OVERVIEW OF LITERATURE

A number of studies have been carried out in India and abroad highlighting the participation of women in economic activities including agriculture. On this chapter we have reviewed the major studies in the area. The chapter is divided into two sections. Section one deals with the studies undertaken in other developed and developing countries and section two deals with the studies conducted in the country.

II.1 Studies Conducted Abroad

The pioneering study on women’s role in development was carried out by Ester Boserup [1970], which depicts the role of women in development based on the data obtained from a large number of developing countries spread over Asia, Africa and Latin America. She observed that women contributed the same or sometimes more to the family than men. They perform dual role of housewife and full time labour while men are at leisure, when the work is over. Her analysis indicated that development frequently causes a decline in the productivity of women and lowering of their status.

A field survey done by Badran [1972] in Egypt indicated that 44% of adult rural females were involved in production, which was approximately half the proportion of rural males in that area. Weisbatt [1975] reviewed the papers presented at the conference on the role of women in development held in New Jersey, USA in 1974 and found that rural women contributed substantially to economic activities in almost every country. Kabir [1976] reports that women
in Bangladesh are engaged in activities of seed preservation and storage, post-harvest rice processing, grain storage, vegetable and fruit sowing, poultry raising, livestock care, food processing, food preservation, repair and fuel gathering.

Muller and Eleishier [1976] analyzed the position of women in German Democratic Republic and found that ten percent of female labour do free work in agriculture and about 15% of women working on land were equipped to use large machinery and milking equipment.

Simmers [1976] observed that west African women play significant roles as farmers, traders and entrepreneurs in their own right and these have led to a marked improvement in living standard of their families, contributing greatly towards strengthening the economies of West African countries.

Palmer [1979] cited case studies on the impact of large scale development. He pointed out that women's role as agriculture producer or primarily as agriculture wage labourers and unremunerated family labourers was given little consideration when reform legislation was drafted later in the countries for its implementation. It appears that although there was no intended discrimination against women, development planners, legislators and rural development officers involved in the agrarian reform process ignored or overlooked the difference impact of proposed reform on women.
Gasson [1980] identified three roles for women on the basis of a study of farm women in England. Housewives, who occasionally work on their farm and working farm wives, who assist their husband regularly and women farmers pose a threat to male status by doing work which is a preserve of men. It was observed that a women's role is influenced by such variables as size of farm business and socio-economic status. Widowhood might push a woman into the role of farmer.

Chaney et al [1981] argued that women are playing important role in crop production, storage, processing and in farm activities, but their access to land, agricultural extension and non-agriculture employment continuous to be limited.

A series of detailed surveys of both farm and non-farm household in Sierra Leone conducted by Spencer [1981] showed that women play an important role in agriculture and contributed at least 40% of the total labour inputs. It was observed that agriculture development projects with emphasis on mechanization tend to enhance female workload as they increase the amount of land available for planning, weeding, harvesting which were primarily agricultural functions traditionally done by women.

Michael L. Burton and Douglas R. White (1984) conducted a study on sexual division of labour. Their analysis’s is based on five variables that they
hypothesized to affect the sexual division of labor in agriculture, either through increasing male participation in agriculture or through decreasing female participation. They formulate and test a theory of the processes of agricultural intensification that explains a high proportion of the variance in female contributions to agriculture. Five variables show replicable effects across two or more regions of the world. These are number of dry months, importance of domesticated animals to subsistence, use of the plow, crop type, and population density. Of these, the first two are the most powerful predictors of female agricultural contributions, while population density has only very weak effects. They conclude that female agricultural contribution declines with agricultural intensification.

A study of women's role in rural development in Lesotho and Sierra Leone, carried out by Safitoo [1985] revealed that in both countries regardless of the extent of women's active involvement in agriculture, their integration into on going agricultural development programme remained at best marginal.

Meer Muhammad Parhiar (2005) has investigated in the work that rural women do on farm or off farm in rural Sindh, Pakistan. According to him a woman’s day begins from pre-dawn with crushing. If the family is fortunate enough to have cattle, and end up by taking left over bites of bread and bowl of porridge. Their traditional role of housekeeping has been extended to collect firewood, fodder, and working on farms. Owing to social taboos, ignorance, financial constraints, inadequate education facilities, and non-availability of
lady teachers in rural girls’, schools have not opened the doors of literacy for them.

