


Chapter-II
REVIEW OF LITERATURE
CHAPTER – II

REVIEW OF LITERATURE

INTRODUCTION

In this chapter, an attempt has been made to present the literature pertaining to the past research work related to the present study. At present gender issue is gaining prominence in Indian agriculture. The women labour is characterized by low wages, tedious work environment etc. There are very few studies done on the alternative employment sources for women labourers during off-season and the impact of off season unemployment of women labour on their income, family status etc. Studies conducted on the employment wages, non-farm employment etc have been reviewed and presented under the following.

Rathindra Nath Pramanik (2012) carried out a study on “Chyanging terms and conditions of employment of agricultural labourers in west Bengal” with the main objective of discussing the terms and conditions of employment of agricultural labourers in rural West Bengal. They have used Primary Data and taken a sample of 180 agricultural labourers. They have applied percentage analyses and suggested that the inclination is more towards employing group labourers on the part of employers.¹
Manadhan Nair (2011) made a study on “The socio economic conditions of labourers” with the objective of knowing the socio economic conditions of the labourers. The employers are socially and economically backward due to lack of employment, lack of educational facilities, malnutrition and lack of cultural activities. The study used primary and secondary data. The study recommended that the labourers should be provided with medical facilities, loan facilities adequate educational facilities and additional income.  

Ray, et al., (2009) made a study on “Impact of Technological Changes on economic status of female labourers” with the objective of examining the impact of differential wage karate’s of female labour employment. The study has taken sample of 150 and linear and log linear functions. It was found that in all sates a close look into the date indicated that total female labour use has been growing. It was concluded that new and additional avenues of employment for women in agriculture should be created to increase the potential of women employed in the rural areas particularly in the agricultural sector.  

Vithob. B and Madari (2008) in their study conclude that the condition as female agricultural labourers are better in irrigated area. The conditions of female labourers in non-irrigated areas are miserable. There is a need for comprehensive policy and minimum wage to promote welfare of the agricultural
labourers in the study area. They also suggested that the grama panchayat, the government, the NGO’s and the people have to work together for the same. 4

Vithub et al., (2008) in their study examined the wage differences between male and female agriculture labourers and their migration. The study has been done in shorapur taluk of Gulbarga district in Karnataka. In the study area, labour migration took place only from dry land area during rabi and summer because of season’s inadequate employment days. Almost 90 per cent of female labourers migrated to the urban areas for about 85 days and earned wages at the rate of Rs.40 per day. The study suggests that provision of irrigation and adoption of labour intensive cropping patterns may help to improve the conditions of female labourers.5

Ramesh. D (2007) in his study explores that the 60 per cent of agricultural labourers move to other places as there was not sufficient work in the local villages. Another 21 per cent go to other places as they are already part as some informal group working in these places. Only 8 per cent go in the expectation of higher wages.6

Dhillon et al., (2007) conducted a study in three agro-climatic zones of Punjab on the involvement of farm women in agricultural and allied activities. Multistage stratified random sampling technique was used to select the sample of 120 farm women. The results of the study showed that the age of the farm
women ranged between 24-56 years. Majority of the respondents belonged to the age group of 35-45 years. Majority of the respondents were illiterate. Majority of the farm women belonged to the families having 0-6 family members. Majority of the families in zone-III (62.5%) were holding large farm size of more than 10 acres, followed by zone-I (37.5%) and zone-II (22.50%).

Kumar (2007) has conducted a study on the trends and determinants of female employment in agriculture. The study was based on data taken from population census of Registrar General of India for the year 1981, 1991 and 2001, the proportion of female workers increased by 4.76 per cent points. The number of women agricultural labourers increased by 3.46 per cent points during the same period. The economic factors such as presence of male agricultural workers in the area, cropping intensity, agricultural output as indicative of income level and index of modernization all together determine 46.5 per cent of variation in RFWPR as agricultural workers.

Yadav and Kaushik (2006) have conducted a study in Rewari district of Haryana state on the role performance of women in wheat crop. The study revealed that the total days of different activities in a season ranged from one day to 20 days, maximum days being spent on weeding followed by harvesting. The total time spent by women was maximum on harvesting (75 hrs), followed by weeding (50 hrs), irrigation (24 hrs), and strong (10.5hrs). Least time was
spent on threshing, winnowing, plant protection, fertilizer application and sowing (less than 10 hrs/season). The study concludes that as women mostly do jobs that are tedious, monotonous and requiring manual labour while technical activities are taken over by men, women need to be trained in technical aspects as well to handle farming operations independently.  

Kanimozh and Meena. M (2006) in their study has shown that majority of labourers was maximum in storage of food grains. Farm women must be considered an important factor in storage of food grains. Farm women must be considered as a visible work force in agriculture and their work must be recognized counted and valued to attain prosperity of the rural economy.  

Kachroo (2005) in her study has examined the economic contribution of female labour in farm and non-farm sector towards family income in rural Jammu and Kashmir State. A three stage stratified random sampling procedure was followed with two development blocks of Jammu district viz., R.S.Pura and Bishnah. The study revealed that the percentage share of rural women in cultivation income was 43.86 per cent in R.S. Pura and 47.93 per cent in Bishnah. In dairy farming, their contribution was highest, that of 73.83 per cent and 74.66 per cent in R.S.Pura and Bishnah respectively. The share of females in total agricultural income was 44.76 per cent in R.S. Pura and 50.44 per cent in Bishnah. This implies that women do not lag behind in contributing the agricultural income
on par with men, but it is not accounted for. Women’s contribution towards non-agricultural income was found to be 1.55 and 2.37 per cent respectively in RS.Pura and Bishnah. The overall contribution of females towards household income was 21.24 per cent in R.S.Pura and 27.18 per cent in Bishnah.  

