Indian economy is basically an agrarian economy and even now nearly 68 per cent of workforce directly or indirectly depends on agriculture. Thus, it still provides large-scale employment opportunities as being a major contributing factor for this labour-surplus economy. However, agricultural stagnation and agrarian distress is a subject of widespread discussion in recent years. This has been projected in a high degree of instability in farm incomes which have serious implications on living conditions of the people living on agriculture. This is due to adverse weather conditions which affect crop yields leading to wild fluctuations in prices of crops. Many regions in the country are under the grip of economic and environmental stock. Though the economic and environmental stocks have affected the entire population depending on agriculture, its intensity is very high in rainfed agricultural regions. Reduction in agricultural incomes of the farmers in rainfed regions has been manifested in the form of suicides. The farmers in these regions are greatly affected by environmental vulnerability and poverty. Governing by all people living in rainfed agriculture on an average lag far behind the rest of the world in human well-being and development indices. A large number of regions in India are characterised as drylands where conventional rainfed agriculture is practised. In this context, many studies are conducted on the livelihood and poverty and the consequences of dependence on dryland agriculture with a focus on socio-economic aspects. Problems such as rural poverty and livelihood of small holdings differ from region to region and the intensity varies from person to person. Area specific and indepth studies on agrarian distress in dryland regions are a few in number and time has come for researchers and academicians to conduct detailed analysis of distressed conditions of farm households in dryland agriculture.
The crop production in the predominantly rainfed regions could not come under the purview of green revolution technology and agricultural production in these regions retained the characteristic of year to year weather borne sharp fluctuations. This has resulted in accentuation of disparities in agricultural growth, especially between irrigated and rainfed regions. Consequently, agricultural researchers have identified three major growth depressing characteristics of dryland agricultural areas, such as harsh physical conditions, low priority in developmental policies and investment, and inability to compete with stronger and more modernised and dominant part of the economy. Often these growth depressing characteristics get manifested in weather and price induced instability. Thus, in fact dryland populations on an average lag far behind the rest of world in human well being and development indicators. These regions are characterised by chronic poverty and unstable income with little prospect for increasing agricultural production and absence of alternative employment. Population pressure with limited chance for improvement in livelihoods coupled with devastation of natural resources is aggravating the poverty situation still deeply.

Despite concerted efforts made in the past to improve the productivity by transferring improved technologies, gain in terms of higher yield and income have not been spectacular due to associated risks like aberrant weather, land degradation and poor socio-economic base of the farmers. Although a major constraint to dryland agriculture is deficient water, hazards such as insects, diseases, high winds and intensive rains can also destroy crops in a matter of minutes or days. Farmers in dryland regions are often resource-poor and these regions are usually at low priority in terms of allocation of national resources. There are three constraints in dryland agriculture viz, physical, technological, institutional – infrastructural and socio-economic.

The physical problems such as surface soil hardening, compaction by tillage implements, susceptibility to water and wind erosion, low fertility,
shallowness, hardening, restricted drainage and salinisation also affect crop production. Soil chemical problems which include low inherent fertility, acidity, toxic levels of aluminium or other elements and low nutrient-holding capacity and such kind of sub-optimum soil environment would greatly affect the cycling and transformation on nutrients present in organic form leading to unstable biological activity in soils which is generally much lower in dryland than in more humid zones.

The technological constraints such as high or too low plant densities, contour ridging, tied ridges, water harvesting, organic and chemical fertilizers, green manuring, weed control, erosion control practices, agro-forestry etc, are also apparent in dryland farming. Animal and mechanical tractions are not economically and socially acceptable to the farmers.

Affordable credit at affordable terms has not been provided to the farmers by the institutions. Another constraint the farmers face is marketing of their produce, at a better price. Unavailability of convenient transportation is also the constraint that the farmers frequently face.