Khalida Jamali (2009) studied the role of rural women in agriculture and its allied fields in Pakistan and points out that the rural women in Pakistan have been actively involved in agriculture and its allied fields. Rural women’s work ranges from crop production to harvesting operations, from livestock rearing to raising babies. In addition to her daily work routine, consisting of cooking, cleaning, and other domestic chores, rural women are also heavily involved in all aspects of agricultural sector. From crop production to livestock rearing, rural women are expected to regularly engage in both domestic and economic work. Despite such a huge contribution, her role has yet not been recognized.

II.2 Studies Conducted in India

In India also a number of studies on women’s participation in agricultural activities have been conducted in various parts of the country. For the purpose of review these studies have been classified into six different themes:

(1) Work participation in agriculture and allied activities
(2) Economics contribution of women in agriculture work
(3) Time spent by women in agriculture and domestic work
(4) Impact of farm mechanization and technology in agriculture
(5) Gender difference in agriculture work
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(6) Factors affecting women’s participation in agriculture

It may, however, be added that many of the studies deal with more than one theme and there is some overlapping. A brief review of these studies has been carried out below.

II.2.1 Studies Related to Work Participation in Agriculture and Allied Activities

Farm women are engaged in varied activities associated with farming and allied occupations. Several studies highlight the role of women in agricultural activities. A study in Kanjhawala block of Delhi by Chaudhury and Sharma [1961] found that women participated in a number of farm activities such as manuring, winding, hoeing, harvesting, threshing and sugarcane production along with men. The female in the nuclear families made maximum contribution, while the contribution of those in joint family was modest.

Kamala Mankekar (1980) found in her study that farm women contribute about 36 per cent of the total employment in agriculture and they are born and bought in the traditional work in the field but statistics have underrated their contribution and dubbed them as stay at home beings.

Rani and Singh [1980] analyzed the contribution of women from weaker sections in dairy enterprise on the basis of data from three villages of Karnal. It was observed that female labour utilization was higher than that of males and children in almost all the operations and women participation rate in
the category of landless labourers was highest, followed by marginal and small farmers.

Studies highlight the preference among farm women for animal husbandry activities over crop farming activities. According to Suman Bhatnagar (1982) women liked churning and milking activities the most and harvesting of crop the least. Raj Mohini Sethi (1984) found that women play a vital role in agriculture in Punjab. Yet they are counted as non-economic earners.

D. K. Marothia and S. K. Sharma [1985] analyzed the female labour participation in paddy production and family female labour share in subsidiary activities in Dharsiwa block of Raipur district in Chhattisgarh plains region. Findings of the study reveal that women labour played a significant role on the sample farms both in terms of working days and wage earnings.

Anuva Saikia (1985) conducted a study in ten villages of Jorhat and Sibsagar district of Assam. They conclude that work participation rate of females depended on cropping pattern, crop intensity and economic compulsions to engage in farm activities. The average female work participation rate was 84.29 per cent but it was higher on marginal farms in all village groups.

J. S. Sisodia [1985] studied the contribution of farm women in agriculture based on the data regarding female labour utilization in various
field operations and certain economic demographic characteristics obtained from two studies of "Benchmark Socio-Economic Survey of Chambal Command Area" carried out during the period 1977-83. He found that woman is a contributor of labour in agriculture production, responsible for the management of cattle and other farm animals and responsible for storage of seeds and food grains and processing and marketing.

M.P. Dhongade, S.D. Patel and S.J. Patel (1985) showed the nature of participation of family women labour for the three crop regions, viz. jowar, cotton and sugarcane regions in Maharashtra. They concluded that participation of women labour varies for different crops and is also affected by the size of family and size of farm holding.

Panghal et. al. (1985) conducted a study to compare the efficiency of 200 male and female labourers in performing different crop operations in major crops of Haryana. Comparative working efficiency of male and women labour in performing different farm operations was calculated based on time taken per hectare to perform those operations where the participation of women labour is quite high in crop operations like transplanting, weeding and picking. Women labour was found relatively more efficient than men labour in these operations. There was no participation of women labour in irrigation and ploughing operations in all the zones of Haryana and in almost all the crops.
Kamlesh Jhurani (1985) in his paper argued that the women are employed for all types of agricultural work such as sowing, transplanting, weeding, leveling, picking, harvesting, etc. They brave all severe climatic conditions like men in pre-harvest and post-harvest operations of rice and wheat.

Study by Sethi (1991) makes a penetrating analysis of the activities of women producers and emphasizes the need for recognition of their activities both within and outside the home. She also emphasized the role of traditional cultural patterns in determining the status of women farm workers.

