**(d) Lack of Adequate Finance.** The financial conditions of most of the farmers are utterly miserable. Different financial institutions have also been not of much help to the poor farmers. Most of the time, they have to depend



on the village moneylenders, who charge a very high rate of interest. Cases of borrowing from relatives for cultivation and other purposes, at zero interest, are also prevalent in the area. There have been only 5 cases of credits received by farmers, of which 2 cases (14.90% of the total credit amount) were for cultivation, 1 (0.41%) case was for purchasing land and 2 (84.96% of the total credit amount) cases were for purchasing tractor. Farmers borrowing from the banks for farming got 60 percent subsidy.

Table VII.2.5 : Agricultural Credits Receipts by Farmers During 2000-2003.(In '000 Rs.)

Sl. No.	Credit Agencies	Cultivation	Purchasing land	Purchasing Tractor	Total	% to total
01	Commercial Banks	68.00	2.00	415.00	485.00	98.98
02	Village Money-lenders	5.00	0.00	0.00	5.00	1.02
	Total	73.00 (14.90%)	2.00 (0.41%)	415.00 (84.69%)	490.00	100.00

**(e) Lack of Marketing Facilities.** The marketing organizations and procedures in the area, just like in other areas, are very defective for which farmers do not get satisfactory prices for their produce. The middleman takes away a large portion of their profits. There is no incentive for higher prices for the farmers' products. Unless farmers are guaranteed fair and remunerative prices, there is very little inducement for farm output to increase at a pace.

It is to be noted here, that there exists a peculiar type market involvement of farmers in regards to their sell and purchase of crops. Most of the small farmers sell their products, especially paddy, when their prices are low and buy when prices are high. This peculiar characteristic of small farmers indicates a pattern of involuntary involvement in the market under either the compulsion of indebtedness through consumption loan, or to meet the other immediate requirements. This in essence is the mechanism of *forced commercialization* of a poor farmer in the merchant and usurer's capital, or due to lack of other sources of income to meet immediate expenses. But, the case is different for the medium and large farmers. They have the

economic power to isolate themselves from such a distress sale of their products to certain extent, and can wait till the prices of their produce rise. So, in such a process, medium and large farmers have a better chance of growing further, and the position of the small farmers remain the same, or become still worse.

**(f) Lack of Productive Investment.** Investment needs available stock of capital. Capital formation requires savings. The farmers of the rural areas have a very low level of savings, and are not in a position to invest huge amount of capital in the farming sector. Even if there are some capable farm families of making huge investment, they do not do so because, investment in other activities, like trade, lending, etc. are more profitable than agriculture. The following table (No.VII.2.6) indicates that over last 13 there have been a very low level of investment on agriculture of which the largest amount of investment was made on land mortgage and the least amount on agricultural machines like, tractor, shallow tube well, etc.

Table VII.2.6 : Investment in Agriculture Over Last 13 Years (in Rs)

Land mortgage	Cultivation	Agricultural machines	Total
885200.00	658000.00	122400.00	1665600.00
53.15%	39.51%	7.35%	100.00%

### **(C) Socio-economic Factors**

Most of the rural farmers have conservative outlook, and are ignorant and illiterate. They do not become ready to accept any new technology unless they are not convinced. They are guided more by their habits and cultural beliefs called 'social institutions'. So, their conservative outlook, fatalism, ignorance and illiteracy stand in the way of the adoption of new techniques.

So, there is gross absence of basic minimum necessary facilities for increasing agricultural productivity in the region.

### VII.3. Orchards or Homestead lands

The homestead lands of the rural people remain full of fruit bearing trees. They grow cash crops like, betel nut, betel-leaf, coconut, jackfruit, banana, orange, etc. Orchards generate around 4.68 percent of the GRP of the sample villages. An attempt has made to sketch the production of some of the important cash crops and fruits, which are grown in the home-site lands.

**VII.3(i) Areca-nut or Betel-nut and Betel-leaf.** Areca-nut is the most important cash crop grown in the rural areas of almost all parts of the state. It is grown for both commercial purposes, as well as for domestic consumption. This fruit is used, along with betel-leaf, mainly for masticatory purpose. It is also used in many socio-religious ceremonies. Areca-nut industry forms the economic backbone of nearly six million people in India, and for many of them it is the sole means of livelihood (The Hindu Survey of Indian Agriculture - 2002, p. 115).

Table VII.3.1 : Distribution of Crops Produced in Homestead lands (in Rupees).

Sl. No.	Name of Crops	Total	Sold	Household Consumption
01	Betel-nut	284360.00	256310.00	28050.00
02	Betel-leaf	22065.00	15400.00	6665.00
03	Fruit Bearing Trees	65930.00	43300.00	22630.00
04	Bamboo	120940.00	62090.00	58850.00
05	Other Trees	268424.00	9100.00	259324.00
	Total	761719.00	386200.00	375519.00

These crops are grown in the highlands where water cannot accumulate in the rainy season. Its cultivation is concentrated mainly in northern parts of the study area. In the southern part, lands are low and remain submerged under water during rainy season; and also most of the families have very small home-site lands and do not have enough space to grow these crops. Around 65.93 percent families possess areca nut, and 21.43 percent of them have betel-leaf. These crops do not require heavy investments. Farmers need to take a proper care, during and just after the plantation, like

watering, fencing, weed cleaning, etc. The part time family workers usually do these jobs. Betel nut starts giving production at around 6 to 8 years of age. Every year, the sample villages produce betel nut and betel-leaf worth Rs. 306425. Out of this, outputs of worth Rs. 34,715 are used for household consumption, and a worth Rs. 2,71,710 are sold in different markets.

**VII.3(ii) Fruit-bearing Trees.** The home-site lands of the villages remain full of fruit bearing trees. Every household in the rural areas grows fruit-bearing trees. Coconut, jackfruit, banana, orange, etc. are the most commonly found fruit-bearing trees, especially, in the rural areas. The villagers take it as a matter of pride and shame if they do not possess these fruits, and have to be bought from market. The money value of fruits produced in the sample villages was at Rs. 65,930. More than one-third amount of their produce is used for household consumption, and the rest is sold in the market.

**VII.3(iii) Bamboo.** Bamboo is another most important giant grass grown in the rural areas. Though it is not grown in a large scale to be called as a farm, but around 69.23 percent households possess this important grass, grown in the boundaries of the homestead land. Cultivation of bamboo also does not require capital. It requires only plantation and a little care for a few months. The rest of the job of bringing it up is done by the nature. The rural people make use of bamboo in almost all aspects of their work. It is used in hut building, fencing, making agricultural implements, artistic works, seats, firewood, etc. During the year 2002-2003, the sample villages could produce bamboo of worth Rs. 120940, out of which, a worth Rs. 62090 was sold and a Rs. 58850 was used for household consumption.

**VII.3(iv) Other Trees.** Other trees, grown in the home-site lands, are used mainly for firewood. Other trees occupy around 35.24 percent of the produces of the homestead lands (Table VII.3.1). Some valuable trees like, *chegun*, *sishu*, etc. are also grown in some parts of the region.

Thus, many things are produced in the homestead lands of the rural area. Most of them are produced for commercial purpose, and some of them are used for household consumption thereby saving the families from expenditure on these items.

#### **VII.4. Animal Husbandry**

Animal husbandry is another important source of income of the people of the area. Around 62.09 percent households raise stocks on part time basis. Apart from bullocks and goat rearing, the female members of the family carry out almost all the stock-raising activities. Following are the main animals and fowls reared in the area:

**VII.4(i) Bullocks and Cows.** People of the area rear bullocks mainly for using them in the farm cultivation. All the farmers keep their own bullock. Many of them rear cow, also, for breeding bullocks and for producing milk. Those farmers, who do not have bullocks, purchase them from the market. Those who have extra do sell out for money. Cows are reared in the dairy farms too. There are 34 such dairy farms producing more than 300 thousand liters of milk in a year. Rearing of cows is not very encouraging because of the lack of grazing land and a high maintenance costs.

Table VII.4.1 : Annual Production of Animal Husbandry in the Sample Villages.

Sl. No.	Name of live stock	Annual Production (in Rs.)
01	Cattle rearing	87870.00
02	Pig rearing	257120.00
03	Fowl rearing	142735.00
	Total	487725.00

**VII.4(ii) Goat Keeping.** Goat is versatile animal and perhaps amongst the most adaptable. It enjoys a viable distribution, not only in the present study area, but also right across the globe. The people of this area have not operated its production in a farm, but keep them just for getting a little income out of it. Around 26.92 percent households keep goat just in a traditional way.

**VII.3(iii) Pig Rearing.** This is one of the most important sources of income of the tribal people of the rural areas. Pig rearing does not require full time involvement of the family members. Usually, pig rearing is the work done female member of the family. Around 61.90 percent tribal households rear pig. The main foods given to pig are paddy husk, boiled vegetables, rice-bear spares, etc. A full-grown pig requires Rs. 6.00 to Rs.8.00 per day. Big families, having enough rice and husks, can rear two- three pigs easily. Because, it does not require much maintenance cost apart from feeding. The rice bear sellers can also raise pig at a low cost. Because, they can feed it the spares of the rice-bear. But, for those poor families and the day-labourers, it becomes difficult to rear it. They have to feed it spending every 6 to 8 rupees from their daily earning of Rs. 50.00.

Apart from household keeping, there are 26 registered pig farms within the study area. Maintaining pig farm requires some big amount of capital and a full-time labour. So, everyone cannot go for it. These farms produce around 520 mounds every year.

**VII.4(iv) Fowl Rearing.** Poultry rearing is another important age-old activity of the rural people. All sections of people of the area rear chicken, duck, etc. This also does not require any extra labour or family member, unless it is a farm. But, they eat up lot of paddy, paddy husk, etc. in a year. Around 2000 numbers of chickens and ducks are produced every year.

In the case of a poultry farm, there comes a question of availability of capital, maintenance, full-time worker, etc. There are 21 numbers of poultry farms in the study area.

### **VII.5. Fishery Production**

The study area is also endowed with some fishery potential. Fishery can be of two types: farm fishery and open river, beel, and forest fisheries. Around 20.02 percent households have their own fishery ponds, and 0.06 percent

households take fishing as part time means of survival. People having large homestead land areas dig ponds and rear fish mainly for household consumption, but they also sell when it grows surplus. There are some big ponds, which are dug and maintained for commercial purpose. The size of these commercial ponds ranges from 2 to 10 bighas. Altogether, the sample villages produce around Rs. 388050 worth of fish, out of this, around Rs. 383790 worth of fish is produced from ponds and only Rs. 4260 worth is from the rivers, beels, forests, etc. (Table VII.5.1).

Table VII.5.1 : Fishery Production in the Sample Villages

Sl. No.	Type Fishery	No. of Households	Output (Rs.)
01	Fishery ponds	56	388050.00
02	Fishing (forest-fishery)	3	4260.00
	Total	59	392310.00

#### **VII.6. Small Tea Industries**

The concept of Small Tea Growers (or Small Tea Industries) is of a recent origin in the area. There are huge areas of unutilized lands covered by deep forests in the Northern part of the study area, especially near the Himalayan foothills, where many unemployed educated youths have started planting tea either individually or in groups. Unlike big Tea Growing Companies investing huge amounts of capital on thousands of acres of land, due to lack capital, these Small Tea Growers confine themselves in planting tea on their small areas of land.

So, the Small Tea Industries is a recent development in the history of tea plantations in Assam with the recognition of small tea growers for production and supply of green leaf to the tea factories owned by bigger tea gardens. The Indian Tea Association (ITA), some years ago, formulated a 'small tea growers' scheme for deserving entrepreneurs. The same type of tea plantation was introduced in Assam since 1978, when Golap borborah was the Chief Minister and Suneswar Borah, the Agriculture Minister. There has

been a controversy over the limit of land holding for a small tea grower. During the chief minister-ship of Golap Borborah, an entrepreneur, who has tea plantation area up to 30 bighas, was called a small tea grower. According to the Tea Board and NABARD, a tea planter having 75 bighas or 10 hectares of tea plantation area can be called a small tea grower. The Small Tea Growers Advisory Programmes of the Assam Agricultural University has also suggested for 10 hectares as the maximum requirement for a small tea grower. But, the Small Tea Growers' Association claims that a grower should be given at least 250 bighas of land for plantation. So, the controversy on this issue continues.

The small tea industries have been growing very fast in number, and many unemployed youths have been being absorbed in these industries. Up to 1987, there were only 21 small tea growers in Assam. In 1992-93, the number of small tea growers had increased to 4028 providing employments to 4000 youths and 40000 agricultural labourers. Again, this number had gone up to 23,549 in 1997 with their 5000 employees and 1.50 lakhs workers. As per the information of the Small Tea Growers Association, in 2002-03, their number has further increased to 40,000. During 2002-03, these small tea growers have generated around 1.63 percent of the total income of the sample villages.