Extensive population pressure leads to conversion of grasslands and forests to cropland, with expansion normally progressing into less and less favourable areas. Land ownership pattern is based on the culture inherited traditions. This often results in dividing land into small blocks. With small land parcels, use of machinery is much more difficult. Often the land division occurs up and down the slope, making it difficult to use sound soil and water conservation practices such as terracing, contouring and other methods of cross-slope farming.
8.1 Research Problem

Andhra Pradesh, the granary of India, has played a historic role in transforming India from a nation that was food deficient to one that is self-sufficient. The turnaround was so dramatic and achieved in a very short time that it was called a revolution, the Green Revolution. It is highly skewed in favour of certain regions and states. The Andhra Pradesh state with only 8 per cent of geographical area of the country has been contributing major proportions to national food reserves for the last few decades. Since the 1990’s, however the colour has been fading. After attaining an exemplary growth in production, agriculture in Andhra Pradesh has reached the crossroads from where sustaining growth appears to be an arduous task. Many observers on agricultural issues in Andhra Pradesh paint a picture of decay and degradation of agriculture. Most of the experts have expressed persistent concerns and focused on the margin of profit from major crops and farm income. The agrarian economy of Andhra Pradesh today stands at crossroads. The majority (nearly 80%) of the cultivators and all the agricultural labourers are beleaguered by stagnation. A majority of small and marginal farmers have already been pushed below the poverty line.

In the state of Andhra Pradesh nearly 60 per cent of the net sown area is under rainfed conditions. The depletion of ground water, degradation of soil health and soil texture, deterioration of ecology and environment in dryland agriculture are other very serious challenges that agriculture in Andhra Pradesh is facing. The existing cropping pattern and crop-technology in dryland agriculture offer no solution to these problems. This has led to the source of distress in agriculture, where the only source of income for the people is cultivation. This challenge which dryland agriculture faces today is also bound to have social effects. In fact, dryland agriculture in Andhra Pradesh has reached a stage where its viability and sustainability is in doubt.
After a spectacular growth rate during the seventies and the eighties, the Andhra Pradesh agricultural economy began to slow down in the late 1990’s and decelerated further during the 2000’s. Much of the growth slowdown originated from the dryland agricultural sector. A major portion of area in the state which is under rainfed suffered stagnation or poor growth. Thus, the Andhra Pradesh farm economy has reached at a stage rendering the fate of large agricultural population in doldrums.

There has been growing concern that declining rates of productivity growth due to diminishing growth in yields of the major crops, and degradation of the water and land resource base. Owing to sheer stagnation in yield, the per hectare return on land for major crops continues to decline. The per annum trend growth rate of return from major crops, over variable cost has declined during 1990’s. This has further aggravated the problems of Andhra Pradesh agriculture and farmers, in particular of dryland agriculture and that of Andhra Pradesh economy in general.

The growth of Andhra Pradesh agriculture depends to a large extent on the potential of rainfed agriculture, which has not been harnessed effectively so far. This characteristic among others has resulted in grave economic fallouts for the farmers leading them to commit suicides. The economic and social problems related to dryland agriculture are numerous, but it appears that the greatest concerns today are the issues of declining livelihood conditions, which manifest into various forms and with varied and complex results leading to social implications also.

In spite of the policies and programmes that are being implemented over the years, the factors and processes underlying the agrarian distress among dryland farmers have found to be unaddressed. Inspite of huge investments in dryland regions agricultural yields are more unstable in rainfed areas than those in
the areas where incretion is assured. Hence, incomes of the farmers are unstable in rainfed areas. These areas are characterised by higher poverty than that in irrigated areas. The measures taken by the government have not helped to raise the income of the farmers and have not reduced the poverty much.

The need to study the performance of dryland agriculture, its impact on livelihoods of the farmers is, therefore important for this research work to find out rational answers to many questions which are needed to be addressed. For instance, despite the policies and programmes that are being implemented over the years, why is the fate of large agricultural population in doldrums? How is it affecting socio-economic network? what are the effects? This research work has attempted to shed some light on the above mentioned questions and issues. In addition, this study has also attempted to give new recommendations or guidelines after assessing the research conducted. Future perspectives for the farmers have also been explored.