M.L. Purohit (1991) conducted a study on rural women in arid zone of Rajasthan. The study revealed that the rural women participate with men in day-to-day routine as well as in seasonal operations pertaining to agriculture and livestock raising along with domestic work. The study shows that about 60 per cent operations are done by women, 40 per cent by men and a few by both the sexes. The proportion of working women in rural areas varies with occupation and caste. But the duration of working women is highly appreciated in advancement of socio-economic life.

The study by Varma (1992) revealed that during the harvesting season, utilization of women labour is maximal. Carrying bundle of harvested crop to the spot where threshing would be done is a heavy task, which is performed
mostly by women. Each bundle is carried as a head load by women, mostly bare footed, walking over the sharp shrubs of the harvested fields. Men rarely participate in this task.

Dhaka and Singh [1994] reported that in dairy farming, the contribution of female labour was the highest in the landless labour household. Arora (1995) also finds that women’s contribution to agriculture, whether it be subsistence farming, commercial agriculture or shifting cultivation, measured in terms of the number of tasks performed and time spent is greater than that of men.

Bhagirath Dash (2000) argued that women play a significant role not only in agriculture sector but also in allied activities as livestock rearing, bee keeping, hiving of bees, dairy, etc. and in household all over the India. However, their role is different in different regions of India as omen participation rate is different in different regions due to socio-economic and climatic conditions of states.

Sobha (2001), on the basis of her study in Chittoor district of Andhra Pradesh, reported that women belonging to lower socio-economic groups being landless had to perform labour intensive activities. Women performed sowing (55 per cent), winnowing (90 per cent), transplanting (85 per cent) and poultry care (75 per cent). Caring of milch animal was not a major activity for farm women of lower socio-economic strata. However, poultry care was undertaken by 46 per cent of women.
According to Thresia (2004) tedious manual activities such as, transplanting, weeding, harvesting, transporting harvest, threshing, drying of hay, etc. are wholly or mainly done by women, while men’s work includes the making of field boundaries and setting up of barriers in the field.

Women in India are major producers of food in term of value, volume and number of hours worked. Nearly 63% of all economically active men are engaged in agriculture as compared to 78% of women. Almost of rural female workers are classified as agricultural labourers and 37% as cultivators. About 70% of form work was performed by women. Rao (2006) observed that the fact that women play a significant and crucial role in agricultural development and allied fields including, in the main crop production, live-stock production, horticulture, post - harvesting operations, agro/social forestry, fishing etc., is long taken for granted but also long ignored.

Rupinder Kaur (2008) has made an effort to qualify the extent of women’s contribution in dairy farming in Punjab. She also investigated women’s access and control over resources along with the role of different organizations, associated with the milk producers in dissemination of information and technology and provision of inputs along with their impact on intra-household benefits. She found that though women play a predominant role in dairy farming in Punjab, the under-estimation of their contribution in dairy and other productive activities is a major stumbling block in the way of
striving towards more equal distribution of resources. It emerges that the cooperative system takes more interest in information dissemination programmes compared to private sector. The study concluded that improvements in dairy animal and provision of small plots of land for the landless can go a long way in solving the problems of employment and poverty.

N. Narmathal et. al. (2009) conducted a study on level of participation of women in livestock farming activities in Tamilnadu. They concluded that the farm women contributed in livestock farm activities in addition to their routine household duties. Majority of the farm women were middle aged and had high school education. Majority of respondents were in nuclear family and had small family size. The management activities were actually done by women. Cent per cent work in feeding and watering animals was done by women. Activities like care of new born, care of sick animals, poultry, identification of sick animals/birds and care of animals during parturition and post parturition were also actually done by women. High level of supervision was noticed in marketing of live animals and selection of breed. It could be concluded that actual doing by women are more in activities related to caring of animals and less in outdoor activities like marketing and selection of animal. Capacity building in the activities like deworming, delicing, deticking, record maintenance, marketing, availing credit facilities, selection of enterprise and
breed would improve their involvement in livestock enterprise due to improved skill in the above activities.

**II.2.2 Studies Related to Economic Contribution of Women in Agriculture Work**

A number of scholars have estimated the economic contribution of women in agricultural work. Mencher and Saradamony (1982) undertook a study of agricultural labourers in six villages, two each from Kerala, Tamil Nadu and West Bengal. They found that women’s economic contribution to the household is more than half of the household income and displacement of women without offering adequate other employment opportunities will enhance the pauperization and marginalization of poor working families.