The concept of Small Tea Growers has entered the minds people of Udalguri Subdivision, the present study area, very late in 1990s. A group of youths began growing tea in the uninhabited forest land of Kundarbil, some 20 kilometers northwest of the Subdivision Headquarter, Udalguri. They had to face lot of problems at the beginning. Their problems were with lack of capital, skilled labour, tractor, and above all, lack of experience and expertise. They put their own efforts and labour to bring up their tea industry. On seeing their great effort and enthusiasm, the Managers of the neighbouring big tea gardens have come forward to help them by their technical and expertise support. Till the year 2003 they have planted tea at around 15710.02 hectares of land, and produced 2250000 kilograms of



green leaf. Looking at their success, many more small tea growers' groups were formed and they are also carrying it through successfully. Most of them have got registered with the Assam Tea Board. At present, there are 40 registered and around 10 to 12 unregistered small tea gardens within the study area, most of which are joint and others are individual enterprises. Around 337 unemployed youths are engaged in these small tea gardens as partners or proprietors, and over 62,000 people are employed as labourers.

**VII.6(i) Problems of Small Tea Growers :** The small Tea Growers face many problems as mentioned below.

**(a) Lack of Capital.** Tea industries require a huge initial investment. But, the rural people do not possess that required amount of capital for investment in this industry. Therefore, they have to open the enterprise on partnership basis. Most, of them have shortage of capital even after grouping with 10 to 15 partners. So, they have to borrow money from the moneylenders at a very high rate of interest. They have to pay 10.00 percent interest per month, or 120 percent annually, for borrowed capital.

**(b) Lack of Efficient Management.** So far the small tea gardens are small enterprises, there is hardly any difference in the roles of proprietors and managers. Most of them are at the learning stage, or training themselves. Therefore, they face an acute managerial problem. Due to this problem, most of them face high cost of production.

**(c) Lack of Efficient Labour.** Though labour is available, they are not efficient. The transplanting and plucking of green leaf requires expert and experienced labour, which is lacking in these young gardens. Of course, recently, a few ex-tea garden workers have also joined in some of these new gardens as labourers.

**(d) Instability of Prices of Green Leaf.** The prices of the green leaf keep on fluctuating from time to time. The big tea garden possessing the tea processing industries, to whom the small gardens sell their green leaf, keep

on changing the prices of the green leaf on the basis of the current prices of tea. So, the small tea farms face a problem of uncertainty of price they will get for their produce.

**(e) Unavailability of Suitable Land.** The quality of tea and its growth depends heavily on the quality of land as well the position of lands where the tea is planted. Each and every plot of land is not suitable for tea cultivation. Due to growing population and their settlements everywhere, the area of lands suitable for tea cultivation has been reduced to a great extent and people have started to cultivate tea even in the unsuitable lands without testing its (land's) quality. These eventually have reduced the quality as well as quantity of tea leaves of the area.

#### **VII.7. Processing and Repairing - Mini-Rice Mill**

Mini-rice mill is also a new productive activity developed in the rural areas during 1980s. This type of rice mill requires a power-pump, run by diesel, as a source of power. The dehiscing or grinding machine is connected to the power machine. This machine can also be run by electricity power, where its supply is available. Before the introduction of mini-rice mills, dehiscing was one of the main jobs done by the female members of the family. Women of families having many members used to get a very short sleep during busy working days, because they had to get up very early, at around 1:30 A.M. to 2:00 A.M. every morning dehiscence rice. As the sun rises up, they became busy again with other works, like cooking, taking tea, food, etc. for the male members working in the paddy fields, and then taking care of children, cattle, fowls, weaving, etc. in the rest of the day.

This burden has been taken out from the womenfolk after the introduction of mini-rice mills. Now, this mill is available in almost every village, especially in the rural areas. The average distribution of mini-rice mill has found to 1.14 per village. This mill is run by the power-pump, which are generally discarded from being used in the STW irrigations. Cases of installing it with new power-pump machine are rare. So, the cost of installation of this mill,

run by diesel, ranges from Rs. 12 thousand to Rs. 20thousand depending on the condition of the power-pump in installation. There are also some bigger rice-mills, run by electricity power, which require initial investment of around Rs. 75 thousand in installation itself. These are found in the larger villages and at the center places of many villages, like daily or weekly market places.

Table VII.7.1 : Percentage Share of the Contributions of Different Sectors to Area's Income

Sl. No.	Industry/Occupation	Total	% to the sectoral total	% to the Income
01	Primary Sector	84.50	100.00	51.89
	Agriculture	65.42	77.42	40.17
	Animal Husbandry	4.88	5.77	3.00
	Fishery	3.92	4.64	2.41
	Orchard	7.63	9.03	4.68
	Plantation	2.65	3.14	1.63
02	Secondary sector	9.23	100.00	5.67
	Household Industries	1.31	14.16	0.80
	Repairing & Processing	4.58	49.56	2.81
	Construction	3.35	36.28	2.06
03	Tertiary Sector	69.11	100.00	42.44
	Property	4.25	6.16	2.61
	Trade & commerce	6.64	9.60	4.08
	Financial services	16.35	23.66	10.04
	Other services	41.87	60.58	25.71
	Total	162.84	100.00	100.00

Note: Percentage shares of different sectors have been calculated at the existing commodity and factor prices in the study area.

This industry contributes around 2.81 percent to the total income of the area, and it also save much time and labour of the female members. More over, only single member of the family can run this mill, which requires full time presence during busy season and can join other works during little free season.

Among the manufacturing and repairing works, those of carpenters and mechanics of various types, can be mentioned. These industries add 1.92 percent contribution to the income of the economy of the study area. Apart from these small scale processing and manufacturing activities, the rural

areas of the subdivision has no medium or large-scale processing or manufacturing industries.

### **VII.8. Household Industries**

The village industries play a very important role in the rural economy. The important among the village industries are: handloom and weaving, cane and bamboo, pottery, yarn dying, brass casting, bell metal, sericulture, rice-beer, etc. But, we do not find much of them as expected in the area. There are 54 numbers of registered women co-operatives, some of which run handloom and weaving industries. So, we find only three types of village industries: (a) eri-worm rearing and eri-thread spinning; (b) weaving, and (c) rice-beer industries, and most of them operated in the household level. These industries produce around 0.80 percent of the GRP of the area.

**VII.8(a) Endi-worm Rearing.** Eri-worm rearing is another remarkable activity of the women of the traditional and indigenous households. There are three varieties of domesticated silk worms in Assam: (i) Pat or Mulberry worms, (ii) Muga or Som feeding worm and (iii) Endi or eri, the castor leaves feeding worm. The third variety of worm is reared in this area. Generally, the endi-worm is reared for its cocoon from which the famous eri-thread is produced. The eri-cloth has a special pride value among the people of Assam. The fabric itself, so produced, is one of great value, especially for use in the cold season, being at once soft and warm as well remarkably strong and durable. Of course, nowadays, very few women take patience to carry out this industry, because ready made and machine spun yarns are available in the market now. But, it is still alive in the rural tribal women, who rear it not only for its cocoon, but for the insect itself, too. It is one of the most favourite foods of the tribal people. Women of more than 8.57 percent of the tribal family still rear eri-worm. Rearing of eri-worm is also carried on co-operative basis. In this process, they can share the burden of collecting eri-leaves to feed the insects, but at the same time, they have to share the profits, too.

Table.VII.8.1 : Annual Production of Cottage Industries in the Sample Villages.

Sl. No.	Name of Industry	Annual output (Rs.)
01	Eri-worm Rearing	8780.00
02	Rice-beer Production	161200.00
03	Weaving	57680.00
	Total	227660.00

**VII.8(b) Weaving Industry.** Weaving is another most important industry of the indigenous rural people. The actual weaving work is always carried out either by the lady of the house, or a maidservant, or the grown-up daughters of the household. The implements used in weaving industries, are very simple and the male members of the family prepare most of these items. Of course, few of them, like *tat-hal* - the loom, *maku* and *muhora*, require a little artistic handiwork, and hence, these are purchased from the market. So, the weavers have to invest around Rs. 1000 to Rs. 1200 on these implements. More than 61.27 percent of the indigenous families possess weaving implements. In most of the households, the female members of the family weave their own attires, like *mekhela*, *chador*, *dokhona*, *fali*, etc. and woolen shawl, eri-shawl, and *gamusha* for the male members. They produce around 4.25 percent of their dress requirements at home. Apart from the household requirements, around 12.00 percent of them carry it on commercial basis, and produce around Rs.36250 worth of clothes.

**VII.8(c) Rice-beer Production.** Rice-beer is generally produced and sold by some of the Hindu tribal families. It is called '*zau*' in *Boro* and '*modu*' in Assamese. It is used as one of the most popular form refreshment not only by the tribal people, but also by other non-tribal people. An essential ingredient in the preparation of this traditional liquor is the condiment known as '*emao*' (Endle, 1911, p. 18) , which is composed of at least three elements, namely (1) the jack-tree leaf, (2) leaf of a jungle plant called *bhetai*, and (3) the poison-fern. All these ingredients are vigorously pounded together into a powder, which is then passed through a very fine sieve, at

least once and sometimes twice. The powder so prepared is then mixed with water so as to make a more or less tenacious paste, and this again is divided into portions sufficient to form solid discs, about three inches in diameter, and one inch thick in the center, with thin edges. These discs are sprinkled freely with powder from similar discs of some weeks standing, and are for a short time kept covered up in rice-straw. They are then placed on a bamboo platform inside the house for some four days, and are afterwards exposed freely to the hot sun for another four or five days, so as to become thoroughly dry. Finally, they find their way into an earthenware water vessel, which is kept suspended at a distance of several feet over the fireplace though they would seem to need no direct exposure to the action of fire-heat; and here they remain required for preparation of the rice beer. A common method of preparation of rice-beer is as follows: 'A quantity of selected rice, about 3 or 4 seers, is carefully boiled in an iron or brass cooking vessel, the contents of which are then spread out on a bamboo mat and allowed to become cold. Two cakes of the *emao* are then broken up into powder, which is carefully mixed with the boiled rice; and the whole is then stored in a thoroughly dry earthenware vessel. This vessel with its contents is then placed upon a platform some five feet high over a slow fire, in which position it is allowed to remain for some three or four days, the mouth of the vessel remaining open for the first day or two, though it is afterward covered. It only then remains to add water *ad libitum* and to pour out the beer, after well shaking the vessel, through a crude straining apparatus composed of rice-straw'.

Traditionally, *zau* or rice-beer (Endle, 1911, p.18), as a refreshment, was served occasionally during a festival, or if any ceremony, like marriage, was organized, or after a self-help work, called '*saori janai*', done by the whole or a part of the villagers together at someone's family to help him finish a particular work. But gradually some people have used it so frequently that they have become addicted. That is where some poor families have got a scope of opening its industry in their homes. They prepare rice-beer out of a

very cheap and low quality rice. They hardly invest an amount of Rs. 75 a week and earn around Rs. 150 to Rs. 200. Now, this industry has become such profitable that, even the law of the land has not been able to stop it.

### **VII.9. Construction Works**

Construction works usually get their momentum during the developing stage of any economy. Here too, there have been many construction works taking place with the introduction of various developmental schemes of the State Government and other local bodies. Among these schemes, new construction and repairing of roads, culverts, government and semi-government buildings, dwelling houses for the poor, daily and weekly market places, etc. Many of these schemes are of small amounts and do not require much capital. As a result, there has been an ever increase growth in the number of new and immature contractors, called '*thikadars*' in the local parlance, who do not have expertise in their work and always look for easy money. They keep close nexus with the authorities or the officers concerned and draw their bills without even completing their works. So, due to such contractors, the construction and development of the infrastructures has been under serious threat in the area.

Of course, we have examples of only five cases of contractors, come across during our interviews around the seven selected villages, all of which happen to be in the northern part of the subdivision. These contractors contributed around 2.06 percent to the GRP of the area.

### **VII.10. Trade and Commerce**

This area is grossly lagging behind in trade and commerce than the other parts of the state. There are hardly any big business firms here. Very few people join in the small business activities, as '*petty traders*'. The main business activities of the rural people are: grocery, tea-stall, rice-hotel, *paan-ghuntee*, meat selling, rice-selling, kerosene hooking, wood selling from the near by jungle, etc. Very few better off households possess little

bigger shops, like fair-price shop, cloth store, seeds and fertilizer store, etc. These business activities raise 4.08 percent income in the area.

Business activities on large scale have not emerged in the rural areas so far these activities require big amount of investment. Even if a few people can invest in big business activities, they have not done so because any new adventure is risky in the rural areas. And also rural people have less entrepreneurial skill to face such risk and uncertainty.

#### **VII.11. Property, Interests, etc**

The house rent, rent for using tractors, interest receipts for lending money, etc. form this sector of the economy. The rented house for commercial purpose is found in only one household belonging to the village Baruajhar. Then those *mahajans* (rich men) who lend money to poor farmers and other needy poor people of the society receive interests. These activities have a contribution of 2.61 percent toward the total income of the area.

