CHAPTER TWO

REVIEW OF LITERATURE

The review of past literature makes an insight into the studies already conducted in this area. It provides some conceptual and theoretical basis for identifying the relevant variables to be included in the analysis. Many studies have been evolved in recent years concerning agricultural performance in terms of growth and productivity and human development. Some of the standard literature related to the subject under study is mentioned in this chapter. This chapter is divided into three sub-sections and highlighted under the following headings:

2.1 Agriculture and Incidence of Poverty for Human Development

2.2 Agricultural Performance and Human Development

2.3 Conclusion

2.1 Agriculture and Incidence of Poverty for Human Development:-

World Development Report (2008) has made a clear analysis on the basis of agricultural performances and human development perspectives of the situation. The report has discussed the role of agriculture in the third world countries and influences the human development there.

Agriculture can be the lead sector for overall growth in the agriculture-based countries- Agriculture contemporary has a well-established record as an instrument for poverty reduction. But it can also be the leading sector of a growth strategy for the agriculture- based countries.

Compared with successful transforming countries when they still had a high share of agriculture in GDP, the agriculture based countries have very low public spending in agriculture as a share of their agricultural GDP (4 percent in the agriculture-based countries in 2004 compared with 10 percent in 1980 in the transforming countries. The pressures of recurrent food crises also tilt public budgets and donor priorities toward direct provision of food rather than

investments in growth and achieving food security through rising incomes. Where women are the majority of smallholder farmers, failure to release their full potential in agriculture is a contributing factor to low growth and food insecurity.

The report has been successful to address the major issue of linkage between agriculture and human development. The relationship between agricultural growth and quality of life in rural areas through poverty reduction with food security and nutritional status has been discussed. Thus the report is related to the objective and hypothesis of the study concerned.

Rosegrant et el (2007) analysed the interlinked role of agriculture and human development. Agriculture can be the main source of growth for the agriculture-based countries and can reduce poverty and improve the environment in all country types, albeit in different ways. This requires improving the asset position of the rural poor, making smallholder farming more competitive and sustainable, diversifying income sources toward the labor market and the rural non farm economy, and facilitating successful migration out of agriculture.

Population pressure together with declining farm size and water scarcity is also major challenges in many parts of Asia. Enhancing assets requires significant public investments in irrigation, health, and education. In others cases, it is more a matter of institutional development, such as enhancing the security of property rights and the quality of land administration. Increasing assets may also call for affirmative action to equalize chances for disadvantaged or excluded groups, such as women and ethnic minorities.

The work undertaken above explains the role of agriculture in the development of LDCs while the role of institutional reforms have positive impacts on the rural development. The positive role of government in the institutional development has been redefined.

Food and Agricultural Organization (2006) made an analysis of agricultural growth and food security linkage and human development.

Today, the world has more than enough food to feed everyone, yet 850 million are food insecure. Achieving food security requires adequate food availability, access, and use. Agriculture plays a key role in providing (1) food availability globally (and nationally and locally in some agriculture-based countries); (2) an important source of income to purchase food; and (3) foods with high nutritional status. Investments in agriculture are important to increase food security. The channels are complex and multiple. Rising productivity increases rural incomes and lowers food prices, making food more accessible to the poor. Other investments—such as improved irrigation and drought-tolerant crops reduce price and income variability by mitigating the impact of a drought. Productivity gains are key to food security in countries with foreign exchange shortage or limited infrastructure to import food. The same applies to households with poor access to food markets. Nutritionally improved crops give access to better diets, in particular through bio-fortification that improves crop nutrient content. The contributions that agriculture makes to food security need to be complemented by medium-term programs to raise incomes of the poor, as well as insurance and safety nets, including food aid, to protect the chronic and transitory poor.

The FAO report has successfully highlighted the danger arising from food insecurity which is a function of low agricultural productivity and low income in rural areas. The role of agriculture in the determination of food security, nutrition, health is immensely important which in turn determines human development. The study suits completely to the present scenario of the Barak Valley region.

Thirtle et al (2001) discussed the impact of agricultural productivity on poverty and human development in LDCs. He made regression analysis of cross section data based on different indicators which reveal the impact of agricultural productivity on poverty in developing countries and then leading to the effect on human development parameters. Further, the study showed that increases in poverty and economic growth form an exceptional combination. More recent

research, made possible by the new database, also supports the view that growth tends to reduce poverty. Yet, a number of reasonable mechanisms whereby growth could lead to a worsening in the conditions of the poor exist, and macro-level studies might simply be too general to identify these relationships.