Gita and Chiranjib Sen’s (1985) study, based on the NSS 32\textsuperscript{nd} round on Employment and Unemployment, revealed that an improvement in the household economic position in terms of access to land or income leads to the withdrawals of females from any income generating work outside the home.

Ruth Dixon Muller (1985) attempted to measure the contribution of female workers in agriculture and household tasks. She also suggested how to measure the invaluable female contribution through more careful design of questionnaires and training of interviewers to sensitize them to their own cultural basis and those of their respondents.
S.C. Patnaik and Sailabala Debi (1986) conducted a study on women’s economic contribution to the farm sector in Orissa. They conclude that women labour contribute more in terms of time, output and income and they need a fair deal both in socio-economic planning and in decision-making.

Patel (1989) has argued that due to the invisibility of unpaid work at home, value of women’s labour is under estimated leading to their exploitation. In other words, rural women work for longer hours than men but are under paid.

A study of women’s role in rice cultivation in Tamil Nadu, West Bengal and Kerala conducted out by K. Saradamoni (1989) revealed that in these three major rice cultivating regions women’s involvement in rice production and related activities is much more than is recorded by official and other agencies. Contrary to commonly held view and notions, the participation of women in economic activities is important in rural household, and their earning and contribution to household maintenance are crucial in low income households. Yet women’s work and contribution, both to the paddy production and to the household have been ignored and devalued.

Usha Tuteja (2000) in a study of Haryana pointed out that female agricultural workers not only participate in agriculture production but also contribute significantly in family income on all farm size. Their earnings are
found most crucial for the landless and small farm household. The proportionate contribution of females declined with increasing farm size, while the opposite is true for absolute income. Further she found that the status of female agricultural workers in decision-making is poor. Ownership rights in land are almost non-existent for female workers. She concludes that the female agricultural workers do not enjoy the status commensurate to their involvement in the household as a worker. They are not integrated into the mainstream development process in the rural areas despite being the backbone of the village economy.

II.2.3 Studies Related to Time Spent by Women in Work

Another set of studies focus on time spent by women in work. A study conducted by Shanti Chakravorthy (1975) in some villages of Haryana to see the role performances of women in the farmers’ families revealed that an active farm women spends 8 to 9 hours on the farm during the peak agricultural season, 3 to 4 hours on taking care of the cattle and 3 to 4 hours on their household chores.

Veena [1979] found that the rural women spent 7.5, 4.0 and 6.7 hours per day in the home, dairy and allied activities respectively. In peak season, the average time spent by them on these activities increased to 6.4, 3.6 and 4.0 hours per day respectively.
Agarwal [1983] found that women devoted 17%, 68% and 15% of their work time to agriculture, animal husbandry and supportive activities respectively.

Maria, Miss (1984) on the basis of studies in six West Bengal villages reported overall labour-force participation rates of 8 percent of men and 10 percent for women the main agricultural activities observing female labour were transplanting, weeding, processing, storage and supervision. The study revealed that although female participation in traditionally defined economic activities was low women's total hours of work including work with the household were marginally higher than for man.

S.B. Danagat and D.B. Yadav (1985) conducted a study in Ahmednagar district in Maharashtra to see the role played by women in crop production. The study revealed that the female labour constituted 34 per cent of the total human labour utilization on the farms. This proportion was higher on the small farms. It was observed that the proportion of hired female labour used on the farm to the total hired human labour was higher (38 per cent) as compared to that of family female human labour (32 per cent). This may be due to the lower wage rates for the females than for the males and their relatively more use on larger farms.
N.A. Grdre and Y.P. Mahalle (1985) also studied the participation rate of female labourers in changing agriculture. Female farm worker was observed to be more dependent on farm labour for employment as compared to male farm workers. High variability (44.22 per cent) in month-to-month employment was observed in case of female farm workers when viewed from overall employment angle. Month-wise employment of female farm workers engaged from 26.1 days in the month of March to 21.52 days in the month of July. This indicated that the female farm workers were under-employed.

All India Co-ordinated Research Project in Home Science [1985] made a study on the time disposition pattern of rural women in three districts of Haryana. The study finds that a rural home maker on an average spends 15 hours 10 minutes per day in various household activities including animal care. Farm related activities like raising of nursery, ploughing, tilling and sowing were performed by males, while crop core activities, viz, weeding, hoeing, pruning etc, were performed by females in Jind, Hissar and Ambala.