#### **VII.12. Financial services**

Financial services are the amounts financed by the banking services for development of different sectors of the economy. In this, the major amounts of finances are made for the purchase of bus, tractors, power tillers, power pump, etc., through various schemes of the government. The financial services supplied around 10.04 percent GRP amount of finance to different sectors during the year 2002-2003.

#### **VII.13. Community Services**

Community services are those, which aim at development of the society as a whole. These may be in the form of new construction or repairing of road, culvert, school building, health centers, dwelling houses for the poor, etc. Such constructions lead to improvement in the infrastructure facilities of an area. These are also called the social overheads of a region. These services added around 2.61 percent of the GRP during aforesaid period.



#### **VII.14. Other services**

This is another most important sub-sector contributing around 25.71 percent to the total GRP of the study area. The services, included in this sub-sector, are those rendered by teachers of different categories, doctors, nurses, defense personnel, police, service holders in the postal, railway and PWD departments, grade-iv employees in various departments, Village Headman, petition writers, and Pension earners. One of the important features of this sub-sector is that, it is concentrated highly in the villages situated nearby the towns and distributed very sparsely among the remote villages. This is mainly due to the fact that, the education facilities are more available to the people living near the towns, and education is the single main prerequisite for employment in any service. And also, those who reside nearby towns get the employment avenues more easily, and faster than the people living in the remote areas.

Daimari, Prasen (2005) A Study on Structure of the Economy of Udalguri Subdivision, Assam. Doctoral Dissertation, Dept. of Economics, North Eastern Hill University, Shillong (India).

## Chapter VIII

### Economic Performance of Indigenous People versus Immigrants

**VIII.1. Inter-Village Differences in Economic Performance:** In the introductory description of the seven sample villages we have observed that there exist some differences in the economic performance of the people of these villages. Differences in socio-economic institutions (like customs and traditions, culture, beliefs and attitudes of the people) and geographical conditions lead to variations in economic performance in agriculture, trade, commerce, industries and services. We have also observed that in cultivation there is not much variation among the indigenous people - whether tribal or non-tribal households. In fact, their agricultural practices, business activities, sources of income, consumption patterns, etc. are almost similar, disregarding some differences in (i) participation in trade and commerce, and (ii) participation in service. Tribal people have come up in the participation of market economy very recently. Most of them are at the petty-traders' stage and they have not yet undertaken any large-scale enterprise as entrepreneurs or proprietors. They have just started with small business activities - grocery, tea-stall, rice-hotel, meat shop, *paan-ghuntee*, etc. This transformation of the rural tribal people can be termed as a micro-transformation. Though the non-tribal people are well ahead of the tribal in this respect, yet there are no big business establishments or enterprises owned by the non-tribal people too. A few enterprises run by the non-tribal people do exist, but these are situated in the urban areas. *Secondly*, among the indigenous people, there exist some differences in doing service; yet, in this matter, the dichotomy is not between the tribal and the non-tribal, but between the people of remote villages and those of the villages situated by the towns. It has been found that people living near the towns have more employment opportunities and receive more income from service than do the people of the remote villages. In the rest of the economic spheres, they exhibit almost the same characteristics.

The immigrant population from Bangladesh exclusively inhabits two sample villages. These people exhibit a wide range of variation in their economic performance, especially in cultivation. They have settled in the northern part of the Brahmaputra valley. They live at the high land of the valley, and cultivate various crops in relatively lower lands. A good part of their land remains submerged under floodwater during the rainy season. So, most of their land plots cannot be used for cultivation and, therefore, those are used for fishery. Their participation in services is rare, but most of them earn more than the lower grade government or non-government service holders belonging to the indigenous lot. They have transformed the traditional agriculture into the real enterprises through commercialization and adoption of modern techniques of cultivation. Therefore, it will be more relevant to study the variations in economic performance of the indigenous people from that of the fellow immigrants than to differentiate them on any other basis.

Variations in economic performance between the indigenous people and immigrants can be discussed on two broad aspects: (1) economic characteristics of the households including mode of earning and spending, and (2) Farm Operations or performances in agricultural cultivation. In what follows, we will group our sample villages in two groups – (1) Group-1, inhabited by the indigenous people, namely, Barigaon Gerua, Bhagdal Gaon, Kalbari, Sapkhaiti-2 and Nizdal Gaon, and (2) Group-2, inhabited by the immigrant population from Bangladesh, namely, Baruajhar and Sialmari.

### **VIII. 2. Differences in Socio-economic Characteristics**

The following are our observations on the differences in the two groups of villages in matters of the socio-economic characteristics.

(i) The indigenous people have comparatively smaller size of family than the immigrants. The average family size of the former group is 5.77, while that of the latter is 7.00. On an average, the female population is also lesser (about 2.90) in the former group than in the latter (about 3.33).

(ii) The literacy rate is much higher among the indigenous people than the immigrants. It is 76.56 percent in case of the former, whereas only 42.14 percent in case of the latter. The investment on children's education is also higher among the indigenous population than the immigrants.

(iii) The two groups differ in the available workforce as the indigenous people have much higher percentage of workforce than the immigrants - 68.86 percent among the former, and 46.07 percent among the latter group. This is because of the fact that the child population is very large in the latter group, whereas it is relatively small in the former group.

Table VIII.2.1(a) : Occupational and Income  
Distribution of the Indigenous People and the Immigrants.

Sl. No.	Occupational Distribution of Population	Population		Sl. No.	Occupational Distribution of Population	Population	
		Average	% to Total			Average	
1	Population	6.04	100.00	4	Workforce	3.81	63.06
	Indigenous	5.77	74.52		Indigenous	3.97	68.86
	Immigrants	7.00	25.48		Immigrants	3.23	46.07
2	Female Population	2.99	49.59	5	Actual Workers	2.57	42.49
	Indigenous	2.90	50.31		Indigenous	2.48	48.23
	Immigrants	3.33	47.50		Immigrants	1.80	25.71
3	Literacy	4.09	67.79	6	Dependents	3.47	57.51
	Indigenous	4.42	76.56		Indigenous	2.48	42.98
	Immigrants	2.95	42.14		Immigrants	5.20	74.29

(iv) The percentage of actual workers is also higher (around 48.23 percent) among the indigenous people than the immigrants (around 25.71 percent). So, there is a higher dependency ratio among the immigrants than among the indigenous people. The main reasons for this are that in the Group-2 villages, child population is larger and women do not participate in many economic activities.

In contrast, Group-1 villages exhibit smaller child population and more work participation of women. The indigenous people get around 22.47 percent of their total income from the agricultural sector by employing around 41.27 percent of their actual workforce. The average engagement of family labour

in agriculture is 1.79 persons per farm family in the indigenous population. On the other hand, the immigrant farmers generate around 55.17 percent of their total income by using 72.22 percent of their actual workforce. It means that they use an average of 1.30 persons per farm family to generate that amount of income.

Table VIII.2.1(b) : Income Distribution of the Indigenous People and the Immigrants.

Sl. No.	Industrial Distribution of Population	Population		Income	
		Average	% to total	Average	% to total
1	Farming	1.26	44.16*	21412.36	32.19
	Indigenous	1.79	41.27*	13461.31	22.47
	Immigrants	1.30	72.22*	49638.61	55.17
2	Labourers	0.32	8.51*	3509.93	5.28
	Indigenous	0.23	5.67*	2166.54	3.62
	Immigrants	0.68	20.93*	8279.00	9.20
3	Animal Husbandry	0.55	14.43*	1361.21	2.05
	Indigenous	0.62	15.60*	1484.44	2.84
	Immigrants	0.30	9.30*	923.75	1.03
4	Fishery	0.32	8.51*	1798.85	2.70
	Indigenous	0.33	8.33*	354.86	0.59
	Immigrants	0.30	9.30*	6925.00	7.70
5	Household Industry	0.64	16.88*	1238.96	1.86
	Indigenous	0.82	20.74*	1587.96	2.65
	Immigrants	0.00	0.00	0.00	0.00
6	Orchards	---	---	4190.76	6.30
	Indigenous	---	---	4675.42	7.80
	Immigrants	---	---	2470.23	2.75
7	Plantation	0.09	2.31*	1456.04	2.19
	Indigenous	0.11	2.83*	1866.20	3.12
	Immigrants	0.00	0.00*	0.00	0.00
8	Rice Mills	0.04	1.15*	718.68	1.08
	Indigenous	0.05	1.24*	639.44	1.07
	Immigrants	0.03	0.78*	1000.00	1.11
9	Trade & Commerce	0.23	5.77*	3646.92	5.48
	Indigenous	0.23	5.85*	3139.01	5.24
	Immigrants	0.18	5.42*	5450.00	6.06
10	Construction	0.04	0.58*	1840.66	2.77
	Indigenous	0.06	1.42*	2359.16	3.94
	Immigrants	0.00	0.00	0.00	0.00
11	Other Services	0.37	9.81*	23003.43	34.58
	Indigenous	0.45	11.35*	27601.58	46.07
	Immigrants	0.10	3.10*	6680.00	7.42
12	Property	---	---	2337.58	3.351
	Indigenous	---	---	573.52	0.92
	Immigrants	---	---	8600.00	9.56
13	Borrowings	---	---	8981.97	13.50
	Indigenous	---	---	1300.83	2.17
	Immigrants	---	---	36250.00	40.29

Note: \* = represents the percentages of workers to the total actual workers.

(v) The agricultural and other labourers constitute around 5.67 percent of the total available workforce of the indigenous people. This section of the workers generates around 3.62 percent of their total income.

The labourer section of the immigrants, who constitutes around 20.93 percent of their total workforce, generates around 9.20 percent of the total income. There are some marginal and small farmers, who sell their labour after finishing their own cultivation, and raise the percentage of labourer's population to certain extent and add certain amount to the total income.

(vi) Livestock, or animal husbandry is another important source of income of the indigenous people. This sub-sector contributes around 2.84 percent of their total income. An important point to note here is that they do not engage any permanent worker in rearing of goat, sheep, pig (among the tribal people), fowl, etc. They use part time labour, generally female, in this activities. The fellow immigrants also raise goat, sheep, fowl, etc., but these are not a very important source of income for them, and they earn only around 1.03 percent of their annual income from this source.

(vii) Fishery is another, but not very important, source of income of the indigenous people. They get only around 0.59 percent of their annual income from this primary sub-sector. On the other hand, the immigrants earn around 7.70 percent of their incomes from fishery. Most of the households dig fishery ponds in their low-lying lands, which cannot be utilized for cultivation due to water-logging. Almost every household possesses fishery ponds of their own. Part time family labour is sufficient for fishery production.

(viii) The indigenous people earn around 2.65 percent income from household or cottage industries like weaving, eri-worm rearing, preparing and selling rice-bear (among the tribal Hindus), etc., too. Exclusively the female members of the family undertake these household industries. Around 16.88 percent labour force keep themselves engaged in these industries,

almost all on part time basis. The immigrants undertake none of these industries, and hence, do not earn any income from this sector.

(ix) Another important source of income, which does not require any permanent labour, is the crops under homestead lands. Generally, bamboo, betel nut, betel leaf, fruit bearing trees, timbers, etc. are grown in the homestead lands. During the year 2002-2003, the indigenous people received around 7.80 percent of their total income from these crops in their homestead lands. However, the immigrants get comparatively lesser percentage of income (2.75 percent) from this source since they inhabit mostly low-lying areas, not conducive to grow those crops.

(x) Plantation of tea, rubber, etc. has been newly introduced among the indigenous people. During the study period, 2.31 percent of their working population was engaged in this sector and they earned around 3.12 percent of their total income from this sub-sector. The immigrant farmers have not started undertaking this enterprise.

(xi) Another new feature has developed among the rural people - running of mini rice-mill as a part time job. A few years back, husking of rice was one of the main works of the female members of the family. They had to spend many hours on husking rice with a traditional implement called *dheki* or *dingkhi*. Nowadays, use of this implement is very rare. Now they husk rice in the mini rice-mills, which saves time as well as labour. Around 1.03 percent indigenous households possess mini rice-mill.

(xii) The position of trade and commerce is almost the same in every rural area. The indigenous people are on almost the same footing with the immigrants in respect of trade and commerce, with a little difference in respect of percentage of income generation. Among the indigenous people, around 5.85 percent workforce is engaged in trade and commerce and generate around 5.25 percent of their total annual income, whereas, among the immigrants, around 6.06 percent of the working population is engaged

in this activity and they generate around 6.06 percent of their total annual income.

(xiii) A portion of the indigenous workforce (around 1.42 percent) participates in construction works too and adds around 3.94 percent to their total income, while this occupation is none of the immigrants.