Research led technological improvement in certain LDCs including India showed that agricultural growth has made it possible to reduce poverty and development in the rural living standard. But population explosion turned the scenario worse and situation could not be improved much.

The above study proved a positive linkage between agricultural development and poverty reduction by regression analysis and both cross section data and time series data have been used. Role of agriculture in the overall development of the rural sector was emphasized.

Dasgupta (1998) makes a convincing case for the existence of poverty traps that might be reinforced by growth. Among other mechanisms, he points out that economic growth in developing countries, in the context of a relatively high income elasticity of demand for cereals, can induce grain prices to rise, further impoverishing the poor. He also suggests that technological change in agriculture can result in an erosion of the local commons that often form an essential source of livelihood of the poor.

The economics of poverty is a peculiar phenomenon which decreases with agricultural development but increases when price of agro-products increases and inequality is reinforced. He shows that population growth along with demand for raw materials have an indirect impact on the relative poverty in LDCs.

The World Development Report (1990) took the promotion of broad-based growth as the first prong of its strategy to reduce poverty, but the meaning of broad based growth was never defined, so it was interpreted to refer to the labour-intensity of growth, its geographical or distributional impact, or the sectoral pattern of growth. This may be the case, but there remains the situation where growth associated with progressive distributional changes will have a greater impact in reducing poverty than growth which leaves distribution unchanged. The

key question in this study is the extent to which agricultural growth can be expected to be pro-poor, a question that is now addressed- *Is Agricultural Growth Pro-Poor?* Thus, the distribution consequences of different sectoral growth patterns need to be examined.

Datt and Ravallion (1996) shows that the inter sector composition of economic growth matter to the poor in India. First, rural growth reduces poverty both in rural and urban areas, but urban growth does not alleviate poverty in rural areas. Second, a decomposition of growth in terms of output sectors establishes that growth in the primary sector benefits the poor in both urban and rural areas, while growth in manufacturing has no impact on poverty in either. He produces similar findings for Bangladesh, where simulations show that rural growth reduces poverty 3% more than urban growth, and the differential effect on the poverty gap is greater. A similar conclusion for Indonesia was reached. The significance of agriculture for poverty reduction is also confirmed by results from cross section data sets.

Dayal (1984) studied three indexes of agricultural productivity-land productivity, labor productivity, and aggregate productivity-have been employed to measure and map productivity patterns in India. There are large regional inequalities in the levels of productivity. Regression analysis reveals that the spatial variation of land productivity is positively related to fertilizer use, irrigation, and urban-industrial development and is negatively related to population density. Labor productivity is positively associated with agricultural wages and fertilizer use and negatively with the density of agricultural workers on net sown area. Aggregate productivity is positively associated with fertilizer and irrigation use and negatively with the densities of population and agricultural workers. The significant explanatory variables in the regressions explain 61 percent of land productivity, 57 percent of labor productivity, and 42 percent of aggregate productivity.

Agricultural wages in rural India are appallingly low and have not increased in the same proportion as the cost of living. It is a major cause of wide poverty existed in India. The profitability of agriculture has greatly improved, but profits

have not been passed on to the workers. To increase labor productivity there is need for increasing agricultural wages in several areas. Thus agricultural productivity is highly inclined with employment, wages and human development in rural India.

In Barak valley also we find similar situation where land productivity is at par with the national average; even in Cachar district, the per hectare rice yield has been higher than the national average but labor productivity is lower and quality of life is much lower.

Gallup et al. (1997) did a cross-country examination of the relationship between growth and poverty by establishing that a one percent increase in agricultural GDP leads to a 1.61% increase in income of the poorest quintile, while the corresponding values for the manufacturing and services sectors are only 1.16% and 0.79%. Other cross-country studies provide further evidence of the pro-poor bias of agriculture.