8.2 Need for the Study

Agricultural growth is one of the key factors in accelerating the overall development process of the Indian economy. In spite of spectacular growth in terms of production and productivity of agriculture during the last five decades of planned development, it is highly skewed in favour of certain regions and states. A major part of the country, where crop cultivation is in rainfed areas, suffered from stagnation or poor growth. Therefore agriculture in rainfed regions is progressing very slowly or stagnates. Nearly 52 per cent of the net sown area in Andhra Pradesh is under rainfed conditions. The growth of state agriculture depends to a large extent on the potential of dryland agriculture, which has not been harnessed effectively so far. This has resulted in high poverty among many rainfed farmers. On the emerging context of Indian agriculture the socio-
economic status of the farmers and the people in rainfed agriculture assumes critical importance because of growing concern about the slow growth and persistence of poverty and backwardness. There has been an over all concern that over all living standards of the farmers in dryland regions have been on decline when compared to those of the people living in other regions.

Andhra Pradesh is one of the major agricultural states of India. It occupies posivite position in terms of agricultural production in the country. The living standard of the rural class particularly in dryland regions has been on the decline. This is evident from the dwindling share of agriculture in the state gross domestic product, from about 25 per cent in 1993-95 to about 13 per cent in 2008-09. The magnitude of the problem is clear from the fact that while the share of agricultural income has been declining drastically, the proportion of population dependent on agriculture has not declined in an equal proportion. That is, two thirds of state population has to share this dwindled income.

The plight of farmers in dryland region of the state has come into focus with the farmers in this region migrating to urban areas for want of wage employment. A mono-cropped rainfed production system does not provide employment throughout the year and migration has been the common phenomenon among the members of the farm families, even there is a good rainfed. It is comparatively higher in drought year. This clearly reveals the story of declining income of the farm families depending on rainfed cultivation.

Thus the situation of farming under rainfed condition in the state reveals a great deal about the agrarian conditions in dryland regions of the state. This situation is compounded by deterioration in the political and institutional support to dryland crops when compared to irrigated crops like rice, wheat and sugarcane. The low qualities of education and health care in rural areas have become contributing factors to poverty and backwardness.
The need to study the functioning of agriculture and resource management with their impact on ecological sustainability and economic opportunities are therefore of paramount interest in both academic and policy circles. Much has been written on the slow agricultural growth and termed it as stagnation but little information was available on the possible reasons in specific socio-economic settings. Recent works on this area are found in annual growth. This study, therefore, has attempted to present an insight view of the performance of dryland agriculture on the livelihoods of the farmers in dryland region. This study has also tried to shed some light on the issue of social aspect, by finding out the relation between performance of dryland agriculture and poverty.

This has been highlighted by a number of studies in recent times. A notable declanation in the rate of growth of agricultural production, area and productivity of dryland crops has been found. This is leading to the dwindling income of the dryland farmers. Governing disparities between rainfed and irrigated agriculture have become matter of serious concern for the policy makers. Though, many studies are conducted on these aspects, problems such as rural poverty and livelihood of small holdings which differ from region to region and the intensity which varies from person to person are not touched. Area specific and indepth studies on agrarian distress in dryland regions of Andhra Pradesh are a few in number which are confined to limited area. So, it is proposed to conduct detailed analysis of distress conditions of farm households in dryland agriculture in Andhra Pradesh.

8.3 Research aims and Objectives

The main objective of the study is to look into the performance of dryland agriculture and distress among farm households within the framework of economic and social perspectives. It has been studied with the help of certain social and economic parameters. The study focuses on these specific objectives.
➢ To examine the changing trends in economy of dryland agriculture.
➢ To analyse the growth in area, production and productivity of dryland crops.
➢ To analyse the economics of cultivation in dryland regions.
➢ To analyse the socio-economic status of farm families in dryland regions.
➢ To analyse the factors influencing poverty among farm households in dryland region
➢ To suggest ways to counter the present trend in agriculture and hence improve the situation of farmers and farming in dryland agriculture in the state.