D.V. Singh and J.P. Bhatia (1985) examined the role of women in agricultural economy in Himachal Pradesh. The study revealed that among the farm workers the proportion of females was higher than that of males. On an average, a female worker devoted 4.2 hours of work per day on marginal farms, 4.1 hours on small farms and 3.6 hours on medium size farms. About two-thirds of their time was utilized for tending of cattle and one-third for crop
production activities. In addition to this, women devoted considerable time in household chores.

R.K. Punia et. al. (1991) conducted a study in three districts of Haryana state on women’s participation in agricultural production process. In this study an attempt was made to analyze the participation of women in different agricultural operations during kharif and rabi seasons and to see whether their participation varies among caste, classes, age groups, stage in family cycle and regions. The study revealed that in *kharif* season women’s participation in different operations of agricultural production process was as follows: pre-sowing activities (100 hours), paddy transplantation (126-250 hours), weeding (201-400 hours), harvesting (200 hours), threshing (81-160 hours) and post-harvest activities (50 hours) is moderate. In *rabi* season percentage of time spent in these activities was: pre-sowing activities (more than 100 hours), weeding (more than 200 hours), harvesting (200 hours) and post-harvest activities 20.27 per cent (61 to 120 hours).

Patnaik (1995) study looked at the contribution of employed women to household income. She has given more importance to the place of work. According to her, about 8 hours a day women are working at the place of work and another 8 hours they work at home.

Kaur and Punia (1998) examined the participation of women in home, dairy and farm activities in three districts of Haryana. It was revealed that on an average, farm women spent 8 to 10 hours in household activities. The level of
rural development, caste, per capita income, socio-economic status of household and technology were found to be positively and significantly related with the time spent in household activities. About 60 per cent respondents were involved in activities related to agriculture. The paddy transplanting, weeding, harvesting and winnowing emerged as female dominated activities, while women were equal partners in harvesting and threshing.

II.2.4 Studies Related to Impact of Farm Mechanization and Technology in Agriculture

Dhillon [1980] in his study of changing role of rural women in Ludhiana district of Punjab found that women work in household activities registered little change. Unable to cope with the technological change, they continue to carry out certain monotonous chores of farm work associated with harvesting and processing food grains.

Sinha, S.D. (1980) in a study of two villages of the Muzaffarpur district of North Bihar revealed that women of landlord class did not devote any amount of their time in agriculture and allied activities as their most of the time was spent in domestic work followed by looking after and dressing grains. Maximum amount of time of all the classes women devoted greater proportion of their time in economic activities and were good source of additional family income. Technological advancement has displaced women from their traditional agricultural activities like grass cutting vegetable selling, low drug collection and selling milk.
Maria Mies (1980) undertook a detailed study of the working women in three villages Andhra Pradesh. She discussed the relationships between farm mechanization, displacement of men’s labour, the growing involvement of poor women in casual agricultural labour. She argues that the survival strategies of these women involve them in working variously as casual wage workers, small peasants, petty commodity producers and housewives.

Laxmi Devi Achanta (1982) finds that in villages with modernised agriculture there is a decline in women’s economic activities as compared to villages where traditional farming is still in use. The study highlights the need of training of women in this context.

Beena Agarwal (1984) studied impact of HYV rice technology on women in three major rice growing states in India namely Tamil Nadu, Orissa and Andhra Pradesh. She noted that women, especially those employed as casual labourers, contribute a significant and often a major proportion of the total labour used in rice cultivation. The adoption of HYV rice increases the use of total labour on the farm. The effect on female family labour use on farm is affected by two tendencies, one relating to the increased requirements for labour on the farm with HYVs and the other relating to family prestige. She found that women of the poorer household have a high work load, often higher than borne by men and noted that increased demand for female casual labour may not benefit the women agricultural labour households, if firstly, there is no
increase in daily real wages and secondly, there are intra-household inequality in access to income and consumption item.

Suryawanshi and Kapse (1985) show the impact of an irrigation project on female agriculture laborers. They found that the irrigation project helped to introduce high labour intensive cropping. Therefore, women have to be involved in the process of modernization and transfer of new technology.

A.K. Roy et. al. (1985) also show the impact of technological changes on economic status of female labourers. Due to the adoption of new technology, the use of female labour increased enormously on all size groups of farms. The other important thing, which they found, was that wage difference also exists between men and women. In fact, the relatively low employment and low wage rates of female labour are indicative of the fact that the economic status of the female labourers remains inferior to that of their male counterparts in India.