They argue that agricultural growth reduces poverty so effectively, as in addition to generating income for poor farmers, it generates demand for goods and services that can easily be produced by the poor (non-durable consumer goods sold by small shops, market trading services, hoes, ploughs and other capital goods etc). However, if land and income distribution is highly skewed, as is common in Latin America and some SSA countries, consumptions patterns of landowners are skewed toward imported or capital intensive consumer goods rather than the products of the small scale labour intensive domestic manufacturing and services, which dampens the effects. Bourguignon and Morrison, using a sample 38 small and medium size developing countries find that growth in agriculture and in basic services reduced poverty more than expanding industrial output. In Barak valley also, agriculture is yet to play its role using underused potential.

World Bank Report (2000) highlighted the poverty-human development linkage and the role of agriculture, technology, education, health and infrastructure together. Estimates of the proportion of the world's poor that live in rural areas

range from 62% (CGIAR, 2000) to 70% (ODI, 1999). In 31 out of 35 countries for which data is available, the percentage of the rural population living in poverty is higher than for the urban population (World Bank (1999).

The fact that agriculture's share of GDP is far lower than its share of employment similarly indicates that, on average, rural people are poorer than urban. Thus, for Africa, agriculture accounts for 35% of GDP and 70% of employment, from which it can be inferred that output per capita in agriculture is only half that for the rest of the economy (World Bank, 2000b). Often, the gap is larger: for example, in Botswana, agriculture accounts for only 3.5% of GDP, but is the primary source of income for 50% of the population. In Barak valley also more than 70% of population is directly related to agriculture and its role in the development of the valley is enormous.

2.2 Agricultural Performance and Human Development:-

Canadian International Development Agency (2003) has made an analysis of the link between agriculture and education, health, forestry, environment to ensure sustainable rural development. The study has made a significant contribution by linking agriculture with millennium development goals. Agriculture can make significant contributions to attain the MDGs. It is the sector from which most of the rural poor in developing countries derive their income, and both rural and urban people obtain most of their food, which is produced largely by women. As agriculture depends heavily on the natural resource base, it influences environmental sustainability. Agriculture is also closely linked to human health and education. An estimated 1.2 billion people are absolutely poor, living on less than US$1 per day; nearly twice that number live on less than US$2 per day. Currently, about 800 million people go hungry each day. Approximately 75 percent of the absolute poor in developing countries live in rural areas, where they depend mostly on agriculture for their livelihoods. Thus, reducing poverty in rural areas, and hunger in both rural and urban areas, will depend heavily on the sustainable development of agriculture.

Women are responsible for half of the world's food production and between 60 percent and 80 percent of the food in most developing countries. Not only are women the mainstay of the agricultural food sector, labour force, and food systems, they are also largely responsible for post-harvest activities. Their specialized knowledge about genetic resources also makes them essential custodians of biodiversity for food and agriculture. However, women's fundamental contribution is continually under-appreciated and under-supported, and is often adversely affected by prevailing economic policies and other development conditions. These circumstances must be reversed.

Mehta (2002) made an endeavor to study linkage between growth and human development. Social sector indicators like life expectancy, nutrition, education etc play a vital role in the development of per capita income in India. He took the period from 1980-1996 to show a data based study on Indian economy. The regression analysis showed a positive link between reduction in infant mortality and improvement in life expectancy with rising per capita income. Agriculture plays a vital role in the development of the LDCs as almost 65% to 70% people in those countries derive their income from primary sector activities. But this sector suffers from low efficiency and low efficiency stems from poor health conditions.

The study done by Mehta denotes the interlinked role of health and nutrition in the determination of productivity while health conditions are themselves determined by productivity. The work can be related to the objectives and hypotheses of our study as role of primary sector in the determination of social sector development indicator.

Goswami (1972) made a study of agricultural production in Assam where he showed that marketable surplus and marketed surplus were lower in Assam. It inhibits efficiency. Per head consumption in Assam could not grow even after increase in production over the year due to increase in population while nutrition and food security are essential for human development. Diversification of crops is also vital for increasing rural income and standard of living.

In his study, the author has redefined the role of commercialization of agriculture in true sense of the term. Assam is still governed by the low level equilibrium trap and vicious circle of poverty. Agricultural infrastructure is very weak in the state in every regards whether irrigation or mechanization or financial inclusion. The marketable surplus is lower in the state indicating prominence of subsistence farming and lower marketed surplus indicates poorer marketing facilities available in the state.

Thus we find that lower marketable and marketed surplus is resulted from poor efficiency conditions while overall development of agriculture is a must to attain required food security and human development.