8.4 Methodology

This study is based on both Primary and Secondary methods of data. All the sample households were interviewed personally to collect the required primary data using structured questionnaire. The household survey was conducted to collect information on the socio-economic status which included employment, income and consumption expenditure and also access to basic amenities like safe drinking water, sanitation, school, transport, market, communication facilities etc.

A multi-stage random sample method is used to select 300 sample households from rainfed regions. In the first stage three districts are selected at random from the list of districts in each region in which more than 50 per cent of net sown area is under rainfed conditions. Thus, for the study, Mahabubnagar from Telangana, Prakasam from Costal Andhra and Ananthapur district from Rayalasema region in Andhra Pradesh are selected. In the second stage three mandals from every district are selected at random, from the list of mandals where more than 50 per cent of net sown area is dependent on rainfed. In the third stage three villages are selected at random, one from every one of the selected mandals by following the criteria that net sown area depending on rainfed is more than
half. Finally, farm households who are completely depending on rainfed crops in each one of the selected villages are listed by farm size. A proportionate sample of 100 farm households from different size groups are selected randomly from the list of farm households. The analytical techniques used in this study are descriptive statistics and simple and logit regression analyses.

8.5 Review of literature

Various studies carried out by a number of scholars and research institutions have proved that the economic policies of developing countries during past years had limited effects on development in the dryland regions, despite the prominent role of the dryland agriculture in the economics. The studies find that the development strategies have shifted resources away from dryland to irrigated production and from rural to urban areas. Besides, the fruits of Green Revolution have not reached the poor farmers in dryland areas. Since dryland farmers are poorer and are without any political influence, the adverse effects of macro economic policies fall disproportionately on them, in spite of the fact that they are often the primary producers of food crops. Further the reviewers have felt that crop productivity in dryland is low and unstable due to vagaries of weather. So traditionally, mixed cropping is the hallmark of dry farming and intercropping provides a certain insurance against uncertain weather. Integrating the dryland crop yields with watershed management programmes would improve and stabilize crop yields. Though there are a large number of studies on dryland agriculture, they are confind to one or other region. There is no comprehensive study covering all the dryland regions. The development strategies have had their impact differently in different regions. So far there is no comprehensive study on the distress conditions of dryland farmers in Andhra Pradesh.
8.6 Profile of the study area

The state of Andhra Pradesh is situated in the tropical region between the latitudes $13^\circ 20'\ N$ and $77^\circ 85'\ E$ and is bounded by the Bay of Bengal in the East with a coastal line of 960 Km. Andhra Pradesh occupies fourth place in terms of area and fifth place in terms of population. The percentage of literacy of the state is 60.47 per cent and 73 per cent of the population lives in rural areas. Agriculture is the main occupation of the people. The state consists of 23 districts and has been divided into three regions viz., Coastal Andhra, Rayalaseema and Telangana. The influence of south-west monsoon is predominant in Coastal region followed by Telangana and Rayalaseema and the North-East monsoon also provides high amount of rainfall in Costal Andhra, followed by Rayalaseema and Telangana.

Marginal holdings account for 61.49 per cent of the total holdings and control 22.69 per cent of gross cultivated area followed by small holdings who control 25.75 per cent of gross cultivated area. Medium and semi-medium holdings account for 16.01 per cent who control 45.51 per cent of gross cultivated area and only 0.46 per cent in the total holdings is shared by large holdings who control 6.06 per cent of the area under cultivation.

The food crops occupy predominantly higher place in the cropping pattern constituting 66.92 per cent of the total cropped area. Among the non-food crops, the share of groundnut is the highest representing 12.42 per cent followed by cotton with 9.83 per cent, 5.99 per cent of maize, 4.27 per cent of bengalgram, 2.94 per cent of sunflower and 3.11 per cent of redgram. All the pulses as well as cotton, groundnut, sunflower, jower, castor and tobacco crops are cultivated depending on rainfall.
In the state, 48.20 lakh hectares of cropped area is irrigated under different sources, accounting for 42 per cent and the remaining 58 per cent of the area is rainfed. Nearly 70 per cent of the irrigated area is under cereal crops. Among the cereal crops rice is the predominant crop occupying more than half of the total irrigated area (63.04 per cent). The shares of total food crops and non-food crops in the gross cropped area are 86.41 per cent and 13.59 per cent respectively.