Ramesh Chand, D.S. Sidhu and S.L. Kaul (1985) studied the impact of modernization of agriculture on female labourers in Punjab. They found that modernisation of agriculture has resulted in increase in employment per hectare of cultivated area for all kinds of female labourers and wider application of new agricultural strategy has resulted in reducing the differential in the wage rates of men and women.
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S. Subrahmanyam (1999) conducted a study on female labour absorption in Andhra Pradesh agriculture. He found that the introduction of HYV seeds and mechanization in paddy cultivation, the two opposing factors affecting labour demand, has the net effect of a mild increase in the demand for total labour but a steep increase in the demand for female labour by 86 per cent. This has increased the share of female labour in rice cultivation from 30 per cent to 47 per cent. All this was possible because mechanization was not introduced in the operations performed by females. The increase in demand for female labour led to rise in the share of casual labourers in paddy cultivation. However, this cannot be interpreted as withdrawal of female family labour on prestige considerations after the increase in incomes resulting from increase in yield. Female members of 85 per cent of the cultivating households participate in the family farm activities and among marginal and small farmers, this proportion is still higher.

Arya Swarnlata and Nirmal Sarhadi (2002) conducted a study in village Johranpur in district Solan (Himachal Pradesh) where a project under NATP on Rainwater Management on Micro Watershed Basis was undertaken in 2000 to examine the female participation in agriculture and other activities. They found that contribution of female labour was higher than that of their male counterparts in agricultural activities before the project period as well as after the project implementation. The highest participation of women labour was
found in performing the inter-culture and harvesting operations on all sizes of farms. Change in crop production technologies as a result of supplemental irrigation further added to the existing workload of females. Similarly in livestock activities, female contribution was far greater than their male counterparts.

II.2.5 Studies Related to Gender Difference in Agricultural Work and Wages

Govind Kalker (1985) finds that marginality and low wages are prevalent among rural women in the regions of the Green Revolution. Women do most of the manual and non-technological work, while men operate the new agricultural machines and control the inputs as well as the produce. In his view women are not recognised for their productive role in the economy. Their reproductive role is considered a natural one and taken for granted. Both men and women are socialized in a manner, which prescribes the public and economic spheres as the male sphere and regards the domestic as the non-productive, non-economic female sphere. The technological development has maintained and perpetuated this distinction through the process of social reproduction, i.e. reproduction of the conditions sustaining a social system.

Harswarup Singh and R.K. Punia (1991) argued that irrespective of the geographical location and time period, women have been the major contributor to labour in the agricultural sector. Wage labourers are increasing due to growing landlessness. Further they found that the division of labour in
agriculture is not very strict on gender basis. However, division of labor is certainly influenced by the gender. Cultural factors are very important not only at the participation level but also in performance of activities. Women participation also varies with the nature of the crop. The major chunk of farm women’s time is devoted to household chores and animal husbandry activities, whereas female agricultural labourers devote most of their time to earn wage. Wage discrimination between male and female not only mars her economic gains but also the social image.

Duvvury Nata (1992) has attempted to examine the various facets of female work participation in India. His analysis has shown that the lower level of female work participation compared to that of men is largely an outcome of definitional basis rather than some inexplicable social phenomenon. He found that long term trend in female work participation is more ambiguous. Because of the logic of the socio-economic process unleashed in post independent India, there has been an apparent decline in percentage of economically active female population. He concluded that given the increased pauperization the extent of forced or involuntary unemployment most probably increased and also that workers were drifting more into marginalized occupations which are not easily captured by standard definitions of productive work.

Maithili Vishwanathan (1994) raised the burning problem of women in agriculture. She argues that the type of agricultural activities generally expected of women is highly labour-intensive and she participates in
agriculture more as compared to men. But women generally do not enjoy the benefits of new technology. Women’s wages are generally less because it is assumed that the efficiency of women’s labour is poor compared to that of men.

II.2.6 Studies Related to Factors Affecting Women’s Participation in Agriculture

A large number of cross section studies were also undertaken with a view to analyzing the factors affecting female work participation rates. The studies suggested that participation amongst women is affected by various economic, cultural and social factors like level of literacy, caste, land holding status, age, income levels of households, the level of development of a region as reflected for example in agricultural productivity, technological change, etc.

Various arguments were put forth to explain the rise in women agricultural labourers. A.K. Srimaly (1970) argued that apart from growth in this category, the increase in agricultural enterprises, the slowing down of rural-urban migration as well as displacement of women from household industry and service sector were plausible causes of expansion.

On the basis of data gathered in three states, Kumaresh Chakravority (1978) argued that women who had originally worked on their small plots had more time because of reduction in the size of land holding between 1961 and
1971. This led them to work as agricultural labourers in order to make up the losses in family income resulting from their smaller holdings.