Todaro (1987) made an international study and found that those countries having high standard of living or quality of life like U.S.A, U.K., Germany, France, Australia, China, Canada etc are also having very high growth rate and agricultural productivity. Industrialization and urbanization can take place only with efficient agriculture.

Thus the role of agriculture in the development of the economy as a whole and improvement in the quality of life has been emphasized. All the countries of the world having higher standard of living do exist with highly productive agriculture. The empirical works of Todaro shows that there exists a positive relationship between higher standard of living and improved rural economy. The country with highest Human Development Index i.e. Sweden exists with productive farm sector and allied activities.

Singh et al (1982) in a study in north India found that green revolution changed the life style in different rural areas while quality of life was found to be worse where neither new technology was adopted nor modern schools were established. Many villages are there where land lords and influential people do not allow female education or education to farmers. They made an endeavor to study various social and cultural variables responsible for adoptions of modern tools and methods of productions. He studied the phenomena for Agra district in

Uttarpradesh. People's education and backward attitudes towards agriculture play a big role in determination of production efficiency.

Agricultural Productivity raises nutrition required by the population in the unit area, to measure carrying capacity, which he called farming efficiency. He then compared the carrying capacity of each area with that of the nutrition intake method. As this method excludes all nonfood crops, it does not appear satisfactory for measuring agricultural productivity. In some parts of India nonfood crops, such as cotton, jute, oil seeds, and tobacco, dominate the cropping pattern; therefore, their exclusion is certain to give a deceptive picture of the productivity pattern.

However the study explained the interlinked role of agriculture and social sector development indicators. In the determination of farm level productivity, the role of education, health, nutrition, attitudes, culture, social and political institutions are enormously important.

Duraiswamy et al (1990) provided that agricultural production is highly and positively linked with education. Educated farmers are more organized and technically efficient than their uneducated counterparts. His findings indicate that educated farmers earn 20% more profit than illiterates. Another micro research showed that education increases the farm output by 11% and marginal value product of education is Rs 150 while Duraiswami found marginal productivity to be Rs 356. The study in Tamil Nadu found that better health index has made improvement in wages and labour supply. Health status and its impact on wages and labour supply are highly important for improvement in quality of life in rural sector.

The interlinked role of productivity and education has been emphasized while it has been empirically estimated that better education leads to better performance. More human development leads to higher agricultural productivity and redefined the policy prescription for improvement in the educational standards in rural sector.

Sen (1981) argues that to understand poverty, starvation and malnutrition, it is necessary to understand ownership patterns and exchange entitlements, which in turn requires an understanding of modes of production and the class structure. He attempts to document the theory, drawing an experience from major famines such as the Great Bengal famine of 1943, the Ethiopian famine of 1973-75, famine in the Sahel region of African the early 1970s etc. It seems that some of the worst famines occurred with no significant fall in food availability per head. What does the entitlement to food depend on is the major question he wanted to answer. The major factors are –

- It depends on the ability of individuals to exchange productive resources and goods for food.
- The ownership and employment status of the people- for example whether they are owners of land, labourers, peasant farmers, sharecroppers and so on.
- Non working income in the form of subsidies and transfer payments from the government.
- The terms of trade between food and other goods.

The above study raises the important question of food security which can be ascertained by not only increasing the production but also by increasing the employment and income opportunities from farm sector as well as from other sectors.

In Barak Valley also we find that agriculture is not seen as profitable business, even largely farmers are marginal or small farmers who have little ownership and exchange entitlements. Many farmers can not even produce their own food. As a result their entitlement is lower leading to food insecurity and poor human development.

Gibson et al (1998) explored the relationship between nutritional status and agricultural production amongst a sample of rural households in the KwaZulu-Natal province of South Africa. The measurements chosen are those of height-for-age (H/A), weight-for-age (W/A) and weight-for-height (W/H). Trends in

H/A reflect long-term changes in the physical and social environment, and their nutritional consequences. Those children who are short for their age, according to an agreed reference standard, are referred to as being *stunted.* Trends in W/H or W/A reflect short-term changes in food consumption and/or disease experience, and in those who do not perform adequately the condition is referred to as wasting.