(xiv) The share of service has been gradually increasing in the total income, especially of the indigenous people. It has been found among the indigenous people that around 11.34 percent of the total workforce is employed in services and this relatively small portion of workforce contributes around 46.06 percent, a very significant part, of their income. On the other hand, in case of the immigrants, the proportion of workforce employed in the services is very low, only around 3.10 percent of the total workforce. This sector contributes only 7.42 percent of their annual income.

(xv) Income generation from the properties, assets, interest receipts from capitals, etc. has a very insignificant role among the indigenous population. They receive only around 0.92 percent of their total annual income from these sources. The immigrants earn a comparatively larger amount of income from these sources, which accounts for around 9.56 percent of their total annual income.

(xvi) There are some differences in the credit receipts and their utilizations between the indigenous and the immigrants. The indigenous people have very poor credit facilities as compared to those of the immigrants. Most of the credits, whatever they get, are utilized for consumption of durable and non-durable goods, or are used for unproductive purposes. However, the immigrants have a little better credit facilities than the indigenous people, in the sense that their credit receipts from banks, credit societies, etc. during the study years were more frequent, and the amounts were also much larger than that of the former group. During that period, they borrowed around 40.29 percent of their total annual income; on the other hand, the



indigenous people have received credit only around 2.17 percent of their total income.

### **VIII. 3. Modes of Spending or Expenditure**

(i) Households in both the groups of villages incur the larger part of their expenditure on consumption of most necessary items, like food items, firewood, kerosene, cooking gas, etc., albeit with some differences in the percentage amounts spent by them. The indigenous people spend around 68.89 percent of the total expenditure of non-durable consumer goods, out of which 35.82 percent is met from home produced goods, and 64.18 percent is spent on purchased goods. On the other hand, the immigrants spend 92.02 percent of their total expenditures on non-durable consumer goods, of which 36.96 percent is imputed value and 63.04 percent is spent on purchased goods.

(ii) In both the groups, consumer durable goods receive the second major share. Only the point to be noted is that the indigenous people spend much higher percentage on these goods than the immigrants do, and that the group-1 uses some homemade goods, especially home-woven clothes, but group-2 households do not use such articles.

Table VIII.3.1 : Percentage Distribution of Expenditures

Sl. No.	Expenditure Items	% to Total	Owned	Purchased
01	Non-Durable Consumption Goods : Indigenous Immigrants	68.89 92.02	35.82 36.96	64.18 63.04
02	Durable Consumption Goods : Indigenous Immigrants	13.62 3.26	2.21 0.00	97.79 100.00
03	Education : Indigenous Immigrants	7.02 1.85	0.00 0.00	100.00 100.00
04	Cultural Festivals : Indigenous Immigrants	0.53 0.00	0.00 0.00	100.00 0.00
05	Social Ceremonies : Indigenous Immigrants	6.22 0.67	0.00 0.00	100.00 100.00
06	Religious Ceremonies : Indigenous Immigrants	1.74 1.32	0.00 0.00	100.00 100.00
07	Maintenance & Repairing Costs : Indigenous Immigrants	1.98 0.88	33.64 19.55	66.36 80.45

(iii) Expenditure on children's education is at the third rank of importance in both the groups of people, but with some difference in the percentage shares. The indigenous people spend around 7.02 percent of their total expenditure on children's education; the immigrants 1.85 percent.

(iv) Among the indigenous population some portion, though the lowest percentage of all the heads of expenditure, is incurred on cultural festivals too. Of course, all communities of the indigenous people do not celebrate cultural festivals, and therefore, the percentage of expenditure on this head is as low as 0.53. On the other hand, the immigrants do not observe any cultural festivals.

(v) Social ceremonies are another important head of expenditure of both the groups of people. Here also, the difference occurs in the fact that the indigenous people spend more on these ceremonies than do the immigrants. The immigrants depend totally on purchased goods in celebration of such occasions.

(vi) A portion of total expenditure is also spent on the observations or celebrations of rituals, religious faiths and beliefs. The immigrants spend around 1.32 percent of their total expenditure on religious ceremonies, whereas the indigenous people spend around 1.74 percent of the total expenditures on this head.

(vii) The last, but not the least, is the expenditure on the repair works of houses, fencing, cycle, rickshaw, motorbikes, maintenance costs of properties, etc., which also absorbs a good portion of the total expenditure of both groups of people. Both of these groups use homegrown goods, especially bamboo, in repairing huts, fences, etc. but, for repairing of mechanical agents, big houses, cycle, rickshaws, etc. they have to make payments.

#### **VIII.4. Farm Operation/Performance in Agricultural Fields**

Agriculture in the study area consists of two sectors: (1) subsistence sector and (2) commercial sector, and these two sectors have some opposing peculiar features of their own. The subsistence sector of agriculture is generally related to the indigenous as well as poor immigrant farmers of the area, and the commercial sector, with a few of the immigrant households. In what follows, an attempt has been made to highlight the similarities and differences in the mode of agricultural production in the two sectors by the two groups of farmers. In matters of cultivation practices there are some significant differences among the farmers/households belonging to the two groups of villages. In general, group-2 farmers are more enterprising. In what follows we describe the salient features of the farm practices prevalent in the two groups of farmers.

##### **VIII.4(i). Indigenous farmers**

(i) The indigenous farmers own lesser area of cultivable land per agricultural family in comparison to the immigrant farmers. The main reasons for this are the alienation of the tribal lands, uneconomic utilization of land by marginal and small farmers leading to mortgaging or even selling out of their cultivable land, joining other services by the head of the family and non-availability of workforce, etc. Inequality between the smallest and the largest land holding family is large; the smallest size being only 1.1 *bigha* and the largest, 53 *bighas*. The average size of holding per farm family is 14.76 *bighas*.

(ii) The practice of tenancy farming is frequent among the indigenous farmers. The landless as well as the small farmers cultivate in others' land on mortgage, *thika* and sharecropping systems. During the year 2002-03, there had been 20.68 percent addition to the total cultivated area under mortgage system, and 9.11 percent, under sharecropping system. It suggests that tenancy farming is on increase.

(iii) Some farmers, who do not have enough workforce to look after the crops, rent out their cultivable land to other farmers. There are also absentee landowners who give their land to sharecropper tenants for cultivation.

(iv) The method of cultivation by the indigenous farmers is based on primitive and very old methods. Use of tractors, shallow tube well irrigation, fertilizers, pesticide, etc. is very rare.

(v) The indigenous women take active part in many economic activities right from doing household works like cooking, taking care of children, weaving, rearing of cattle, fowl, maintaining tea stalls in daily markets, etc. to the transplantation of paddy in agricultural field. So, they contribute a lot to generating family income through their participation in various economic activities.

(vi) '*Kharif*', especially paddy, is the principal crop of the indigenous farmers. Around 94.85 percent of the total cultivated area is utilized for paddy cultivation, and only 5.15 percent is used for other crops, like jute, vegetables, spices, etc.

(vii) More than 90.00 percent of the cultivable areas remain fallow during the spring and summer seasons, largely due to lack of proper irrigation facilities. Again, due to lack of enough workforce, around 10.00 percent cultivable land remains fallow in winter season, even if water is available in the agricultural fields.

(viii) Most of the land is used for raising a single crop. Only around 3.75 percent cultivated area is used twice a year. Multiple cropping system practically does not exist.

(ix) These farmers do not respond to the changing scenario of prices of their products. They produce the same crops every year without taking care of the fact whether their prices will rise or fall in the following year.

Table VIII.4.1 : Distribution of Cultivable Land Among Indigenous and Immigrant Farmers.

Sl. No.	Descriptions	Total	Average*	% to Total
1	CLO : Indigenous	1506.00	14.76	73.34
	: Immigrants	547.40	18.25	26.66
2	LO&C : Indigenous	1130.40	11.08	75.06
	: Immigrants	463.90	15.46	84.75
3	ML : Indigenous	379.00	3.72	17.78
	: Immigrants	20.00	0.67	3.38
4	C in ML : Indigenous	333.00	3.26	87.86
	: Immigrants	15.50	0.52	77.50
5	C in Th. L : Indigenous	0.00	0.00	0.00
	: Immigrants	9.00	0.30	1.79
6	C in Sc. L : Indigenous	146.70	1.44	29.12
	: Immigrants	16.50	0.55	3.29
7	TLC : Indigenous	1610.10	15.79	79.25
	: Immigrants	504.00	16.80	85.06
8	TLaC : Indigenous	1672.90	16.40	100.00
	: Immigrants	667.95	55.76	100.00
9	Paddy : Indigenous	1586.80	15.56	94.85
	: Immigrants	303.30	10.11	45.41
10	Wheat : Indigenous	0.00	0.00	0.00
	: Immigrants	16.00	0.53	2.40
11	Vegetables : Indigenous	72.60	0.71	4.47
	: Immigrants	279.65	9.32	41.87
12	Jute : Indigenous	13.50	0.13	0.84
	: Immigrants	69.00	2.30	10.33
13	ADC : Indigenous	62.80	0.62	3.75
	: Immigrants	150.51	5.02	22.38
14	ATC : Indigenous	0.00	0.00	3.81
	: Immigrants	114.32	3.81	17.08
15	AFOLDS : Indigenous	1024.10	10.04	90.60
	: Immigrants	105.00	3.50	22.63
16	AFO'sLDS : Indigenous	434.50	4.26	90.47
	: Immigrants	11.00	0.37	26.83
17	AFOLDW : Indigenous	94.00	0.92	8.32
	: Immigrants	80.50	2.60	49.97
18	AFO'sLDW : Indigenous	49.00	0.48	4.33
	: Immigrants	2.00	0.07	89.02
19	AFOLDSp : Indigenous	1088.10	10.67	96.26
	: Immigrants	231.80	7.73	17.35
20	AFO'sLDSp : Indigenous	466.50	4.57	97.25
	: Immigrants	36.50	1.22	0.43
21	AUHYV : Indigenous	796.50	7.81	46.63
	: Immigrants	253.00	8.43	52.40
22	AILUC : Indigenous	134.00	1.31	7.85
	: Immigrants	319.00	10.63	47.75

23	ACUT : Indigenous Immigrants	0.00 213.50	0.00 7.10	0.00 42.36
24	HLU in PC : Indigenous (m-days p/b) :Immigrants	3165.00 62.00	1.99 0.20	47.90 10.20
25	FLU in PC : Indigenous (m-days. p/b) :Immigrants	3442.00 546.00	2.17 1.80	52.10 89.80
26	Pdvt of pdy : Indigenous (Rs. p/b) : Immigrants	2840553.00 1237171.00	1790.14 4079.04	69.66 30.34
27	Pdvt of eges :Indigenous (Rs. p/b) : Immigrants	122618.00 2089772.00	1688.95 7472.81	5.54 94.46
28	WP in Cash :Indigenous Immigrants	261.00 68.00	2.56 2.27	72.91 100.00
29	WP in Kind : Indigenous Immigrants	97.00 0.00	0.95 0.00	27.09 0.00
30	CPP (p/b) : Indigenous Immigrants	845692.00 391769.00	532.95 1291.69	93.25 26.40
31	CPV (p/b) : Indigenous Immigrants	68105.00 1112340.00	938.09 3977.61	6.75 73.60

Note: \* Average of total cultivated land to total actual farm families; CLO = Cultivable land owned, LO&C = Land owned and Cultivated, ML = mortgaged land, C in ML cultivated in mortgaged land, C in TH.L = cultivated in thika land, C in Sc.L = cultivated in sharecropping land, TLC = total land cultivated, TLac= total land actually cultivated, ADC = area under double cropping, ATC = area under triple cropping, AFOLDS= area of fallow in owned land during summer, area of fallow in other's land during summer, AFOLDW= area of fallow in owned land during Winter, AFO'sLDW = area of in other's land during Winter, AFOLDSp = area of fallow in owned land during Spring, AFO'sLDSp. = area of fallow in other's land during Spring, AUHYV = area under HYV, AILUC = area of irrigated land under cultivation, ACUT = area cultivated using tractor, HLU in PC(m-days p/b) = per bigha man-days of hired labour used in paddy cultivation, FLU in PC(m-days p/b) = per bigha man-days of family labour used in paddy cultivation, Pdvt of Paddy = productivity of paddy (per bigha), Pdvt of veges (p/b) = per bigha productivity of vegetables, WP in Cash = wages paid in cash, WP in Kind = wages paid in kind, CPP (p/b) = per-bigha cost of production of paddy, CPV (p/b) per-bigha cost of production of vegetables.

(x) The indigenous farmers cultivate 'HYV seeds' in around 49.47 percent of their farming land. But, the seeds that they use as 'high yielding varieties', were introduced for cultivation long back, and have become just like the traditional seeds, losing all the high yielding qualities. These seeds do not have any significant contribution to raising the productivity of land. Of course, there are a few farmers who use some newly introduced genuine HYV seeds supplied by the government agencies.

(xi) There is an acute unavailability of irrigation facilities in the agricultural fields. The average area of irrigated land per farm family is just 1.31 bighas, or around 8.32 percent of the total area under crops. Most of the farmers do not utilize the STW irrigation even if they possess the facility. So, their

agricultural cultivation still remains rain-fed. Mechanization of agriculture is almost absent among the indigenous farmers, except a scanty use of STW irrigation.