The percentage of rainfed area to net sown area in the state is very high in Ananthapur district of Rayalaseema Region. In Coastal Andhra the share of rainfed in net sown area is very high in Prakasam district accounting for 70.80 per cent. In Telangana region the share of rainfed area is high in Mahabubnagar district which accounts for 83.58 per cent. The percentage of rainfed agriculture varies from region to region.

8.7 Trends in Dryland cultivation in Andhra Pradesh

The share of agriculture in state domestic product was 69 per cent in 1961, but during 2007-2008, it declined to around 20 per cent. Yet the share of workforce depending on agriculture has not declined. Nearly 65 per cent of the population in the state depends on agriculture for livelihood. The declining share of agriculture in state income reflects the dwindling income of the people living on agriculture. The decline in agricultural income is not countered by any increase in non-agricultural employment.

Land and water are crucial natural resources for any developmental activities. Land use pattern for the last 60 years in Andhra Pradesh indicates that the state has not reached the absolute limit of expansion of area under cultivation. It is found that there is stagnation in growth of land under cultivation. There is high growth in land use for non-agricultural purposes. The barren and
uncultivable waste has declined. Land under permanent pasture and other grazing lands recorded a declining trend over the entire period. The land under current fallow has increased during the period. The area under current fallows in Andhra Pradesh has been increasing due to erratic rain fall. No significant changes have been found in net area sown, during the sixty years period. Though the total cropped area found to be increased, this increase in total cropped area may be attributed to the increase in area sown more than once.

Land continued to be the pivotal property in terms of both income and employment around which socio-economic privileges and deprivations revolve. The trends in the changes in land distribution pattern reveal that increased population has led to sub-division and fragmentation of land holdings, on a continuing basis coupled with lack of alternative employment opportunities leading to proliferation of extremely small and uneconomical holdings. This proportion of tiny holdings has thus created a crisis like stagnation in the livelihood standard of farm households.

Nearly 52 per cent of net sown area is un-irrigated. About 50% of the rural workforce in the state is living on rainfed agriculture. The shares of rice, jowar and bajra in gross cropped area declined during 1957-58 to 2007-08 in rainfed area. The share of pulses, groundnut, cotton, and chillies in gross cropped area increased significantly during the same period. Low value cereal crops were replaced by high value crops like cotton, groundnut and pulses. Because of this shift low value to high value crops in rainfed agriculture, high cost of production and fluctuation of yields have widely affected the livelihood of the farm families. The stagnation in net sown area and pressure of population on agriculture sector have been worsening the living conditions of people living on agriculture.
The shares of cereals like jowar, bajra and maize under rainfed cultivation have been more or less stagnant; the share of rainfed groundnut in total groundnut area has decreased from 93.25 per cent to 86.37 per cent. Similarly the share of rainfed cotton has decreased from 99.41 per cent to 81.63 per cent. The shares of rainfed pulses like redgram, greengram, blackgram and bengalgram have been almost stagnant.

The agricultural growth in Andhra Pradesh can be measured in terms of area, production, productivity of major crops. The growth indicators of selected crops in dryland regions found to be fluctuating widely. These fluctuations will have direct and indirect impact on socio-economic conditions of the farmers.

8.8 Economics of Dryland cultivation

The analysis has been carried out with respect to the impact of dryland cultivation on resource use and farm business at the aggregate level i.e. all crops put together. However analysis at the disaggregate level, i.e., individual crops also carried out to throw light on the relative impact on resource use in dryland cultivation of different crops. An attempt has been made to examine the resource use and economics of predominant dry crops in the study area, i.e., cotton, chillies, redgram, greengram, groundnut, jowar and sunflower crops in the study area. The analysis has established that the intensive use of modern inputs in dryland cultivation, as per acre investment by all cost concepts is high among large farmers when compared to the other four farming categories. Farm size has also altered the total costs structure, between operational and overhead costs and also between paid out cost and imputed costs.