Singh et al., (2005) have conducted a study on labour wage discrimination in agriculture. The study was conducted in six states using stratified random sampling technique. The results of the study showed that women worked less hours per day compared to men. The allocation of time by women in the six states varied from 7.3 hours per day in Ranchi (Jharkhand) to 9.5 hours per day in Adilabad (A.P). The work performed by women are weeding, spraying, irrigation, harvesting, threshing, drying up of pods grains etc. Wage disparities were found to be higher among men and women in agriculture. The wages of male over female in agriculture were found to be higher (47%) in Ranchi (Jharkand) and lower (31%) in Coimbatore (Tamil Nadu).  

Tuteja (2005) did a study on rural non-farm employment in Haryana. The results of the study showed that at the all India level the female WPR increased from 26.7 per cent in 1991 to 31.0 per cent in 2001. But the WPR of females showed a slower growth rate due to declining employment in agriculture as a consequence of mechanization. In the period from 1981-2001 the share of agricultural labourers increased by 2 percentage points in the total workers. At
the same time female agricultural labourers showed a decline from 47.7 per cent to 43.4 per cent. In the same period the proportion of female workers in farm sector as a whole also showed a declining trend from 88.5 per cent 79.9 per cent. At the same time female workers in the non-farm sector showed an increasing trend from 11.5 per cent to 20.10 per cent. In Haryana state the employment of workers in farm sectors showed a decline from 76.48 per cent in 1981 to 65 percentage in 2001. At the same time there was an increase in the non-farm sector employment from 23.52 per cent to 35 per cent.

Thresia (2004) conducted a study of women agricultural workers in Kodumba village of Palakkad district. The study revealed that due to under-employment problems in agriculture, women had to seek alternative employment opportunities for a major part of the year. Almost 70 per cent of the women had no other means of income than agriculture. The rest 30 per cent workers depended on work at construction site, the making, firewood lifting, fence making the milking, preparation and sales of edible items and bangles etc. They got job ranging from 15 to 100 days in a year.

Sindhu and Jayan (2004) in their paper have attempted to study the work participation of women in coffee cultivation in Wayanad district of Kerala. Stratified sampling method was used and data were collected from 75 women farmers. Work participation of women engaged in the cultivation is assessed
using WPI (Work Participation Index). WPI scores showed that gleaming collection (57), harvesting (52) and weeding (50) are the three farm operations in which women contribute more than half of the labour required for the particular operation. For activities such as planting (48), post – harvest operations (48) land jungle clearing (42), women contribute nearly about half of the labour actually required to complete the work.¹⁵

Muniyandi et al., (2003) studied the ‘Changes in Rural Non-Agricultural Employment in India’. The present study examined the changes in the labour force and workforce participation rate, sector wise distribution of this workforce, employment status of this workforce in the two sectors and the relationship between the level of poverty and employment in India. The analysis of the study was mainly based on the NSSO Data gathered over different rounds. The study revealed that the labour force participation rate in rural area (male and female) and in urban areas (female) during post reform period showed a decline, while the urban male labour force participation rate in rural area (male and female) and in urban areas (female) during post reform period showed a decline, while the urban male labour force participation rate showed in increase. The workforce participation rate of male and female in urban and rural areas showed a marginal increase in the post reform period. The sector wise distribution of workers in rural areas indicated that workforce participation rate in agriculture sector has
been declining and that in non agricultural sector has been increasing. The study emphasizes the need for encouraging the workers to establish non farm enterprise by providing appropriate facilities at a reasonable rate of interest.¹⁶

Kumar et al., (2003) in their paper have examined the shifting employment pattern in the rural India. The study revealed a declining trend in rural farm sector employment. With continuing population pressure, small and fragmented agricultural holdings, highly unequal land distribution structure, increasing application of labour saving farm production technologies etc. Agricultural alone cannot provide the ultimate answer for rural unemployment and under employment. Non farm as well as off farm activities have backward as well as forward linkages, which can enhance the overall productivity as well as income and employment in rural areas.¹⁷

Kalamkar (2003) in his paper on agricultural growth and rural non-farm sector in Maharashtra has observed that due to continuous increase in the labour force and the declining growth rate of agricultural output in Maharashtra, the casualisation of the labour force in hired labour has been increased. Diversification of agriculture by introducing new varieties and increase in protective irrigation raised absorption of labour and generated better employment potential. The study revealed that there is a need to divert
agricultural labour to the non farm sector activities for employment and value addition in agriculture by developing processing units in the rural area itself.\textsuperscript{18}

Elumali and Sharma (2003) in their study on non-farm employment for rural households in India have found that the employment of wage labour has been declining in agriculture, while it is increasing in non agriculture activities. The non-farm activities provide opportunities to earn income during the slack season in agriculture. The study also revealed the multi activity nature of the workers. About 62.13 per cent of the person-days spent in agriculture as principal activity by the rural male, also spent 3.35 per cent and 4.34 per cent of the person-days as self-employed and wage labour in non-agriculture respectively. The per cent distribution of male workers in non-farm employment in 1999-00 was the highest in Kerala followed by Himachal Pradesh and the per cent distribution of rural female workers in non-farm activities was the highest in West Bengal followed by Kerala. The study concludes that augmenting rural investment in the development of non-farm sector will increase the income of rural households and this reduces poverty.\textsuperscript{19}

Bryceson (2002) examined the multiplexity of livelihoods in rural Africa. The income diversification efforts of most rural dwellers over the past decade have been directed at meeting daily needs amidst declining returns to commercial agriculture. Individuals and households have experimented with new
forms of livelihood, expanding their non agricultural income source, while retaining their base in subsistence farming.²⁰