Geeta Sen (1983) studied 76 districts in the states of Gujarat, Rajasthan, West Bengal, Madhya Pradesh and Tamil Nadu. In her study she found the incidence of women agricultural labourers in the female population was fairly high in paddy growing. She concluded that there would be a positive correlation between underemployment and the incidence of women agricultural labourers in the rural population. She also found that within a region agricultural labourer and a fortiori women agricultural labourers were among the poorest. Data for the major states of the country indicate a higher incidence of women agricultural labourers in the districts where agricultural growth is low, coarse grains tend to be grown and land ownership is more unequal. Furthermore, the unemployment rate among rural women was higher in the states that had a higher incidence of women agricultural labourers, while average daily earnings are lower.

L.N. Dutta and N. Sharma (1985) also attempt to evaluate the contribution of female labour vis-à-vis the male counterpart with empirical data from a backward agricultural region. They concluded that participation of female labour is significantly higher on peasant farms, most of which belonged to the small and medium size classes. Women workers are generally allocated lighter work such as transplanting of paddy, weeding and harvesting. By and
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large, ST female labourers have greater willingness to participate in agriculture as compared to other high caste families.

M.P. Azad, M. Prasad, R.N. Yadav and S.S. Bhatia (1985) analyzed female participation in agriculture and allied activities. They conclude that the role of women workers in the operations of the farms as well as in the family earning is of immense importance. There was a significant difference between the proportion of women engaged on own farm and as wage earners. Per household family labour participation was highest for Scheduled Caste women workers (71.1 per cent of total employment days) followed by backward caste (47.7 per cent) and upper caste women (36 per cent) indicating thereby that women as wage earners working on the big farms and in allied activities mostly belonged to ST families. They also found that majority of illiterate women was confined to agriculture work alone.

The study by Arya and Madhukar [1988] revealed that a significantly large number of women from scheduled caste families were engaged in livestock rearing activities. Their level of education and exposure to extension work was also found to be low. It was also found that the number of farm female workers per hectare was highest in the case of scheduled castes, who were mostly illiterate.

D. Devendra and K.R. Chittedi (1992) studied women employment in agricultural sector in Telangana region of Andhra Pradesh. They found that female work participation rate has declined. It is due to the change of worker’s
definition only. Season and irrigation facilities are the main factors that determined the employment and wages of the agricultural women labour. In Andhra Pradesh, at the state level variation shows that the overall participation rates are quite less. Male participation is more in categories of cultivators and other workers but their participation is less in the category of workers in household industry and agricultural labourers. On the contrary, female participation rate is more for the category of agricultural labourers, household industry but the rate is less in case of cultivators and other workers.

Anubha Roy (1993) conducted a study on women agricultural labour in Bihar and concluded that the incidence of women agricultural labourer is not only very high in Bihar, but there are wide variations among the different districts in this regard. Among the technological factors, availability of irrigation is seen to increase the incidence of women agricultural labour. In addition, the average size of holding in different districts, indicating an important institutional aspect of agriculture, is also very relevant in this context. The incidence of women agricultural labour is relatively more in those districts where the average size of holdings is smaller.

According to Eapen (1994) the accelerated shifts towards the cash crops associated with the commercialisation process in the agriculture sector resulted in reduced employment opportunities for women.

Jeemol Unni (1999) examined the determinants of female participation in agriculture and pointed out those different dimensions like specific agro-
climatic conditions, crop cultural practices, caste and other socio-economic conditions determined the female participation rate in agriculture and household activities.

II.2.7 Studies Specific to Uttar Pradesh

Very few studies have been conducted in Uttar Pradesh on women’s participation in agricultural activities. A few studies that we came across related to U.P. are reviewed here.