The cost structure and input use intensity of the principal crops grown in the study area reveals that major portion of cost has been incurred on human labour. The intensity of labour use is significantly high in chillies followed by
cotton and groundnut. The intensity of use of modern inputs like fertilisers and pesticides is high in commercial crops like chillies, cotton and groundnut. The intensity in the use of modern inputs in traditional crops is not significant. The share of seed cost in the total cost is found to be high in commercial crops like cotton, chillies and groundnut but low in traditional crops like jowar, sunflower, redgram and greengram.

The data clearly shows that there is a positive relation between farm size and per acre gross income in cotton, groundnut, chillies, sunflower and redgram. Thus higher gross income per acre on large farms is essentially a result of economics of scale. Higher gross income may be mainly either due to more intensive use of inputs of better price or due to holding capacity and bargain capacity. The gross returns are high in chillies followed by cotton and groundnut. It is very low in case of redgram, greengram and jowar.

The small and marginal farms are unable to provide adequate inputs and get adequate returns due to scale disadvantage and price disadvantages. Thus the relationship between farm size and gross output per cent to area that holds good for irrigated regions found to be contradictory in dryland agriculture.

The family labour income is found to be negative in the cultivation of sunflower, among marginal and small farms. It is similar in case of greengram among semi-medium farms and jowar among marginal farms. In case of redgram cultivation the family labour income is negative among all sizes of groups. The net income from cultivation of cotton and chillies is found to be increasing with farm size. Majority of the farmers incurred losses in cultivation of sunflower, redgram, greengram and jowar. Per acre loss is high in redgram followed by sunflower and greengram. Marginal farm households incurred losses in cultivation of cotton and groundnut. The overall conclusion emerged from the
analysis is that cultivation of crops in dryland regions is not economical. The income per a rupee of investment is very low in these regions. The overall picture emerges from the analysis is that output-input ratios accompanied by sharp variations across the crops reveal that dryland farmers suffer loss from low and uncertain yields. Low margins in the cultivation reflect the subsistence agriculture.

8.9 Socio-Economic status of Dryland farmers

The analysis of the socio-economic dimensions of dryland farmers reveals that socio-economic conditions of the farm households are poor in the study area. The socio-economic structure does not have any direct influence on the cultivation. From the analysis it is clearly evident that 47 per cent of the farmers belong to backward caste, 39.67 per cent of farm households belong to forward caste and 13.33 per cent are scheduled caste and scheduled tribe communities.

The data on family system clearly reveals that 60 per cent of the families are nuclear families. The average size of the family of the total farm households is 4.87. Among all farming categories the average family size of large farms is high, which is ‘7.50, while the family size is small for marginal and small farms when compared with other farmers.

Distribution of farm households by the housing status across size groups reveals that 55 per cent, 47 per cent, 32 per cent, 16.67 per cent respectively of marginal, small, semi-medium, medium and large farm households are living in katcha houses. Thus the data on housing clearly indicates the poor living conditions of farm households. The data on civic amenities reveals that 69.67 per cent of the households are depending on public tap or public hand pumps for drinking water. Only 15.33 per cent of the households have drainage facility. Nearly 70 per cent of the dryland farmers do not have LPG gas. They depend on
firewood for cooking. The data further reveals that TV and electric fan have become important consumer goods.

The data on literacy reveals that 57 per cent of farm households are illiterates which shows that the literacy rate is low when compared to overall state rural population literacy, which is 47 per cent. The occupation structure of the farm households reveals that for 94.34 per cent of farm household, cultivation is the main occupation. Nearly 66.33 per cent of farm households have agricultural wage labour as the subsidiary occupation. Dryland farm households do not possess large number of cattle due to the fact that livestock enterprise might not be a variable option for them because they don’t get fodder throughout the year. Thus there is direct relation between value of assets and farm size. Land as a productive asset constitutes the major component of asset for dryland farmer.