Kumar and Sen (2002) in their study on labour utilization and demand function of family farms in Sabour block of Bhagalpur district (Bihar) revealed that total man-days available on the farm was 1,716 per year, out of which two-thirds was contributed by male and one-third by female members. On an average 94 per cent of the available male labour and 54 per cent of available female labour were utilized on the farm. It was found that medium farms utilized 85 per cent of available man-days on the farm where as small and large farms utilized 75 and 77 per cent of available labour respectively. The results of the study also revealed that in both the seasons modern crop cultivation utilized more man-days (238 labour units in Kharif and 96 units in Rabi) than in traditional crop cultivation (178 units in Kharif and 77 units in Rabi).²¹

Solanki and Sharma (2001) in their study ‘Impact of Economic Reforms on Rural Employment-A case study of Jhakam Irrigation Project, Rajasthan’ revealed that there is a significant impact of economic reforms on rural employment through irrigation. The ‘with and without approach’ of impact analysis was used. A sample of 100 farmers was selected for the study from two villages, 50 each from irrigated command area and unirrigated command area. The study revealed that the total labour use in crop production activity in the command area was
higher compared to non command area. The use of family labour, attached labour and casual absorption in crop production was found to be 42.45 per cent per farm in the command area compared to non command area. The labour in the non command area which was left out of irrigation suffered diversification from crop production and diverted to other activities in search of gainful employment.  

Shiyani and Vekariya (2000) conducted a study in South Saurashtra, Gujarat on the operation was labour pattern in groundnut and wheat crops. The study revealed that women played a greater role in production of groundnut than that of wheat in the study area. Hand weeding and harvesting were the two major operations performed predominantly. On an average, groundnut than that of wheat in the study area. Hand weeding and harvesting were the two major operations performed predominantly. On an average, groundnut production requires 66 days of labour per hectare of which women provide 46 per cent. But in the case of wheat production, only 54 labour days are required of which women provide 33 per cent. In groundnut production women labour contributed 55 per cent to total weeding work and 50 per cent to total harvesting work. Two-third of the women who works at harvest are hired labour. In the case of wheat crop women contributed 61 per cent of the total weeding work and 49 per cent of the total harvesting work. A greater degree of seasonality for female
workers and for hired labour is very much evident. The study suggests that the design of crop technologies be sensitive to its inevitably gender-specific effects.\footnote{23}

Pallavi Chavan, Rajshree and Bedamatha (2000) studied the trend of agricultural real wage in India covering a period of 1999-2000. He concluded that compared to their daily wages of both female agricultural labourers with the statutory minimum wage. The daily wage of female agricultural labourers exceeded the minimum wage levels in most states. Gender disparities in earning has been analysed on the basis of the ratio of female wage level to female wage level, the ratio of female rural wages for the period of 1983 to 1999-2000.\footnote{24}

Bora et al., (2000) in their study have examined the role performance of farm women in animal husbandry activities in the selected villages of Tezu Development Block of Arunachal Pradesh. The study identified a total of eighteen roles performed by women. They were fodder gathering, feeding the animals, carrying fodder to the home, cutting and boiling of fodder, watering to the animals, grazing of animals, grinding of feed, bathing of animals, cleaning of sheds, cleaning of mangers, grooming, milking of animals, heating of milk, selling of milk, care of new born animals, care of sick animals and vaccination of animals.\footnote{25}

Aanjugam et al., (2000) in their paper have analyzed the performance of agricultural labour market in Madurai district of Tamil Nadu with the objective of
study of studying the demand for and supply of agricultural labourers in wet and
garden land areas of the district. The results showed that woman labour use was
higher in garden lands that in wet lands. Regression analysis showed that in wet
lands one rupee increase in the net income per farm was found to increase the
demand for hired casual labourers by 0.0040 manday/hectare, increase in the net
cropped area was found to increase the demand by 358.44 man days. In garden
lands an increase in cropping intensity by one per cent was found in crease the
demand by 0.97 man-day, an increase in net cropped area by one hectare was
found to increase the demand by 110.95 man-days and one rupee increase in net
return per farm was found to increase the demand by 0.0066 manday. The study
suggests that to improve the demand for hired labour, irrigation facilities and
better prices for farm products essential. Also the wage rates should be increased
and to facilitate this labour cooperatives are to be formed. 26

Ghanekar (2000) has made an attempt in her paper to examine the
characteristics of agricultural labour market and the economic status of the
labourers. After the starting of lift irrigation scheme in 1980s, the village
exhibited a trend towards increased commercialization and monetization,
structural changes such as increased numbers of female workers as agricultural
labourers and increased casualization of the labour force along with increased
individual bargaining capacity of labourers. 27
Jain and Singh (2000) have conducted a study on the trends in tenancy and labour use pattern in Punjab Agriculture. The study revealed that human labour employed on per cultivated hectare showed a decline in all the size-classes except the marginal farms and so was the case of casual hired labour. Female and child labour employment on the farm for crop production also showed a decline and its employment for crop production declined with the increase in farm size. Major share of women and child labour used in the farm was supplied by family itself since the migratory labour mostly consists of male labour.28

Ray and Haque (2000) in their paper have examined the employment per acre, operation wise labour use wage differential between migrated contract labour and local hired labour employed. The study revealed that in Hoogly district of West Bengal contract male and child labourers migrated to the study area and were employed predominantly in sowing and harvesting seasons of boro and aman paddy. No female contract labour migrated to the study area. Poverty was the main reason for migration. Besides, lower wages and low employment opportunities also caused migration.29

Sing and Sing (2000) have made a comparative study of contractual and casual labour arrangements in agriculture in the Tarai region of Uttar Pradesh based on data collected from 75 labour households. The study revealed that both males and females worked as casual labourers in various activities. The group
labour that consists of 5 to 8 male and female workers of a village and the family engaged themselves under the contractual arrangements. They were found to be engaged in inter-culture, earthing and harvesting of sugarcane, transplanting, harvesting and threshing of paddy crop and harvesting and threshing of wheat crop. For the harvesting and threshing of wheat, kind payment is made on per acre basis. The study shows that wages earned through contractual arrangements are higher (40 and 38%) in the case of male and female workers as compared to casual employment on farm.  