(xii) Use of hired labour is most prominent among the indigenous farmers. In the cultivation of paddy, they hire around 13.41 percent of workforce in cultivation. Around 50.00 percent of the labour requirement is supplied from the family labour. The rest of labour requirement is met through exchange-labour.

(xiii) In most of the cases (around 73.00 percent of all), the wages of the hired labours, especially those hired on monthly and yearly basis, and also hired for harvesting of crops, are paid in kind. Of course, the daily labourers are hired for transplantation and plowing. Very few monthly and yearly basis labourers are paid wages in cash.

(xiv) The average productivity of different crops of these farmers is very low. It is just 8 mounds per bigha of cultivated land in case of paddy, and just little over 14 mounds in case of vegetables.

(xv) These farmers have comparatively lower cost of production of both *Kharif* as well as *Rabi* crops. This in fact is due to non-utilization of fertilizers, manures, pesticides, etc., for which their productivity is also very low.

#### **VIII. 4(ii). Immigrant Farmers**

(i) The inequality in holding size is greater among the immigrant farmers than the indigenous farmers, the smallest size being only 0.5 bigha and the largest, and 85.00 bighas. The average size of holding per farm family of the immigrant farmers is 18.25 bighas, which is larger than that of the indigenous farmers. Those farmers who migrated first in the valley could occupy free and open land, and hence possess huge plots of cultivable land.

(ii) The practice of tenancy farming exists, but to some extent lesser than that of indigenous farmers. The area under mortgage system of cultivation was only 3.08 percent, and those of thika and sharecropping were just 1.79 percent and 3.27 percent (respectively) of the total cultivated area during the year 2002-2003.

(iii) The absentee landowner is rare among the immigrant farmers, but farmers possessing huge areas of cultivable land rent out their land plots to sharecroppers.

(iv) Many of the immigrant farmers carry out farm cultivation on commercial basis. Modernization practices have entered in their farming long back. So, they use most of the possible technologies of the modern agriculture. Uses of tractors, shallow tube well irrigation, fertilizers, pesticides, etc. are very common among these farmers.

(v) The women participation in economic activities is almost non-existent in the immigrants' community. Women of this community keep themselves confined to the household activities, and by tradition, they do not participate in any economic activity amidst the other people, unless they are forced to do so due to dire poverty.

(vi) The immigrant farmers give more emphasis on cultivation of '*rabi*' crops; most of them cultivate paddy just to subsist their annual requirements. So, they use around 41.87 percent of their cultivated land for *rabi* crops, 10.33 percent for jute, 2.40 percent for wheat and 45.47 percent for paddy cultivation.

(vii) The area of land remaining fallow is 24.73 percent during summer, around 69.50 percent during winter and 17.78 percent during the spring season. The high percent of fallow land during the winter season is due to water-logging after flood.



(viii) These farmers raise crops twice on some 22.53 percent of the cultivated land, and thrice on some 17.08 percent of cultivated land. Multiple cropping patterns do exist, particularly in *rabi* crops.

(ix) The immigrant farmers are very much responsive to the fluctuations in the agricultural prices. They cultivate those crops, which, they think, would fetch good revenue in the following season.

(x) These farmers remain always ready to accept and cultivate any new HYV seeds that are introduced for cultivation. They use around 52.40 percent of their cultivated land for HYV crops. The important point to note here is that most of them use the genuine HYV seeds of high productive quality supplied by the government through its various agencies.

(xi) These farmers are in a better off position as far as the irrigation facilities in agricultural fields are concerned. An average area of 10.63 bighas per farm family receives irrigation facility, especially STW irrigation. In other words, more than 47.75 percent of their total cultivated areas have irrigation facilities.

(xii) These farmers have gone in for mechanization of agriculture to certain extent, and use tractors, STW irrigation, etc. in their agricultural fields as well as in transporting crops home from the fields, or merchandise from home to market places.

(xiii) Their hiring of labour for cultivation constitutes only 16.57 percent of the total labour requirements. The rest of the labour requirements are met from the family labour. So, they use not only more of their family labour in cultivation, but also use relatively lesser man-days labour in it. Exchange of labour in cultivation is totally absent among these farmers.

(xiv) All types of labourers are paid in cash. So, there is an absolutely monetised transaction as far as labour payments are concerned.

(xv) The average productivity of crops of these farmers is a little above Rs. 4200 per bigha in case of paddy, and Rs. 7472 in case of vegetables.

(xvi) These farmers use almost all the necessary ingredients, like fertilizers, manures, STW irrigation, etc. required for cultivation of HYV crops. Therefore, their cost of production of crops is much higher than that of the indigenous farmers. As a result of this, productivity on their land is also far higher than that on the land cultivated by the indigenous farmers.

### VIII.5. Discriminant Analysis

So far we have described how the two groups of households differ in matters of socio-economic characteristics, sources of their income, farming practices and consumption pattern, but the differences observed among them have not been tested by statistical procedures. Differences, even though apparently vivid, may not be statistically significant if their standard errors – the variations on account of random sampling – are dominant.

Table VIII.5(a): Households in Different Income Brackets in the two Groups of Villages

Income Class (in Rs./Month)	Group-1 Villages	Percent to Total	Group-2 Villages	Percent to Total	All Villages	Percent to Total
Nil	23	16.2	9	22.5	32	17.58
Up to 200	64	45.07	10	25	74	40.66
200 - 400	35	24.65	7	17.5	42	23.08
400 - 600	10	7.04	4	10	14	7.69
600 - 800	7	4.93	0	0	7	3.85
800 - 1000	3	2.11	2	5	5	2.75
1000 - 1200	0	0	2	5	2	1.1
1200 - 1400	0	0	2	5	2	1.1
1400 - 2000	0	0	0	0	0	0
2000 - 2500	0	0	3	7.5	3	1.65
2500 - 3000	0	0	0	0	0	0
3000+	0	0	1	2.5	1	0.55
Total	142	100	40	100	182	100

Now we propose to conduct discriminant analysis using three sets of variables, first relating to the inputs to and the output of the agriculture sector, the second pertaining to income of the households derived from various sources, and the third, regarding consumption expenditure of the

households on various items. Discriminant analysis is a multivariate statistical method that helps us to discriminate between two (or more) samples drawn from two (or more) different populations (Kendall and Stuart, 1968, vol. 3, pp. 314-341). In a sense, although not exactly, it may also be viewed as a multivariate parallel to "t" test used for testing the hypothesis regarding difference in two means. A cursory view of the inter-group differences reflected in the income distribution is given in tables VIII.5(a) and VIII.5(b).

Table VIII.5(b): Households in Different Income  
(Per Capita per month) Brackets in the two Groups of Villages

Income Class Per Capita/Month	No. of Households Group-1 Villages	Per cent to Total	No. of Households Group-2 Villages	Per cent to Total	No. of Households All 7 Villages	Per cent to Total
Rs. 0-425	53	37.32	15	37.5	68	37.36
Rs. 425-1000	46	32.39	12	30	58	31.87
Rs. 1000-2000	28	19.72	7	17.5	35	19.23
Rs. 2000-4000	13	9.15	5	12.5	18	9.89
Rs. 4000-6000	2	1.41	0	0	2	1.1
Rs. 6000 +	0	0	1	2.5	1	0.55
Total	142	100	40	100	182	100

#### VIII.5.1. Discrimination on the Criteria of Agricultural Inputs and

**Output:** We have seen that in the sample villages some households are farmers while others derive the major part of their income from hiring out their labour or they are employed in some service. Some farmer households produce mainly for consumption. They do sale their produce in the market, but the objective is not to earn profit but to finance their consumption of other items that they have to purchase from the market. On an average, a three fourth of the consumption basket makes the goods and services thus purchased from the market. On the other hand, a number of farmers, especially in Baruajhar and Sialmari villages, produce mainly for the market. They cultivate vegetables, use modern inputs to farming and work hard to grow crops that are remunerative.

In agriculture production land, family labour (full time as well as part time), hired labour and other expenses (on inputs like seeds, irrigation, fertilizers,

pesticides, etc) are the main inputs. A differential application of these inputs leads to differential yields. The results of discriminant analysis suggest that on the criterion of application of inputs and the resultant output, we may discriminate the last two villages (Baruajhar and Siamari) from other five villages. The value of Wilk's lambda is 0.641, significantly far away from unity. Among the factors of production, contributions of land and full time family labour are relatively insignificant; of the two, the discriminatory power of land (operational holding) is the weakest. The contributions of part time family labour, hired labour and other inputs are significant discriminants. This is not to say that land and full time family labour put into production are unproductive; it simply means that the first five and the last two villages do not show any significant difference in matters of applying these two types of input to the production activities. More particularly, in the Group-2 villages where farming is mostly meant for market, full time family labour is not quite prevalent. Family labour is used only partly. In most cases, family members look after marketing, management and supervision. Hired labour is used on the farms. Finally, the agricultural output is a significant discriminant between the two groups of villages. As a matter of fact, the income accruing from agriculture introduces significant inequality in income distribution, particularly in the last two villages (Group-2). In Group-1 villages no household derives from agriculture an income more than Rs. 1000 per capita per month and only about 16 percent of households are landless. On the other hand, among the Group-2 households 22.5 percent are landless and several households derive income from agriculture in the range of Rs. 1000-3000 per capita per month. Therefore, the criteria of agricultural inputs and production are able to correctly classify cent percent households from the first group of 5 villages. However, according to these criteria only 18 of the 40 households in group-2 villages are correctly classified; the rest 22 characterize as if they belong to the first group. These misclassified households are mostly labourers or very small farmers who have not gone in for market-oriented production on their farms (tables VIII.5.1(a) and VIII.5.1(b)).

Table VIII.5.1(a): Weight Vectors on the Criteria of Agricultural Inputs and Output

Variables	P (Agri-cultural Production.)	A (Area of Land under Operation)	FLF (Full Time Family Labour man days)	FLP (Part Time Family Labour man days)	HL (Hired Labour man days)	OE (Other Ex- penses)	Constant
Households from Group-1	-8.81	54386.13	2.35	71.99	2651.46	5.39	-636353.55
Households from Group-2	12.85	83304.56	53.63	480.56	-4363.94	-165.96	- 3581886.29

Table VIII.5.1(b): Discriminant Function Analysis : Criteria - Agricultural Inputs and Output

Variables	Wilks' Lambda	Partial Lambda	F-Remove (1,175)	Probability Level	Tolerance	(1-Toler)=(R Square)
P	0.7069	0.9075	17.8468	0.0000	0.3742	0.6258
A	0.6470	0.9915	1.5068	0.2213	0.2987	0.7013
FLF	0.6487	0.9888	1.9888	0.1602	0.2766	0.7234
FLP	0.6667	0.9621	6.8981	0.0094	0.4301	0.5699
HL	0.6685	0.9595	7.3869	0.0072	0.4565	0.5435
OE	0.6559	0.9780	3.9436	0.0486	0.3407	0.6593

Wilks' Lambda: 0.641 approx. F (6,175)=16.303 p< 0.0000

### VIII.5.2. Discrimination on the Criteria of Income Derived from

**Various Sources:** About 51% of the total income in the sample villages accrues from the primary sector while some 40% of the total income accrues from the tertiary sector. In the last two villages (Group-2) only a few households derive income from the tertiary sector activities, service in particular. In these villages agricultural labourers and enterprising farmers producing for the market abound. Many households are engaged in raising fish for the market. On the other hand, orchards, service, trade & commerce etc. make a substantial source of income in the first group of villages.

For the purpose of discriminant analysis we have used the amount of income accruing from different sources to the households. Agriculture, hiring out of labour, animal husbandry, fishery, orchards & plantation, trade & commerce and service are the main sources of income to the households. We have not included income from the manufacturing sector and construction in the discriminant analysis partly because this source of income fetches only a small percentage of total income and partly because these are not the

source of income to the households in the villages belonging to Group-2. The results of discriminant analysis suggest that on the criteria of sources of income, the two groups of villages can be discriminated from each other. Except animal husbandry, trade & commerce and property, all the other sources of income are statistically significant discriminators. Of them, the discriminatory power of fishery and service is relatively weaker. On the other hand, farming, hiring out of labour and orchards & plantation are very powerful discriminants. Overall, the discriminatory power of the income criteria is statistically significant as indicated by the value of Wilks' lambda = 0.652, far from unity. As many as 139 of 142 households in the first group of villages are correctly classified on the basis of the sources from which they derive their income. In the second group of villages only 18 households (out of 40 households) are correctly classified while the rest (22 households) exhibit the characteristics that misclassify them into the first group. Once again, these households are poorer households, mostly producing for self-sustenance or hiring out their labour (tables VIII.5.2(a) and VII.5.2(b)).