The average size of the dryland farms in the study area is 5.37 acres. Semi-medium, medium and large farms have leased in lands. The data on leased-in and leased out land reveal that tenancy is not present much in the study area. The distribution of land among different social categories reveals that there is close relation between farm size and social hierarchy.

Nearly 75 per cent of farm households found to have access to bank credit. Nearly 54 per cent of the farm households depend on non institutional sources also to meet their total credit requirements. It is found that irrespective of the farm size, the proportion of farm households borrowing from non-institutional sources is same. The institutional agencies are not able to meet the credit requirements of the farmers. The farmers in the study area are borrowing loan from money lenders, commission agents and input dealers at high interest rates.

The loan borrowed per acre is found to be increasing with the decrease in farm size. So per acre credit might be increasing with decreasing in farm size. Indebtedness among farm households reveals that 80 per cent of farm households
have reported to be indebted. Average outstanding debt among marginal, small, semi-medium, medium and large farms are found to be Rs 18120/-, 35650/-, Rs 49423/-, Rs 59567/- and Rs 133817/- respectively. It leads to a situation that debt gets accumulated over the years. Thus the debt brings out situation of debt trap among farm households. This clearly reveals the stress conditions of households. It is observed that 72 per cent of farm households have used the borrowed amount on productive purpose.

The analysis clearly reveals that the income from cultivation is not sufficient to meet all the basic necessities of the families. From cultivation an average household gets a net income of Rs.419/- (an annual income of Rs. 5031). One household needs more than Rs. 20000/- per annum in order to cross poverty line. Many of the households depend on wage and non-farm business to augment their incomes. Even these incomes are not sufficient to meet basic necessities including health and education. While the monthly average farmer household expenditure is Rs. 5525/- the average monthly farmer income is only Rs.3171/- which indicates that the income received is not sufficient to meet the minimum family needs, that is, the monthly consumption expenditure is greater than the monthly realized income. This is a high probability that the households consuming less than the recommended minimum nutrition intake levels. Though the monthly per capita consumption expenditure is increasing with the size of the land possessed, family size also found to be increasing with the size of the land possessed. i.e., even large and medium farm households are consuming less than the recommended minimum intake levels in the study area.

**8.10 Incidence of Poverty among selected Farm Households**

The estimated composite index of standard of living reveals that the index value is lowest for marginal and small farm households whereas it is high in medium and large farms followed by semi-medium farm households. That is
marginal and small farms are found to be the most disadvantaged category in terms of standard of living. At the same time 70 per cent of semi-medium, 50 per cent of medium and large farm households are not in a better condition than the marginal and small farm households in terms of both economic and social aspects. The index of deprivation (ID) computed using the scoring technique for identified variables, reveals that 78 per cent of dryland farm households are in deprived state and only 2 per cent of farm households are in not deprived state while the remaining 20 per cent of farm households are in less deprived state. Nearly 47 per cent of the total farm households are found to be in most deprived state.

The results of the specified logit model shows that the coefficient associated with the explanatory variables have registered an expected sign and most of them are found to be significant at probability levels ranging from 1 to 10 per cent. The coefficient of determination $R^2$ is 0.85 which indicates that the model is a good fit. The result indicates that the literacy percentage, farm size, mandays of employment, percentage of adults in the household and income from agriculture are found to be negative and significant. This indicates that one unit charge in the negative and significant slope of coefficient would decrease the probability of household being deprived by their appropriative percentages. The coefficient of the other explanatory variable, family size is positive and significant, which indicates that the change in the family size would increase the probability of respondent to be poor.

The coefficient of the other variable, social status is positive and not significant. This indicates that the change in the social status of respondents would also increase the probability of households to be deprived. Hence the results reveal that the social status of the farm households could not influence their probability of being deprived, i.e., non SC, ST households are also found to be deprived by their appropriate percentages. Thus the results of analysis, imply that the probability of a household being deprived could be influenced by the variables considered in this model except that of social status.