Singh et al., (2000) have conducted a study in 12 sample villages in Gwalior district with a view to examine the employment behaviour of rural labour and its effect on rural labour market. The study revealed that, as a consequence of farm mechanization and rural development programmes more male labour started moving from agricultural to non agricultural occupations obtaining higher wage rate / earnings per annum and more employment. The scarcity of male labour thus resulted in higher demand for female labour at an attractive wage rate thus causing a gradual feminization in agriculture. 

Tomer et al., (2000) conducted a study to examine the family and hired labour employment in various crops and regions of Haryana state. The study was conducted in irrigate and semi-irrigated zones of Haryana. The study revealed that per hectare labour use was higher in the irrigated area. Hired labour (casual
and contract) use was higher than family labour use in the irrigated zone. Hired labourers were mostly migrants from labour surplust states. The migrant labour caused a reduction in the wage rate in the rural labour markets of the state.\textsuperscript{32}

Tuteja (2000) has conducted a study on the effect of contractual labour arrangements in agriculture on women workers in rural Haryana. The practice of employing contract labour, adversely affected casual as well as self employed women agricultural workers. They got low paid jobs due to competition from migrant male labour. The study highlights the urgent need for assessing and modifying labour policy and rectifying the neglect of analysis of women worker’s position after the prevalence of contractual labour arrangement.\textsuperscript{33}

Sinh \textit{et al.}, (2000) in their study on the involvement of farm women in jute production technology, found that farm womens’ contribution to collecting weeds, weeding by Khurpi and uprooting of weeds was 85, 87 and 100 per cent respectively. Also the involvement of farm women was quite high in land preparation (37.5\%) than male (33.00\%) and in inter-culturing 77.33 per cent as against 11.00 per cent by male. Womens’ contribution to certain jute specific operations like thinning, carrying jute stick to rating tank and fibre extraction was 90, 88 and 88 per cent, respectively. The findings conclude that since the involvement of farm women is very high in jute production, training with regard
to new technology should be given to increase their efficiency for doing these operations in skilled manner.\textsuperscript{34}

Beohar et al., (1999) have examined the contribution of women in paddy cultivation in the Chatisgarth region of Madhya Pradesh. Female labour use, both family and hired, formed nine per cent of the total female labour hours used in the farm size groups below two hectares and it was about 16 per cent of the total in the size group 2.01 to 4 ha 23 per cent in the size group 4.01 – 6 ha. In the large size-group (6 ha and above) where no female family labour was employed, the hired female labour constituted 52 per cent of the total female labour used and 38 per cent of the hired female labour was used in sowing and transplanting. Both family and hired women labour was mainly engaged in sowing, transplanting, inter –culture, harvesting, transporting and winnowing. In operations like transplanting, inter-culture and harvesting the use of female labour hours was more than that of male labour.\textsuperscript{35}

Panghal et al., (1999) in their paper have studied the efficiency of men and women labour in performing different crop operations in major crops of Haryana. The study revealed that women labour participation was quite high in operations like transplanting, weeding and picking. Women labour was also found relatively more efficient than men labour in these operations. There was no participation of
women labour in irrigation and ploughing operations in all zones of Haryana and almost in all the crops.\textsuperscript{36}

Birari et al., (1999) in their paper have examined the pattern of employment and participation of women in agricultural activities in Maharashtra. The proportion family women labour was the highest (14.20 per cent) in Western Maharashtra, while the proportion of hired women labour was the maximum of 65 per cent in Vidarbha region. Women accounted for 18 per cent of the total labour employment in livestock management in the state. The share of women in total employment under special activities such as incidental farm work, farm work other than crop production was about 35 per cent. Nearly 50 per cent of the labour requirement for agricultural activities was contributed by women in the study area.\textsuperscript{37}

Chauhan (1999) in his paper has examined the contribution of Gaddi tribal women in farm and household economy. The findings of the study revealed that the contribution of women was more than that of men in the activities performed near to their dwellings, which is reflected through more labour days put in crop production, cattle rearing and handloom weaving. The share of women in farm and off-farm income came to the extent of 27 per cent and 12 per cent of the total household respectively, making an overall contribution of 24 per
cent on an average in the household income which did not include their contribution as home maker.\textsuperscript{38}

Kumar (1999) in his study has examined the role of women in the adoption of Integrated Pest Management (IPM) technology in cotton, based on Primary Data collected from the tribal belt of Kinwat, Nanded district of Maharashtra. The participation of farm women in the activities like weeding, harvesting and hand picking (only in IPM) was 100 per cent. The participation in fertilizing the fields, seed sowing and field preparation in IPM practice was 71.76 and 65 per cent and the corresponding figures in non-IPM preparation in IPM practice were 76, 78 and 57 per cent. The study showed that two-third of farm operations in cotton were done by farm women. The contribution of women in terms of total labour days was 93 per cent in IPM practice and 88 per cent in non-IPM practice. IMP adoption has doubled the opportunity for employment due to increase in productivity of cotton.\textsuperscript{39}

Mishra et al., (1999) in their paper have examined the extent and proportion of women labour participation in paddy cultivation and gap in wages between men and women labour in Kymore Plateau and Satpura hill region of Madhya Pradesh. The participation of women labour was higher in transplanting of paddy, inter – culture and harvesting while, operations like preparatory tillage, sowing, manuring and fertilizer application, irrigation and threshing operations
were performed jointly with men. The use of women labour (both family and hired) in paddy cultivation constituted 53 per cent of the total human labour employment. The hiring of women labour was highly associated with the increase in the size of farm. The result of the study also showed that the wage gap was more than 1 per cent between men and women for all operations. The study suggested that diversified farming such as dairy, poultry etc. Can help to increase the employment opportunities of women. 