Nevertheless, the membership of correctly classified households in the Group-2 villages according to agricultural production (P) criteria and source of income criteria (Y) do not completely overlap. Of the 18 correctly classified genuinely belonging to Group-2 according to P criteria only 11 conform to the Y criteria (table VIII.5.4.2). In particular, such an overlapping is more prevalent in village 7 (Sialmari). In this village farming is much more commercialized.

Table VIII.5.2(a): Weight Vectors on the Criteria of Components of Income

Income from	Agri-culture	Hiring Labour	Animal Husbandry	Fishery	Orchards	Trade & Commerce	Service	Property	Constant
Households Group-1 Villages	9.30	98.73	109.40	-13.58	277.82	30.79	14.71	-29.58	-1388757.47
Households Group-2 Villages	61.64	294.24	162.58	28.30	19.63	17.19	5.07	-33.66	-4379341.60

Table VIII.5.2(b): Discriminant Function Analysis : Criteria of Components of Income

Variables	Wilks' Lambda	Partial Lambda	F-Remove (1,173)	Probability Level	Tolerance	(1-Toler)= (R <sup>2</sup> )
AGRI-CULTURE	0.6991	0.8411	32.6864	0.0000	0.4425	0.5575
HIRE LABOUR	0.7041	0.8351	34.1647	0.0000	0.8110	0.1890
ANIMAL HUSB	0.5894	0.9977	0.3955	0.5303	0.9241	0.0759
FISHERY	0.5955	0.9875	2.1939	0.1404	0.7712	0.2288
ORCHARD	0.6484	0.9068	17.7713	0.0000	0.8183	0.1817
TRADE & COMMERCE	0.5890	0.9983	0.2958	0.5872	0.8162	0.1838
SERVICE	0.6007	0.9789	3.7342	0.0549	0.9582	0.0418
PROPERTY	0.5882	0.9997	0.0449	0.8324	0.6868	0.3132

Wilks' Lambda: 0.65154 approx. F (6,173)=15.152 p < 0.0000

### VIII.5.3. Discrimination on the Criteria of Consumption Expenditure:

The third possible set of criteria on which the sample households in the two groups of villages may be discriminated constitutes the pattern in consumption expenditure. We have classified consumption expenditure into three major heads - expenditure on non-durables (NDE) which claims for some 71 percent of the consumption expenditure, durables (DE) which claims for some 13 percent of the total consumption expenditure and consumption expenditure on other items (OCE) which claims for the rest 17 percent of the total expenditure on consumption. This third category (OCE) includes expenditure on education, festivities, and the miscellany.

Discriminant analysis indicates that the criteria of consumption expenditure fail to discriminate between the households of the two groups of villages (tables VIII.5.33(a) and VIII.5.3(b)). The Wilks' lambda is = 0.983, not statistically different from unity. Of course, there is some discriminatory strength in consumption expenditure on the durables (DE), but it is significant at only 20% of the probability level. This finding corroborates the observation as to the marginal propensity of the sample household to consume being quite small (0.34) in  $C = 29396.19 + 0.34Y$ . Not only the poorer but relatively better off households too are thrifty. Consumption is primarily determined by the necessities and the family size, only secondarily

and less importantly by the level of income of the households. The thrifty habits of the households (especially in the Group-2 villages) contribute to the savings for investment and the security against the possible harsh eventualities. In turn, accumulation of wealth in a fewer hands leads to inequality. Further, in the Group-2 villages inequality in income distribution is quite acute.

Table VIII.5.3(a). Weight Vectors on the Criteria of Components of Consumption

Expenditure on	Non-Durable Items (NDE)	Durable Items (DE)	Other Consumable Items (OCE)	Constant
Households Group-1 Village	948.51	-140.27	-4.73	-3166941.64
Households Group-2 Villages	990.72	-299.39	-46.93	-4481038.57

Table VIII.5.3(b). Discriminant Function Analysis: Criteria of Components of Consumption

Variables	Wilks' Lambda	Partial Lambda	F-Remove (1,178)	Probability Level	Tolerance	(1-Toler) (R <sup>2</sup> )
NDE	0.9847	0.9982	0.3135	0.5763	0.8296	0.1704
DE	0.9928	0.9901	1.7853	0.1832	0.7264	0.2736
OCE	0.9845	0.9985	0.2761	0.5999	0.7794	0.2206

Wilks' Lambda: 0.98294 approx. F (6,178)=1.0296 p < 0.3808

**VIII.5.4. The Efficiency of Discriminant Analysis on the three sets of Criteria :** Table VIII.5.4.2 summarizes the findings of discriminant analysis carried out on three sets of criteria laid down earlier. While the criteria of agricultural inputs and output correctly classify all 142 households of the Group-1 villages, they misclassify as many as 22 households of the Group-2 villages. Thus, according to these criteria only 18 households from Group-2 villages are correctly classified.

As it has been mentioned earlier, the misclassified households of Group-2 villages are labourers or small farmers who do not partake of the characteristics of Group-2 (market-oriented farmers). Similarly, the criteria of income from different sources correctly classify 139 (out of 142) households from Group-1 villages and 18 (out of 40) households from Group-2 villages. As in the case of the first set of criteria, the misclassified



households from Group-2 villages are poorer farmers and three misclassified households from Group-1 villages are rich households. There is an overlapping between the two sets of criteria (table VIII.5.4.1) in which 11 households from Group-2 villages are common. Lastly, the criteria of consumption expenditure cannot discriminate between the households of the two groups of villages. All households exhibit the characteristics of the Group-1 type.

Table VIII.5.4.1 : Discriminant Analysis on Indigenous and Immigrant Sample Households

Sl No.	Indigenous Households															Immigrant Households					
	Village1			Village2			Village3			Village4			Village5			Village6			Village7		
	P	Y	C	P	Y	C	P	Y	C	P	Y	C	P	Y	C	P	Y	C	P	Y	C
1																					
2																					
3																					
4																					
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																<b>Index</b>					
																P= Agricultural Production					
																Y= Total Income					
																C= Total Consumption					
																Type-2 Households					
																Type-1 Households					

Table VIII.5.4.2: Efficiency of Discrimination by the three sets of Criteria

Group	% Correct Class (P)	Group- 1 (P)	Group- 2 (P)	% Correct Class (Y)	Group- 1 (Y)	Group- 2 (Y)	% Correct Class (C)	Group- 1 (C)	Group- 2 (C)	Total
Group-1 (First 5 Villages)	100.00	142	0	97.89	139	3	100.00	142	0	142
Group-2 (Last 2 Villages)	45.00	22	18	42.00	22	18	0.00	40	0	40
Total	87.91	164	18	86.26	161	21	78.02	182	0	182

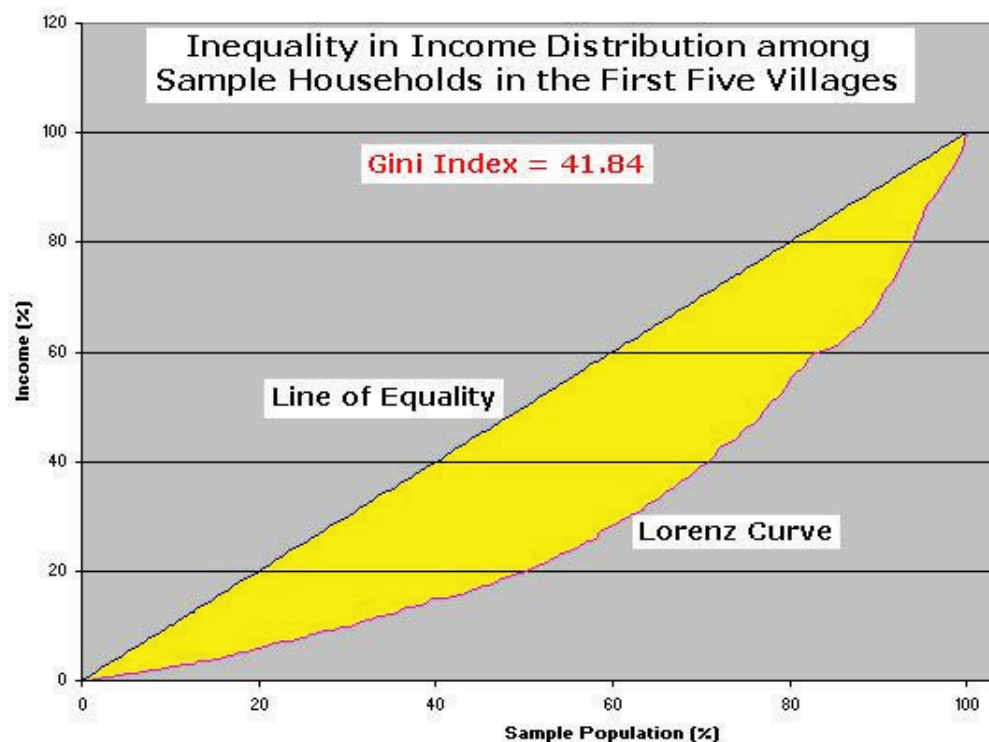
**VIII.5.5. Poverty and Inequality in the Sample Villages:** In table VIII.5.5 we present the distribution of households according to the income (accruing from all sources) per capita per month. We observe that about 50 percent of households have income below Rs. 550 (per capita per month) and they are the recipients of only 17 percent of the total income. On the other hand, some 18 percent households (with per capita per month) income above Rs. 1600 command over 50 percent of the total income. We also observe that agricultural income is the major source of inequality, as shown by table VIII.5.5(i).

Inequality in income distribution is often measured in terms of the Gini index, which is graphically presented by the Lorenz diagram. The Gini index is the Gini coefficient expressed in percentage form. The Gini coefficient is calculated as the ratio of areas on the Lorenz curve diagram. If the area between the line of equality and the Lorenz curve is A and the area underneath the Lorenz curve is B, then the Gini coefficient is given by  $A/(A+B)$ . The Gini coefficient is often calculated with the more practical Brown's formula given as

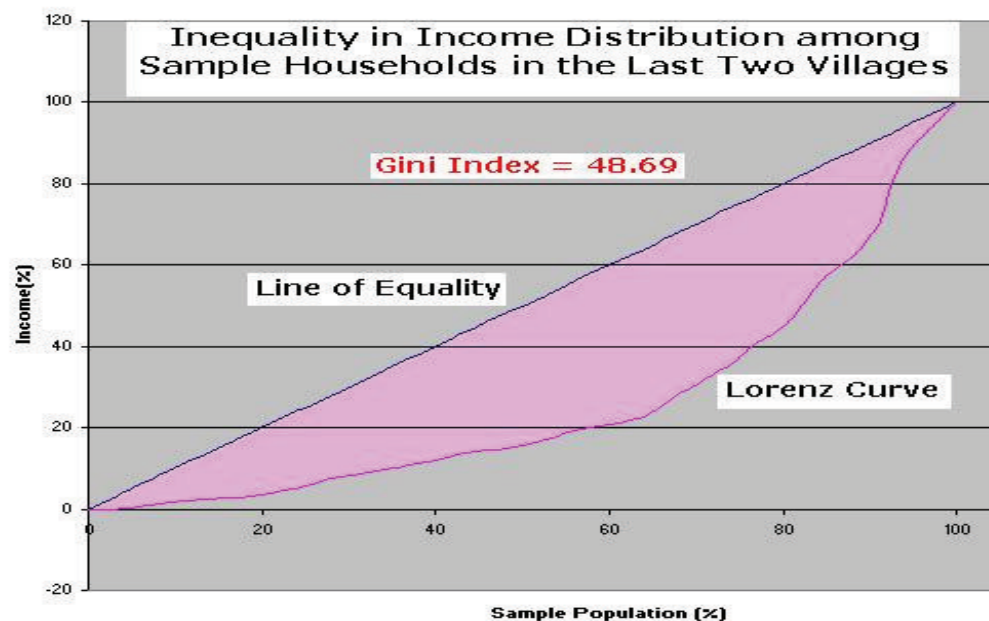
$$G = \left| 1 - \sum_{i=0}^{n-1} (x_{i+1} - x_i)(y_{i+1} + y_i) \right|$$

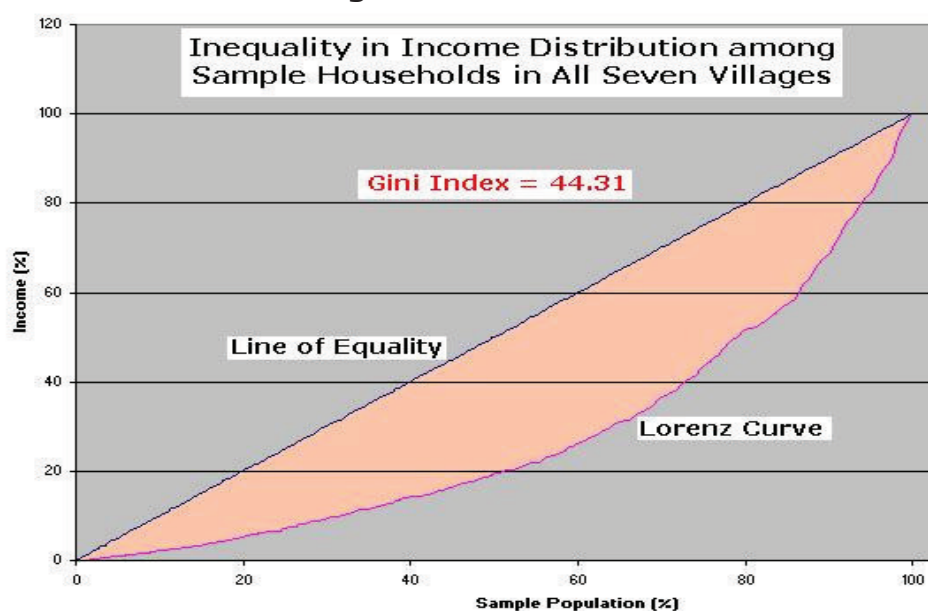
where  $G$  = Gini Coefficient;  $X$  = Cumulated proportion of the population variable;  $Y$  = Cumulated proportion of the income variable.