Results from a nutritional assessment of children between 0 and 60 months (4 years) revealed that 35 per cent of households have stunted children. The occurrence of underweight children was less (10 per cent of households) but they were from the same households. Results from regression analyses and a logit model show that household size has a significantly negative effect on child nutrition, while the effect of formally and informally employed households and household income on child nutrition was inconclusive. Households with access to seeds and fertiliser, and strong family involvement in agriculture seem to be less likely to have stunted children and are therefore considered to be better nourished. These results indicate that agricultural activities make a positive contribution to household nutrition, which suggests that designing effective programmes for improving agricultural productivity in the less-developed areas of South Africa could have a potentially positive impact on household and child nutritional status.

Kennedy et al (1987) put forward a relationship between agricultural production and health status for comprehensive development of the rural economy. The main purpose of this analysis is to determine the link between agricultural production and child nutrition and to analyse the impact of agricultural commercialisation on household nutrition. In order to model the determinants of child nutritional status, it is assumed that exogenous factors will have a major impact on the dietary intake of children. Ideally, variables providing an indication of the health and sanitation environment, dietary intake and seasonal effects would be required to provide a good prediction of the factors influencing household nutritional status. In addition, several follow-up surveys usually also lead to better results. This study relates household characteristics, income data (farm and non-farm) and

information on households' agricultural activities to household nutritional status. It is therefore postulated that child nutrition is affected by the age and gender of the child, the number of people in the household (and also the number of dependants), household income and the extent of agricultural activities. Variables included in the model are related to household characteristics, income and crops produced, and a number of variables indicating the adoption of new technology such as the use of chemical fertiliser and hybrid seed. The argument is that households with stronger involvement in agricultural activities should have better nutritional status.

Reutlinger (1994) have compared the conditions of food security and food insecurity in order to understand the causes for hunger, starvation and deprivation. Food security is defined as access by all people at all times to enough food for an active healthy life. It's essential elements are the availability of food and ability to acquire it. Conversely food insecurity is the lack of access to sufficient food and can be either chronic or transitory. The worst form of transitory food insecurity is famine while chronic food insecurity is a continuously inadequate diet resulting from inadequate resources to produce or acquire food. Security against chronic food insecurity according to Reutlinger can be achieved by an appropriate mix of policies related with (1)income transfer i.e. transfer payment in cash or kind to the poor, who are at high risk of food insecurity; (2) subsidized food prices i.e. to reduce prices of selected foods to all consumers without reducing the price paid to producers and (3) efficient food supply policies i.e. by identifying and supplying them with traded and non traded food items either by increased production or by proper distribution.

Sen and Dreze (1989) have analysed the interlinked issues of human development and agriculture as conceptual phenomenon like entitlement, endowment and deprivation are related to food security and social development indicators. The major issue they have emphasized is that of social security. Social security without food security is impossible to achieve. In the developed countries of Europe, North America and Japan the social security has been

provided much easily by the government only because there exists a sound food supply and assured income sources.

In less developed countries of Asia, Latin America and Africa the food security is a major issue and provision of social security can not be obtained one-sidedly. The under nutrition that haunts a larger part of humanity relates to a wide range of deprivations. The connection between different types of deprivation is not only biological but also economic and social. If one does not have much to exchange, one can not demand very much, and may thus loose out in competition with others whose needs may be good deal less acute, but whose entitlements are stronger. In these circumstances food security happens to be the only means to combat deficiency and deprivation. In their book they explained also the role of public action to emphasize hunger as a major policy and reduce this.

In our Barak Valley also we see enough connection with study reviewed above. Exchange entitlements are poor as rural development has been ignored or did not take place. With the country, we have seen increase in the agricultural production yet the per capita availability of food grains and nutrition has not been hopeful.

Economic Survey (1995-96) in India showed that those states which have performed better in the health indicators and basic education have also been able to improve the condition of rural scenario. Rural development has been fastened in AndhraPradesh and TamilNadu by improvement in social indicators. Rural development in the states is direct effect of participation of conscious people.

HDR (1996) and NCAER (1996) developed and applied a methodology to measure capability deprivation called capability poverty measure (CPM) for different countries and states. It includes (a) percentage of children under five who are underweight, (b) percentage of births attended by trained personnel and (c) percentage of women aged 15 years or above who are illiterate. A cross country analysis showed a negative linkage between rural development and CPM. HDR found that deprivation based on capability has strong interconnection with the farm and allied activities in LDCs.

NCAER estimated CPM for Indian states. The diversities are much higher and linkage with agrarian set up and rural development index has been analyzed. With higher CPM rural development index has been found to be lower while there is wide variety in CPM also. Rural female literacy varies from 4% in Barmer district of Rajasthan to 98% in Kottayam district of Kerala.