Pandey et al., (1999) in their study have attempted to examine the extent of temporal changes in the pattern of employment of rural women across crop and animal husbandry activities in Hisar district of Haryana. Cotton. Paddy. Wheat and rabi fodder were the major crops while weeding, hoeing, harvesting/picking, threshing and winnowing as well as transportation were the major operations which absorbed female labour in Haryana. The findings suggest that concerted efforts are needed to develop better technologies for agricultural operations such as transplanting, weeding, harvesting/picking and cleaning of farm produce to reduce the physical burden and drudgery of the women. Operations such as cleaning of cattle, re-collection of refuse, compost, bio-gas production etc. in which women are actively involved need to be more skill based rather than labour oriented.
Saraswati (1999) conducted a study on the time utilization and participation of women in sericulture enterprise in non-traditional areas of Karnataka in the year 1998-99 with a sample size of 173 farm women spread in Dharwad, Hubli and Kalahatagi taluks of Dharwad districts. The researcher tried to evaluate the works performed by men and women in agriculture. It was found that majority of indoor activities like storage of leaves, feeding, harvesting and cleaning and storing of cocoons were carried out by farm women, while disease management and temperature and humidity maintenance were looked after by men. Among the outdoor activities more than 90 per cent of the women took care of planting, application of manures, weeding and pruning, while land preparation, pest and disease management and fertilizer management were attended by men.\textsuperscript{42}

Sharma et al., (1999) in their paper have attempted to study the magnitude of female labour participation in agricultural and livestock enterprises and also the contribution of female labour to farm income. Cobb-Douglas production function was used to study the resource elasticity’s and Euler’s theorem was applied to estimate the income. In the cultivation of major crops and in livestock rearing, the contribution of female labour to total labour requirements was more than half except for marketing operations. It was as high as 75 per cent in the case of inter-culture and harvesting. In case of livestock
enterprise also, the contribution of female labour was around 70 per cent for indoor activities. The result further showed that the contribution of female labour to total income in all the operations was higher than that of male labour. The study suggests that training should be given to females of tribal area in farm/non-farm operations for enhancing farm/gross household income.\(^4^3\)

Shiyani and Vekariya (1999) in their paper have examined the gender differences and the role of women in groundnut and wheat production in South Saurashtra zone of Gujarat. The results of the study indicated that the women played a greater role in the production of groundnut and wheat. The share of female labour used in groundnut and wheat production were 46 per cent and 31 per cent respectively of the total human labour utilization. Harvesting and hand weeding were the two major operations performed predominantly by women in the cultivation of both the crops accounting for 49 per cent and 55-61 per cent respectively. In activities like sowing, primary tillage, application of manures and chemical fertilizes and irrigation, women played a supportive role. There was a greater demand for hired female workers particularly for weeding and harvesting operations in the case of groundnut production and for irrigation, harvesting and weeding activities in respect of wheat production. The study suggests that the new technologies should address the requirement and skills of women in farm sector.\(^4^4\)
Singh et al., (1999) in their study have attempted to examine the educational status and the extent of participation of men and women in different farm and non-farm activities in three randomly selected clusters of villages in Hissar district of Haryana at two points of time, 1985-86 and 1997-98. The study revealed that 14 per cent of the adult female members were engaged in wage earning activity and 86 per cent were involved in own farm activity. The participation of women in crop cultivation was quite high ranging from 33 per cent of the total workforce in small farms to 26 per cent on large farms. Women continued to work 11 hours a day in both the periods. The mechanization of ploughing and harvesting / threshing operations has reduced the level of employment of both male and female workers by about one-third in 1997-98 as compared to 1985-86. 45

Subrahmanyan (1999) in his study on ‘Female labour absorption in Andhra Pradesh Agriculture’ has examined the relative change in female labour demand, the extent of income increase due to technological adoption, the variability of labour absorption across agro climatic zone and also the effect of farm size, cropping intensity and cropping pattern on the demand for labour in agriculture. The analysis was based on two sets of Primary Data relating to Andhra Pradesh. The introduction of HYV seed and mechanization in paddy, has resulted in steep increase in the demand for female labour by 85 per cent. Paddy, cotton and
chillies have higher demand for total labour as well as female labour. Sugarcane has the lowest demand for female labour. This difference in demand may be attributed to cropping intensity and cropping pattern.\textsuperscript{46}

Tripathi (1999) in his paper has examined the level and pattern of women's contribution in hill economy of Tehri district in Uttar Pradesh. The employment pattern of human labour revealed that annual contribution of women in crop production was 230 days/ha accounting for about 80 per cent of total labour employment. The contribution made by women for field preparation, manuring and sowing was 41 per cent higher over male's contribution and it was as high as 142 per cent in rice crop. Women contributed 45 per cent of the weeding and hoeing operations and 10 per cent of harvesting and digging operations. Female labour employment in fruit production accounted for 64 per cent of the total labour employed and in milk production they contributed more than 82 per cent of the total labour employed. The regression analysis revealed that the contribution of female labour in the production of crop, fruit and milk and to gross farm income was positive and significant, indication that the contribution of women in these enterprises was remarkable at the existing level of resource use.\textsuperscript{47}