**Figure : VIII.5.5.1**



**Figure : VIII.5.5.2**



**Figure : VIII.5.5.3****Table VIII.5.5: Income Distribution of the Sample Households**

Per Capita Monthly Income (Rs.)	No. of Persons	Share of Monthly Income (Rs)	Percent of Persons	Share (Percent) of Monthly Income
Below 200	124	18673.42	11.28	1.85
Below 300	261	55139.79	23.75	5.47
Below 400	394	101639.33	35.85	10.09
Below 500	530	162191.83	48.23	16.09
Below 600	581	190057.08	52.87	18.86
Below 700	636	226963.58	57.87	22.52
Below 800	674	254433.33	61.33	25.25
Below 900	737	308150.83	67.06	30.58
Below 1000	770	339427.83	70.06	33.68
Below 1100	799	369946.67	72.70	36.71
Below 1200	823	397603.58	74.89	39.45
Below 1300	849	430588.25	77.25	42.73
Below 1500	889	486622.08	80.89	48.29
Below 1700	934	558467.50	84.99	55.42
Below 2000	972	627739.58	88.44	62.29
Below 2500	1039	784024.67	94.54	77.80
Below 3000	1057	832696.50	96.18	82.63
Below 4000	1084	922678.25	98.64	91.56
Below 6000	1093	968880.75	99.45	96.14
Below 7000	1099	1007750.17	100.00	100.00

Table VIII.5.5(i):. Distribution of Per Capita Per Month Income from Agriculture

Per Capita Income Class (in Rs./Month)	No. of Households Group-1 Villages	Percentage to Total	No. of Households Group-2 Villages	Percentage to Total	No. of Households All Villages	Percentage to Total
Nil	23	16.20	9	22.50	32	17.58
Up to 200	64	45.07	10	25.00	74	40.66
200 - 400	35	24.65	7	17.50	42	23.08
400 - 600	10	7.04	4	10.00	14	7.69
600 - 800	7	4.93	0	0.00	7	3.85
800 - 1000	3	2.11	2	5.00	5	2.75
1000 - 1200	0	0.00	2	5.00	2	1.10
1200 - 1400	0	0.00	2	5.00	2	1.10
1400 - 2000	0	0.00	0	0.00	0	0.00
2000 - 2500	0	0.00	3	7.50	3	1.65
2500 - 3000	0	0.00	0	0.00	0	0.00
3000+	0	0.00	1	2.50	1	0.55
Total	142	100.00	40	100.00	182	100.00

The figures (VIII.5.5.1 through VIII.5.5.3) show the extent of inequality in income distribution in the sample villages as a whole, in the first five sample villages inhabited by the indigenous population and in the last two villages inhabited by the immigrant population from Bangladesh. In developed economies Gini index is often between 24 to 36 (exceptionally, USA has exhibited Gini index higher than 40 for the last several decades), while in some countries such as Mexico, Latin America it exceeds 50. In India the value of Gini index is about 32.5 (the United Nations Human Development Report 2004). The observed values of Gini index in the sample villages are considerably high. In the first five villages the Gini index is 41.84 while in the last two villages it is 48.69. Overall the value of Gini index in the sample villages is 44.31. By any standard, these values convey that the extent of inequality in the sample villages is alarmingly high.

Very often poverty is defined in terms of the per capita income (per month) and the households that have per capita income below the accepted cut-off norm are classified as "below poverty line" (BPL). Although the concept of poverty line is widely used and classification of population below or above

the poverty line is in vogue, it may be borne in mind that the computations and methodology underneath such works involve a long sequence of estimation exercises. Every estimate characterizes the standard error of estimate, which attributes to such estimate an aura of indecisive region around it. So, strictly speaking, one should talk of the region and not the line. The households below that region should be classified poor and above that region not-poor. The households falling within the region are only on the borderline. This view has a significant bearing on the temporal studies on poverty. When the changes over time fall within the standard error of estimate, it is overstretched and often misleading to commit whether poverty is increasing or decreasing.

In 1999-2000, the poverty line for the rural Assam was at Rs. 365.43 per capita per month. Below this line 92.17 lakh people were there (40.04 percent of the rural population of Assam). Data for our sample study were collected in 2002-2003. During this period prices increased by 16 percent or so. Taking this price rise into account, we may take Rs. 425 as the poverty line for our sample villages. However, some 25 percent of the consumption basket of sample households contains home-grown stuff, unaffected by the inflationary rise in prices. Therefore, one may fix the poverty line somewhere at Rs. 408 or so. In any case, it is unlikely that the poverty line would be below Rs. 400 and above Rs. 425 per capita per month.

Table VIII.5.5(ii): Households below Poverty Line in the Sample Villages

Sample Villages	No. of Sample Households	No. of Households BPL (Rs. 400 PC/Month)	Percent of Sample Households	No. of Households BPL (Rs. 425 PC/Month)	Percent of Sample Households
1. Barigaon Gerua	30	9	30.00	11	36.67
2. Bhogdal Gaon	30	12	40.00	15	50.00
3. Kalbari	30	11	36.67	12	40.00
4. Sapkhaiti (ii)	30	8	26.67	9	30.00
5. Nizdal Gaon	22	6	27.27	6	27.27
6. Barujhar	20	7	35.00	7	35.00
7. Sialmari	20	8	40.00	8	40.00
Total	182	61	33.52	68	37.36

Table VIII.5.5(iii): Number and Percentage of Rural Population below Poverty Line (BPL) in Assam and the Study Area

Description	Assam* (1982-1983)	Assam* (1993-1994)	Assam* (1999-2000)	Study Area** (2002-2003)	Study Area** (2002-2003)
No. of Persons	73.43 Lakh	94.33 Lakh	92.17 Lakh	394 (Out of 1099)	434 (Out of 1099)
Percentage of Persons	42.60	45.01	40.04	35.85 (10.09% of Income)	39.49 (11.73% of Income)
Poverty Line (Rs. Per Capita/Month)	98.32	232.05	365.43	400.00	425.00

Source of Information : \* Planning Commission, Govt. of India ( Extent of Poverty in different states of India 1982-2000), \*\* Based on the present study.

Our study indicates (tables VIII.5.5(ii) and VIII.5.5(iii)) that at least 35.85 percent of the population (and 33.52 percent of households) in the sample villages is below poverty line (at Rs. 400 per capita per month). On the other hand, no more than 39.5 percent of the people (and 37.36 percent households) is likely to stand under the poverty line (at Rs. 425 per capita per month). At the village level there is some variation (table VIII.5.5(ii)). Poverty is more widespread in Bhogdal Gaon and less acute in Nizdal Gaon.

**VIII.5.6. A Summary :** Our analysis may be concluded in a few lines. First, the households of two groups of villages (the Group-1 consisting indigenous population and the Group-2 consisting the immigrants from Bangladesh) can be discriminated among themselves on the criteria of farming efforts (the inputs they apply to agriculture and the output they raise on the land) as well as the sources of income harnessed by them. The inhabitants of Group-2 villages, once they have enough land to cultivate, practise commercial agriculture for the market to earn higher income, but the inhabitants of the Group-1 villages still continue with the traditional agriculture, chiefly with an objective to sustenance, in spite of having enough land to cultivate. The land resources make little difference to economic achievements across the two groups of villages. In short, the farmers of Group-2 villages, whenever feasible, are enterprising. Secondly, most of the farmers in Group-2 villages apply family labour for supervision, management and marketing of the

produce. To work on farms they hire labourers abundantly available in the village itself and in other villages around. Thirdly, many households in the Group-1 villages derive income from service and orchards (which characterizes an extensive use of land). On the other hand, most of the households of the Group-2 villages (who own land) use land intensively. Fourthly, many inhabitants of Group-2 villages, in spite of being economically well off, are thrifty. They save to invest or to tide over the adversities and eventualities. Inhabitants of Group-1 villages spend less owing to the paucity of resources. But whenever the resources permit, they do spend lavishly. As a matter of fact, their expenses on festivities are significant. On the other hand, the inhabitants of the Group-2 villages are frugal. Lastly, there is a more acute inequality in income distribution in the Group-2 villages than in the Group-1 villages. This inequality is the result of agricultural growth that has come to a few resourceful and enterprising farmers in the Group-2 villages. Agricultural development often results into enhancement of inequality. It is not scale neutral, nor does it preserve the original distribution of productive resources in its wake (see Rudra, 1982, pp. 223-234). By altering the original distribution of productive resources in favour of the more enterprising and the more rich, growth accentuates inequality. This tendency has been observed in the Group-2 villages.

Daimari, Prasen (2005) A Study on Structure of the Economy of Udalguri Subdivision, Assam, Doctoral Dissertation, Dept. of Economics, North Eastern Hill University, Shillong (India)



## **Chapter - IX**

### **Prescriptive Remarks**

**IX.1. Pre-requisites of Economic Development :** The development of the economy of a region depends on the enhancement of the resource base, development of infrastructure, technological development and prevalence of favourable socio-economic institutions. These pre-requisites of economic development are only poorly available in the study area. In what follows, we suggest a few measures to promote development in the study area.

**IX.2. Promotion of Forest based Industries :** In the rural areas of Udalguri Subdivision the natural as well as the human resources are grossly underutilized. The villages of the northern part of the subdivision, right from Kundarbil in the west to Sikaridanga in the east, are situated at the Himalayan Foothills and these villages are abundantly endowed with valuable forests. The valuable trees are indiscriminately felled and sold to timber merchants as raw materials at very low price. If some well-to-do families can install sawmills or plywood industries at the central places like Barigaon Chowk, Khawrong Chowk, Goraimari Chowk, Bhairabkunda and Lalpani Chowk, these mills may spur micro-industrialization in the area. The Chowks identified above have relatively better infrastructure facilities like transport, electricity, etc. and are also not far off from the sites where trees are available. Side by side, the unemployed youths should open furniture industries and supply their products to the local markets as well as to the nearby urban areas like Udalguri, Rrowta, Orang, Kharupetia, Mangaldai, Tangla, etc. This will reduce the problem of disguised unemployment on the one hand and increase the household income on the other.

The possibilities of social forestry, medicinal plants, floriculture, mushroom cultivation, etc are immense in the area. However, no initiative has been made in this direction as yet. In general, people in the villages are not aware

of these possibilities. They have to be informed and trained to enter into these enterprises.

**IX.3. Promotion of Resource Utilization in the Primary Sector :** It has been found in the sample villages that only around 15.5% of the total land is cultivated more than once and most of these are used for cultivation paddy alone. This is more so in the northern part of the subdivision inhabited by the indigenous people. Though living by the locality of the more enterprising immigrant farmers, many of the indigenous farmers of the villages like Niz Dalgaon, Daobogaon, etc. have not yet followed the modern or market-oriented farming practices. The farmers must adopt intensive methods of cultivation, crop diversification, HYV seeds, manures, fertilizers, pesticides, etc. to raise their productivity and thereby the farm income.

But to do that, farmers require proper farming infrastructure like irrigation, and inputs like HYV seeds, manures, chemical fertilizers, pesticides, etc. which are very costly for the poor farmers. Therefore, the government must initially support the farmers with the supply of these inputs at a subsidized rate till the poor farmers themselves become capable of investing on these farm inputs.

The irrigation-cum-hydroelectric power project on the river Dhansri at Bhairabkunda has not been undertaken wholeheartedly by the Government to complete it even after 20 years. If this project could be completed early, most of the farmers as well as villagers of the northern part of the study area would have been benefited in two ways – first, farmers would have been in a position to cultivate crops intensively and secondly, villagers would have also got electricity facility. This irrigation project is very important for the farmers because shallow tube well cannot be dug in the surrounding area due to the rocks underground. The construction of dam is difficult in this area due to heavy current of the river water flowing down right from the Himalayan mountain ranges.