UNICEF (1997) and UNDP (1997) showed a list of 21 human development indicators for India, Pakistan, Bangladesh and Sri Lanka. Gender related indicators, health indicators etc are highly significant with lobour force employed in agriculture and food consumption per capita. Nutrition and agriculture are positively linked with health and gender development indicators.

Bhattacharya (2009) showed that human development index in West Bengal has improved in Hoogly, Burdwan, Howrah etc due to rural income from increased productivity, access to better nutrition, and its impact on the health index. But due to lower rise in productivity in Dinajpur, Maldah and Coochbehar, the HDI is lower while HPI is higher.

The work by her made a clear cut discussion of impact of agriculture on human development index and human poverty index. The role of farm and allied activities in the determination of social sector development indicators has been redefined. As Barak Valley is mostly agrarian in nature and structure the role of agriculture in the determination of human development is highly important.

Bezbaruah (1994) studied the application of new technology in certain areas of Assam and found that the rural income along with infrastructure, public utility services etc have improved the quality of life in rural Assam better than those districts where agricultural productivity is lower. His regression analysis showed that area under HYV seeds and machines are higher for those farmers whose nutritional status and other health indicators with basic education are higher.

Parthasarathy (1975) studied changes in rice varieties in the International Rice Research Institute in Philippines for south Asia and found that expansion in marketing and production technology of rice is positively associated with education, extension services , investment in social overhead capital etc. his study is a milestone regarding contribution of social sector in the development of agriculture.

2.3 Conclusion:

In the course review of literature, it is found that agricultural development has been analyzed from different angles while its impact on human development has been observed. Many factors have been analyzed which play a vital role in the determination of human development. Especially the World Development Report and Food and Agricultural Organization report are very important sources of not only deriving prior knowledge but also having an insight in to the empirical surveys made till now. Some books and E-journals have been found which have positive reflections on the study concerned. Incidence of poverty has strong linkages with both human development and agricultural development. Studies by Rosegrant et al (2007), Dutta and Ravallion (1996), World Bank report (2000), Dayal (1984), Dasgupta (1998), Thirtle et al (2001) etc have nicely analyzed the relation between agriculture and incidence of poverty in LDCs.

Other studies by Mehta (2002), Bhattacharya, Goswami (1972), Gibson (1998), Kennedy (1987), etc made empirical analysis of quality of life in relation with agricultural productivity and rural development. They have made micro level data analysis to show a positive link between education, nutrition, health and extension services with agriculture. Studies of Duraiswami (1990), Kennedy (1987), Bezbruah (1994), Sen (1984), Singh (1984) etc discussed the theoretical and empirical relationship among health, capability, entitlements, freedom, education etc with farm productivity, food security and rural development.

However there are large scope left to identify and analyze the role of factors which determine the linkage between farm sector and human development. Some studies have been done in south, north and eastern part of India where

relationship between education and productivity, farm output and nutrition, relation between farm level efficiency and poverty reduction along with social sector variables etc have been studied. However these are mostly micro level studies. For instance, the work of Duraiswam (1990) shows that more years of schooling and extension services in Tamilnadu have raised both return and wages. Or say Gibson's (1998) study finds a significant relation between farming and household nutrition in South Africa. But direct studies on correlation between human development and agriculture are too few.

Many things are yet to be studied; say those important factors determining the Technology Adoption or Marketing of agro-produce and linkage to the Quality of Life in rural area. Most importantly a comprehensive Agricultural Performance Index which can highlight the entire picture or all facets of agriculture can be formed to study its linkage to the Human Development in the Barak Valley. Moreover mechanization is an important part of agricultural performance; now has it increased the employment or not, if no is the answer, then whether quality of life has improved or not (being involved in other occupation)? Does it mean that farming is not a profitable business in the valley? Or how a composite policy mix of agriculture and human development can play a lead role; or how improvement in agriculture can play an important role in the social sector development; why even after having higher productivity in staple food the Valley is lagging behind? Is it possible to improve the quality of life with agricultural occupation? Moreover a comprehensive study which relates human development and agriculture are few. In this valley this type of study has not been found till now. Thus a comprehensive study towards 'agricultural development in the determination of social sector development' is essential.

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