Varghese et al., (1999) in their paper have attempted to assess the magnitude and direction in the participation of rural women in agriculture in
Rajasthan and also the operation wise labour use in crop production according to different agro-climatic regions of the state. The rate of change of female participation in agriculture in eight out of the nine agro-climatic regions of the state was higher for the decade 1981-91 as compared to 1971-81. The rate of change in female participation in agriculture in 1981 over 1971 was about 47 per cent and it was 90.65 per cent in 1991 over 1981. Inter-culture and harvesting were the two operations where the share of females in labour use was higher than that of males for both cereals and wheat in Rajasthan. The study concludes that the increased participation of female work force in agriculture when linked with managerial and decision-making process may facilities to achieve the goal of sustainable development of agriculture with more ease and certainty.48

Birari et al., (1999) in their paper have examined the pattern of employment and participation of women in agricultural activities in Maharshtra. The study revealed that women labour both owned and hired and hired had contributed 61.58 per cent of the total employed days required in the process of crop production per farm at the state level. Among the various regions of the state, Western Maharashtra regions provided the highest per farm employment of 311 days during the year for both male and female workers.49

Chauhan and Sirohi (1999) in their paper have examined the impact on female employment of the Intensive Cattle Development Programme in three
districts of Haryana. The results indicated that in the case of beneficiary households the female participation in dairy farming was 108.5 man days, 158.37 man days and 151.42 man days per year for small, medium and large herd size farm categories, constituting about 50 per cent, 52 per cent and 42 per cent of total man-days of employment respectively. The female participation among the non-beneficiary households was lower at about 96 man-days as compared to beneficiary households. The results reveal that the employment generation in this sector resulting from the implementation of ICDP benefited the females more than the males.\(^{50}\)

Dahiya et al., (1999) in their study have focused on the participation of women in various farm and non-farm activities in the rural areas of low, middle and high hill zones of Himachal Pradesh. The participation on women is considerably higher in farm sector because of occupational shift by men towards secondary sector and tertiary sector, low literacy rate and poor skill levels of women constraining them to stay in the farm sector, low literacy rate and poor skill levels of women constraining them to stay in the farm sector. The participation of women worker in productive economic activities was 155 days per annum in low zone their participation was at par per annum. Their participation in crop production was below 2 hours per day in all three zones except during October and November on large farms. The participation of women
in paid economic activities was 4 to 5 hours, with nil participation in farm activities during January to March in mid and high hills. The study suggests the need for launching extensive outreach programmes for upgradation of technological skill for both women and men, acquiring newer skills by women, improving their literacy levels, for imparting training to women in subsidiary occupations in the non-farm sector and for stricter enforcement of public policies in the country for gender equity and women empowerment.

Kumar et al., (1999) in their paper have examined the statues and utilization of female labour force in dairy enterprises and other activities and the magnitude of their contribution in family labour, income from dairy enterprises in middle Gangetic Plain Region of Bihar. Female labour participation in dairying enterprises revealed an average use of 48 man-days of female labour per milch animal in NMPT (New Milk Production Technology households) while it was 34 man-days in OMPT (Old Milk Production Technology households) on per annum basis. With regard to the magnitude of participation of women in different economic activities, the dairying accounted for 22 per cent in the case of WMPT households. The corresponding figures for OMPT households were 21 and 22 per cent respectively. Rural women remained occupied for about 3,3378 hours in the case of NMPT households and 3,069 hours in the case of OMPT households including domestic chores. The study suggests that policies must be oriented
towards enhancing the skills and training of farm women in various technologies of milk production and processing in order to increase productivity and income of the households.\(^{52}\)

Rajesh and Kombairaju (1999) in their paper attempted to analyze the female labour participation and examine the impact of technological changes on female labour employment in rainfed agriculture in Tuticorin district of Tamil Nadu. It was observed that technology adoption had a positive impact on female labour employment. Cotton crop created better employment opportunities accounting for 77.12 man days/ha as compared to cumbu (37.93 man-days/ha) and cholam (44 man-days/ha). But the percentage of family female labour to total labour decreased with the increase in the level of adoption of technology.\(^{53}\)

Saikia (1999) in her work ‘Effect of cropping pattern on female labour in Assam’ has studied the work pattern of female agricultural labourers who hired out their labour for wages. The study was conducted in Jorhat district of Assam. Thirty landless agricultural labour households were selected for the study. The period of study was 1980-81 and 1993-94. The average employment of female agricultural workers increased from 89.26 to 104.43 days during the period mainly for rice cultivation. The employment pattern of farm women in agriculture showed a sharp increase in the peak seasons of transplanting and harvesting and steep decline in lean period. For the female labour the total employment was
160-68 days including non farm employment for 43.6 days. The extent of
unemployment was 89 days. If the labour time spent on allied activities which
provide an additional employment of 21.5 days is accounted, employment status
of farm women can be improved.  

Chawla (1999) has attempted to examine the changes in educational and
employment status of female labour in rural areas of Amritsar district of Punjab
at two points of time i.e., 1990-91 and 1997-98. The data was collected from 200
female workers based on three stage random sampling procedure. The
employment of female labour in the primary sector declined from 60 per cent to
53.5 per cent, but it showed upward shifts in secondary and tertiary sectors. The
number of illiterate female workers declined from 44 per cent to 39 per cent
between 1990-91 and 1997-98 with a proportionate increase in the number of
literate female workers. Their share in the family income primary, secondary and
tertiary activities showed increase from 12, 15 and 18 per cent in 1990-91 to 15,
17 and 20 per cent in 1997-98.  

Puhazendi and Jayarman (1999) conducted study on the role informal
groups in increasing women’s participation and employment generation among
rural poor. The groups were selected from two different project area viz.
Chitradurga district in Karnataka and Periyar district in Tamil Nadu. The study
revealed that in terms of occupational pattern of members, agricultural labourers
constituted 70 per cent of the membership of the group. The additional employment generated through the informal group lending worked out to 172 person-days per member undertaking supplementary activities such as animal husbandry, poultry etc. and non-farm activities like petty shop, kirana shop, flower selling business etc. provided employment to a greater extent. The annual employment available for the group members increased to 85 per cent during post-group formation period when compared to pre-group formation period. The informal groups of rural poor with active intervention of NGOs, adequately supported by training and financial assistance ensured and also significantly improved women's participation both from economic and social aspects.  