In other southern parts of the study area like Dalgaon, Kajiamati, Kaopati, Bhogdal, Sapkhaiti, etc. where the benefits of above-mentioned project cannot reach out, digging of canal irrigation, shallow tube well, construction of minor dams, etc. should be initiated by the Government. This will encourage the farmers to go in for intensive cultivation as well as for crop diversification. The Government should strengthen the STW distribution scheme through the aid of the World Bank and NABARD to the needy farmers of each and every village of the study area. This can be done by instructing the farmers to form Farm Management Committees in which three to four small farmers having farm-land close-by can get one shallow tube well at the centre of their lands. This will reduce the uncertainty of rain-fed farming and encourage even the poor farmers to go in for intensive cultivation and crop diversification.

Along with that, the inputs for HYV crops should be made available to farmers by setting up the seeds and fertilizer distribution agencies at the central places of ten to twelve villages like at Ambagaon, Golmachowk, Khasibarichowk, Rowta, Orang, Kajiamati, Kaupati, Sialmarichowk, etc. At present, the seeds and fertilizers are distributed to a few farmers from the Seeds Corporation Offices at Dalgaon and Udalguri, which are not only insufficient, but also poorly synchronized with the need. The local traders supply the rest of the requirement of HYV seeds and fertilizers at very high prices, which most of the poor farmers cannot buy. Timely distribution of genuine seeds of new varieties through the Seeds Corporations and other agencies at low price will help the farmers to start their new farming adventure. The government has to take necessary initiative to impart training to the farmers about the methods of cultivation with the new farm inputs.

Moreover, the Agricultural Department of the Government of Assam should take necessary steps to set up some agricultural implement centres at the interior villages/areas such as Garobasti, Serfanguri, Gersong, Barnagaon, Alisinga, Shyamalbari, Jorpukauri, Borkur Chapari, Bogolamara, etc. Various

types of agricultural machines should be kept at these centers so that the needy farmers can hire these machines at low rates or rentals. This will motivate the farmers since seeing the time and energy saving technology of farming is the first step to using them.

Again, since more than 75% of the rural farmers possess cultivable land less than 2 hectares per farm family, it is not advisable that they go in for buying agricultural machines of their own. Such a venture is uneconomical. But a few large farmers in the area can afford to buy machines like tractor, thresher, etc. They can use these machines at their farms as well as these can be hired out to the small and medium farmers when these are not in use. By doing that the owners of the machine can earn some extra income and also the small and medium farmers can save their labour and time by hiring these machines at their farms. If the farmers can start with such a modern and intensive cultivation, the hitherto off-season, unemployed, farmers will be partially (if not fully) employed in the farming sector itself. This will increase their level of farm income and hence the savings of the farm households, which can be reinvested into the farming sector itself or can be used for venturing some other enterprises in the secondary sector.

**IX.4. Promotion of Animal Husbandry :** Since bullock power is the most important element in rural farming they should be taken care of well. At present there are only three veterinary hospitals in the study area. These are all situated at the urban centers like Udalguri, Kharupetia and Dalgaon. The Government should establish many more veterinary hospitals/dispensaries in the remote rural areas like Boramjuli, Khairajangal, Beltagaon, Dindangpara, Kachomari Chapori, Nepali Gaon, etc. where road communications and other infrastructure are very poor and sick animals cannot be brought easily to the doctors at the urban centers for medical check up.

There are many small-scale enterprises which the rural people can undertake along with their agricultural cultivation and which also do not require much investment of capital. The rural people have many potentialities in respect of

animal husbandry like goat keeping, pig rearing, poultry farm, etc. and bee keeping, fishery farm, etc. In rural areas, there are lots of open space and grazing lands for goats and cattle, and rice husks are available in every farmer's house to feed to the pigs and fowls. What is seen in the rural areas is that most of them rear these animals just in a traditional way and commercial part of it does not get much attention. Of course, to do that it also requires a sufficient amount of time and training and some amount of investible capital. Nowadays various organizations (mostly NGOs) and institutions have come forward to conduct vocational training courses to the interested people. The interested entrepreneurs should take training from these organizations given from time to time.

**IX.5. Promotion of Sericulture :** Presently a few enterprises are working in sericulture. Many of them have only a meager technical knowledge regarding scientific management in this sphere. Additionally, they do not have enough finance, trained manpower, contacts in the market and necessary equipment. To promote this enterprise, the Government should take a special initiative to train the manpower working in this enterprise, make enough finance available to them and organize them to cope with the market.

**IX.6. Construction and Repair of Roads :** Enterprises will come up and sustain themselves only if they are facilitated with good infrastructure facilities – good transport and communication systems, electricity, marketing, credit facilities, etc. These infrastructure facilities are regarded as the essential preconditions for agriculture as well as industries. Good transport and communication facilities help in transporting the produced goods to the markets. Electricity helps efficient production of goods by reducing the time and costs of production. Available credit and marketing facilities lead to up-gradation of the level of technology and scale of production. We may note here that in the last 200 years or more, agricultural and industrial revolutions in England first and in many other countries

subsequently, were accompanied by a revolution in transport and communication, the extensive use of coal and later oil as a source of energy, tremendous expansion in the banking and insurance, and other financial institutions to finance production and trade, explosion of the knowledge of science and technology, and so on. Therefore, since the rural people are not in a position to initiate all these by themselves, the Government should come forward with an initiative to improve such infrastructures in the rural areas.

There are some very important roads in the remote areas which need urgent repairing. The Kundarbil-Ambagaon road (around 15 kms) is used by more than 35 villages to come out from the remote corners to the subdivision headquarters. Moreover, many new small tea-growing enterprises are coming up in those areas. But unfortunately the said road remains unmotorable during rainy season, mainly due to the dilapidated bridge at Barigaon Duamakha. So, the Government should repair the bridge at the earliest so that the enthusiastic entrepreneurs of the small tea-growing enterprises as well as the rural farmers get the full benefit of the road.

The Garobasti-Udalguri road (around 12 kms) via Khawrongchowk is also an important one, which has been lying unmotorable since long and needs repairing. The Kharupetia-Udalguri road (25 kms) via Kajiamati is also a very important road, which has become unmotorable for the last few years because of the erosion of river Golondi near Kajiamati and Daobogaon. This road is important because it is the short-cut route for the inhabitants of Kharupetia, Dalgaon, Sialmari, etc. to the district headquarters, i.e. Udalguri and also it passes through the villages of some of the most enterprising farmers of the Dalgaon area. Repairing of this road will facilitate the transportation of merchandise of the commercialized farmers to different market places and encourage these farmers to raising the productivity.

Another most important road, the condition of which is not very good though motorable to a certain distance, is the Dalgaon-Orand road (around 35 kms) via Kaopati, Barobazar, etc. This road also covers some of the most

enterprising villages of the study area. Farmers in these have to bring their produces to the markets by pushing trolleys. It increases their labour and transport costs. If this Dalgaon-Orang road becomes motorable through every part of the Kaupati area, the merchandise can easily be transported to the market site by trucks and other vehicles. This will reduce the transport costs and will give to the farmers satisfactory prices for their merchandise.

Yet another important road that needs repairing is the Sikaridanga at Arunachal Pradesh Border to Mazbat via Lalpani, Naoherua village, etc. This road passes through a Tata Tea Garden at Lalpani, which remains cut-off during the rainy season. Therefore, the Government should take the necessary steps to repair and reconstruct the road and bridges on it so that the rural people of the study area are benefited.

Apart from that, most of the remote villages do not have even approaches roads/lanes. Thalthalibil, Nadirpar, Alisinga, Balisihajungle and many others are only some examples of the villages having no proper approach road. So, these villages should be connected to the main road through the construction of new link roads.

**IX.7. Improvement in Power Supply :** It is worth mentioning that, first, as many as 51.69% of the villages of the study area are not yet connected by power transmission lines. Secondly, even though power transmission lines connect 48.31% of the villages, power supply is not assured due to frequent and prolonged load-shedding and/or poor voltage.

Unavailability of power discourages mechanization especially for irrigation purpose, which limits the scope of modernization of agriculture. In the villages that are connected to the power grid, frequent load shedding necessitates maintaining of two types of machines, the one operated by power and the other operated by mineral oil. For assured irrigation, therefore, the investment in machine is several times more than what would have been if power supply were assured.

Without irrigation facilities, one cannot venture on cultivation of Rabi crops or vegetables, etc. Therefore, inadequate power supply indirectly limits the scope of the intensive use of land and commercialization of agriculture.

Only two among our sample villages have shown signs of adopting improved practices of farming, intensive utilization of lands and market-oriented cultivation. The farmers of these villages have done all these in spite of unavailability of power (since these two villages are not yet connected by the power transmission lines). Naturally the cost of production in agriculture is higher there, which can be moderated by power supply. These two villages represent many others of their like, which cannot perform their best due to unavailability of power.

Additionally, the power supply helps in improving the quality of life not only by expanding the scope of utilizing the modern electrical or electronic equipment that reduce drudgery, it also helps in expansion of literacy, education, dissemination and use of information, etc.

Manufacturing activities cannot develop without assured supply of power. The poor state of development of the secondary sector in the study area is partly due to unavailability of power.

Therefore, it is of utmost importance that the villages yet unconnected to transmission line are electrified and the connected ones are given an assured power supply. Power generation by alternative and non-traditional technologies also may be attempted.

**IX.8. Improvement in Marketing and Finance Facilities :** Another discouraging feature of the remote villages of the study area is the lack of proper marketing facility due to which farmers do not get satisfactory price for their produce. Therefore, the weekly markets should be organized for the villagers at every 5 to 10 square kilometers distance so that they can easily buy and sell their farm inputs as well as farm produce. Government should



make necessary arrangement to set up Agricultural Marketing and Co-operative Societies at these market places. These societies should buy the farm produce from the farmers at remunerative prices when the prices of these goods fall, and sell certain goods at low price when their prices shoot up. This will encourage the rural farmers to go in for intensive cultivation as well as raise the productivity in agriculture.

The new technique of cultivation involves investment of capital. And the farmers have to bear the burden of risk and uncertainty as soon as they invest capital in farming. This generally leads most of the farmers to think twice whether they should adopt the new technology in cultivation or not. Therefore, in order to make the farmers free from such uncertainties, they should be given crop insurance schemes so that enterprising farmers can invest in the farming sector without a fear, risk and uncertainty.

Financial institutions like banks, insurance companies, etc. should be extended to the rural areas to facilitate the farmers and non-farm entrepreneurs with credit facilities at low rate of interest and insurance covers. The Government should encourage such financial institutions to expand their branches into the places like Bariachowk (a central place for the new small tea-growers, having a growing small weekly market), Khawrongchowk (having a weekly market), Goraibarichowk (small weekly marketplace), Bichimari (famous vegetable market under Dalgaon Circle), Kaopati (enterprising immigrant farmers' area), etc. This would encourage the rural masses to go in for starting various household and small-scale enterprises as well in the area.

**IX.9. Promotion of Human Capital for Enterprise:** It is a fact that in the rural areas the number of school dropout of the young people of class V to IX and X standards is very large. Instead of remaining idle or joining cultivation to increase the number disguised unemployed labourers, they should take initiative to acquiring training and expertise on useful trades and skills and become self employed. This will reduce the number of dependents of

agriculture as well as it will solve the unemployment problem to a certain extent. In fact, in a rural area where the incidence of poverty is very high one cannot start with a big business establishment overnight. One has to start with a well planned and well-managed enterprise howsoever small it may be. If one succeeds in doing so, he can extend the enterprise the smaller to the larger. Most of the people think of establishing big enterprises without having any plan, policy, training and expertise. That is why they do not succeed in their business carrier.

The rural areas are much lagging behind in technical labourers. The prevailing education system has been imparting the general education in different disciplines without giving any heed to technical or practical education. The dignity of manual work or labour is very low in the rural society. Once a person is a little educated he would not like to do manual work. He keeps on looking for some job, which does not involve manual labour. This type education system has not been able to serve the purpose of providing productive livelihood to the people. Therefore, the government should establish multi-purpose technical institutes at various centres of the areas. This will encourage the rural people to acquire technical educations like mechanics, carpentry, etc. and open their own business establishment. This will not only increase their household income, but also it will reduce the excessive pressure of population on land.

Above all, the rural masses must be educated. They should be taught not only to read and write so that they may know what is going on and around the world, but they should also be taught to come out of the discordant social institutions, customs and traditions, etc. which stand on the way of economic advancement. This would help the people to accept new technology entering to the society from any part of the world and promoting economic development.

Finally, economic development depends much on the 'will' of the people of the area concerned. If the people have the will to improve their economic

conditions by earning more from agriculture, animal husbandry, small-scale industries, etc. they themselves must take interest in it. Rural people will have to adapt and adjust themselves to the changing situation and environment that are emerging around them. Otherwise, even if the government, or for that matter any other external agencies, give all the facilities for development, that would go in vain.

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