With the help of the Primary Data collected from a sample of 150 farm couples Badiger (1999) made an attempt to find out the participation of men and women in agriculture and allied activities. The findings revealed that participation of women was cent per cent in removing stalks and stubbles, weeding, picking, sieving, processing of milk, making cow dung cakes, preparation of feed and feeding activities. Majority of the women faced the problem of low wages and lack of training. Beohar et al., (1999) have examined the contribution of women in paddy cultivation in the Chatisgarh region of Madhya Pradesh. Female labour use, both family and hired, formed nine per cent of the total female labour hours used in the farm size groups below two hectares and it was about 16 per cent of
the total in the size group 2.01 to 4 ha and 23 per cent in the size group 4.01 - 6 ha. In the large size-group (6 ha and above) where no female family labour was employed, the hired female labour constituted 52 per cent of the total female labour used and 38 per cent of the hired female labour was used in sowing and transplanting. Both family and hired women labour was mainly engaged in sowing, transplanting, inter-culture, harvesting, transporting and winnowing. In operations like transplanting, inter-culture and harvesting the use of female labour hours was more than that of male labour. 57

Sajjad (1998) conducted a study on the employment of landless labourers in Aligarh district of Uttar Pradesh. The study revealed that on an average landless labourers were employed for 52.9 days during the kharif season. Male labourers worked for 69.3 days while the female labourers worked for 37.5 days. During the rabi season the landless labourers were employed for 71:3 days. Males worked for 82.7 days and females worked fro 59.8 days. Out of the total labour days 35.4 days were employed in harvesting, 19.6 days in weeding, 14 days in inter-cultural operations and 10 days in sowing. 58

Goyal (1996) found that, the average wage rates for different agricultural operations earned by the male and female agricultural labourers have been incorporated. It shows significant differences in wages of males and females in the operations in which both are employed. In weeding, women are earning
Rs.12 per day while men are getting Rs.28 in the developed district. In the less
developed district this was Rs.10 for female and Rs.20 for male. In harvesting
(rabi season) both are getting equal as they are paid in kind and on piece rate
basis, that is, Rs.200 after harvesting season in Mahindergarh district. In
threshing (Rabi season) were time and cash wage in prevalent, Rs.20-25 are paid
to females and Rs.40-60 to males in Karnal, and Rs.15-20 to females and Rs.30-40
to males in Mahindergarh district.59

Parthasarthy (1996) presents yearly average for men agricultural workers
by centres from the AWI for the period 1985 to 1994. He noted that out of 35
observations, nine centres clearly showed negative rates of growth of real wages.
Of the rest, only 16 centres had a significant rising trend in men and real wage
rates in agriculture over the period. That is, in more than half of the centres no
clear increasing trend in real agricultural wage rates can be discerned.60

Saxena.R.C. (1996) states that “in fixing a minimum wage, we have
necessary to take the cost of living into consideration. We have to determine the
standard. This is not an easy matter. The physiological, social and environmental
elements of the problem have all to the carefully examined. Data have to be collected. Family budged shave to be obtained, studied and analyzed. The
requisite items have to be selected with care, and accurately weighted,
quantitatively and qualitatively. All this work is of a difficult nature requiring
patience, precision and an understanding of the classes on whose behalf the cost of living in being determined. The family unit itself has to be defined and fixed. In the Indian social system is not a mater easy of achievement. The traditions and social usages of the people have to be respected and duly appraised.\textsuperscript{61}

Ramasamy.C (1996) explains that, the agricultural wages acts empower the agricultural wages boards to fix minimum weekly rates for workers employed in agriculture. The board may also fix overtime rates, holiday entitlement and pay and evaluate fringe benefits which may then be regarded as payment in lieu of wages. The AWBs exercise their powers by means of orders which must be complied with. Any employer who fails to meet the provisions of the order may be fined and ordered to repay arrears for the proceeding two years.\textsuperscript{62}

Rao (1995) had conducted a study on rural farm and non-farm employment in West Godhavari district. The results of the study revealed that agriculture plays a leading role in generation of employment. The share of male workforce in agriculture tended to decline, while its share in non-agricultural employment has shown an increase. Sajjad (1998) in his study on the employment of landless labourers in Aligarh district of Uttar Pradesh has revealed that due to the distress phenomenon of unemployment the labourers underlook non-farm work either inside the village or as daily commuters to nearby city are or as seasonal migrants to some far off urban centers. Inside the
village they worked as loaders, rag pickers, basket makers, constructional workers, in match industries, pot makers and as weavers. Male labourers got employed for 51-70 days whereas female labourers got employed for 30-50 days. The wage were higher compared to agricultural sector. Male labourers got Rs.30-35 per day as wages and female labourers got Rs.20-25 per day as wages.  

Sarthi Acharya (1995) found from his analysis that the frequently distribution of wages for males and females in 1982 and 1990 (not reported here). This produced a definite spike in the wage distribution at the minimum wages the spike is less pronounced in 1990 which corresponds to declining toughness and less binding minimum wages. The proportion of females paid within 5 per cent of the weakly minimum in 1982 was about 24 per cent.

Bhalla (1993) in her paper has examined the wage determination and labour absorption in Indian agriculture. The study reveals that the labour absorptive capacity of Indian agriculture as a whole has declined. The real wages of agricultural labourers has shown a upward climb. The study concludes that there is plenty of scope for expansion of employment within agriculture in certain regions and in the production of particular crops like paddy, jowar and cotton.

Usharani et al., (1993) conducted a study to examine the gender differential in work participation in various operations of crop and livestock enterprises in semi-arid areas of Rajasthan. In the study female labour days of 8
hours were converted into man-equivalent days. One day work of woman was taken as equivalent to 0.75 man day. The major female labour absorbing operations are weeding, harvesting and threshing. Farm women spent about 85 per cent (on large farms) to about 89 per cent (on marginal farms) of their time in these operations only. The overall women participation rate in dairy enterprise was as high as 94 per cent as against 6 per cent only for men. The women work participation was minimum on marginal farms (86.24%) and maximum on large farms (99.12%) indicating positive relationship with the size of the holdings. In all farm size groups, female labour use was 58 per cent of the total labour use.  

Kapur (1991) highlighted the role of women in rainfed farming in the states of Maharashtra and Gujarat making use of the Primary Data. It was disclosed by the study that men did all operations that needed more muscle power such as ploughing, threshing and stocking, women did such jobs that were highly strenuous such as weeding, delicate and time consuming jobs like planting seedlings, picking fruits, splitting, winnowing etc. They were also entrusted with the tedious job of preparation of farm yard manure and manuring each plant at the root.  

Sudharani and Raju (1991) conducted a study based on Primary Data obtained from a sample of 140 farm women of Prakasam district of Andhra Pradesh. In their study they emphasized that in both cotton based and paddy
based cropping systems hired female labour contribution was more than that of the hired males’ contribution. It was inferred from their study that in paddy based cropping system on an average, human labour was employed for 155.91 days per hectare. In this female labour days were 63.33 days per hectare. In the case of cotton cultivation, total human labour days needed were 122.78 days per hectare, in which female contributed 73.29 days per hectare and males contributed 49.49 days per hectare. It was also noticed that the female contribution was significant, but females were not employed fully throughout the year.\(^{68}\)

Chawhan and Oberoi (1990) in their study conducted on Gaddi tribal women of Bharman tehsil of Chama district found that the role of tribal Women worker in the farm operation was of immense importance. The proportion of women participation was more than 70 per cent. The participation of women in almost all farm activities except ploughing of fields, marketing of grains, irrigation and application of pesticides and fungicides implied that our technology transfer projects should take care of remaining major crop production activities where participation of farm women was ensured so as to achieve successful results.\(^{69}\)

Perraju Samra (1987), made a study on the dimensions of rural poverty in the Krishna district of Andhra Pradesh. This study was based on a sample survey in two selected villages (a bigger village and a smaller village) in Bandar taluk for
the year 1981-82. The study related to a sample of 100 agricultural labour households belonging to the two villages. He self that the incidence of poverty is lower for the scheduled caste labourers due to their family size and higher labour force participation. This analysis is largely based on tabulation and chi – square test. The study showed that high family size and dependency ratio should be counted as independent factors explaining poverty. He found that the size of the households is 4.68 in the case of households below the poverty line as against 3.69 in the case of households above the poverty line. The study also shows significant association between poverty and the absence of female workers.  

Sharma et.al(1986) studied the impact of green revolution in Haryana and found that the green revolution had not ensured all – the – year – round employment to agricultural labourers. On an average a causal male labourer ha employment only for 258 days. They also observed that in spite of the green revolution, all the landless labourers families studied by them were below the poverty line.  

Dhaliwal and Grewal (1983), in their study. The Level of Living of Agricultural labourers of 22 villages in Punjab relating to the year 1977-78 have observed that a sizeable chunk, 43 per cent of landless agricultural labour households in Punjab, is till below the poverty line.
Sinha (1981) in his study observed that some other factors may have constituted an increase in poverty incidence even though the increase in agricultural productivity had a partial effect of reducing it; further, the results showed that agricultural performance had significant negative impact on the incidents of rural poverty in only six states, while the co-efficient on consumer price index numbers for agricultural labourers had significant positive impact on 10 out of 14 states.73

Elango (1982), in his study of the incidence of poverty in Valakkarai village of Thanjavur District in the year 1979, has estimated that for all the agricultural workers and rural artisans together the percentage of people below poverty line worked out to 45.7 per cent.74

Gaiha (1981) has analysed the changes in the intensity of poverty of Agricultural labour and small cultivator households between 1968-69 and 1970-71 at an All India level with the panel data provide by the National Council of Applied Economic Research. This analysis of the data reveals that between 1968-70, some 12 per cent of all rural sample households, who were not poor earlier became poor by 1970. Some 22 per cent of those who were poor earlier remained at the same level, while another 12 per cent of those who were poor earlier became poorer by 1970. This occupational analysis of the data related
that shift to greater poverty is much more when compare with small cultivators.

Johar and Sharma (1978) in their study of Amritsar district of Punjab examined the social and economic aspects of the life of the agricultural labourers to attract the attention of the policy makers to the state of their poverty. They observe that the agricultural labour was living in utter penury bordering on destitution.

Thimmaiah (1977) studied inequality and poverty both relatively and also likely in the urban and rural areas of Karnataka for 1960-61 and 1970-71. He also studied the community, caste, and social groups. He claimed that it was for the first time that such a study was base on data collected from a survey.

The foregoing review of seventy seven studies in the realms of agriculture highlighted various ramification of the problems of farmers and farm workers along with the epochal life-changing idea of cropping for cash looking for either decent employment or a dignified life through enhancement of farmer’s knowledge on good agricultural practices across various region of country and aboard. But the study of agricultural women labourers focusing on a causative as well as motivating factors of agricultural women labourers who made migration when they can, wherever they can in search of greener pastures and examining alternative sources of employment to despairing, voiceless agricultural women
labourers in Theni District of Tamil Nadu has not been undertaken. This study attempts to fill this research gap and undertakes the study of these aspects in the arena of agriculture.
REFERENCES


Chapter-III