Vinod Kumar et. al. (1985) studied the employment and income pattern of women labour in modern agriculture in district Meerut. This study revealed that employment pattern per women labour, 203 days or 66 percent of the total employment days were devoted to agriculture and 604 days or 34 percent to non-agriculture. Female employment is highest in harvesting, threshing and winnowing (26 percent) followed by intercultural (19%), maintenance of cattle (12%) application of manures and fertilizers (5.25%), sowing (2.6%) and preparation of land (1.6%). The wage rate for all the operation was equal (Rs. 7) except for harvesting, threshing and winnowing (Rs 8). In non-agriculture, female employment was highest in spinning and weaving (14.8%) followed by house construction, repairing and maintenance (14.35%) and sewing and others work (4.9%). Wage rate for sewing was highest (Rs. 10). Total annual income per women labour amounted to Rs. 2,489.
Bhartiya et. al. (1985) has made an attempt to examine participation of women in agriculture and allied enterprises and to analyze the utilization of women labour in various farm operations and to estimate the contribution of female wage earners to the farm income as a whole, in Etawah district. The study was conducted during the agricultural year 1984-85. The study revealed that there was significant difference between proportion of women engaged on own farm and as wage earners. Per household family labour participation was highest for scheduled caste women worker (71.4 percent of total employment days) followed by Backward Castes (47.7 percent) and upper castes (36 percent). The study found that the participation of Backward Caste and Scheduled Caste female labour was more in agriculture, accounting for percent and 55 percent of total employment in agriculture respectively. Women from the lowest strata of the society showed an inclination to take up wage paid employment in agro based industries, if they are educated.

R.B. Singh et.al (1985) conducted a study during 1984-85 in Chhibramau block of district Farrukhabad and analyzed the extent and level of employment and earnings of selected rural labour households. In their study they found that employment per household per annum was available for 720 days for women labour participant households and in the case of women labour non-participant households, it was available for 504 days. Income from all
sources in women labour participant group amounted to Rs.4850 per household per annum and Rs. 4070 for women labour non participant household.

Singh D.S. and Jaiswal, M.M. (1985) conducted a study on pattern of employment, wage structure and income of women labours in the rural areas of district Jaunpur during 1983-84. The study revealed that a women labourer got total employment of 270 days on an average per annum. Of this, 85.56 per cent was from agricultural sources and the rest from non-agricultural sources. The break-up of female labour utilization in different agricultural operations indicate that 32.68 per cent was found in harvesting. Threshing, sowing and irrigation accounted for 13.2, 12.99 and 12.99 percent of total employment respectively. They got lowest employment in land preparation which was due to the unsuitable nature of work. Payment of wage was made in cash and kind.

Of the total income of Rs.2397 per worker per annum 90.24 percent was derived from agriculture and rest from non-agricultural sources. They also observed that the economic condition of women labour were pitiable. Their socio-economic status in the rural community is the lowest. Their hours of work are not fixed. Wage rates paid to women workers were also lower as compared to the male workers for the same job. They suggested that there is a need to regulate the hours of work and fix minimum wages in the study areas.

Ram Deen Maurya (1988) studied the role of women in agriculture of Uttar Pradesh. In his study he divided the whole state into different regions according to women’s participation in agriculture as very poor region (<20%),
poor region (20 to 40%), average region (40 to 60%), rich region (60 to 80%) and very rich region (>80%). He also describes the factors which affect the women’s participation in agriculture such as household duties, level of economic development, literacy and education, level of urbanization, economic condition of the family, social status, age factor and male migration.

M.P. Sigh and N. Sharma (1991) conducted a study on women in rice based farming system on the basis of data collected from 20 districts of Uttar Pradesh. The districts were divided into two zones based on their agro-climatic conditions, viz. plain region and hill areas. The study concluded that in the hills, the level of female participation was higher than that of males in the rice based farming system enterprises. The level of hill women’s participation was statistically higher than that of their counterparts living in plains for such activities as raising of paddy and wheat, cultivation of fruits and vegetables, maintenance of household, etc. Further, it shows that the levels of female and male participation in the plains of western U.P. were statistically at par with respect of such activities as paddy and vegetables cultivation, maintenance of livestock, etc., while their levels are statistically different for the activities as wheat and fruit cultivation, in which males’ level of involvement was higher.

Singh et.al. (1999) examined the pattern of employment of men and women farmers in rice and wheat production system based on the data collected from Kaushambi district of Uttar Pradesh. The study revealed that farm women were intensively involved in crop and livestock production and in
processing of farm produce such as cleaning, drying, grinding and selling of rice and wheat. The introduction of technology in rice-wheat farming system has led to the reduction in the male labour demand and increased the use of hired female labour. The differential pattern of wage structure between women and men was largely determined by nature and duration of agricultural task. The study suggests that there was a need to evaluate technologies for reducing women drudgery and to increase labour saving gender-adjustable technology in agricultural development in future.

P.S. Garia (1999) conducted a study to analyze women participation in agricultural work and their role in decision-making process about economic and household matters in Chamoli and Almora districts of Uttar Pradesh. The study revealed that the total working hours spent by adult females accounted for 85 per cent of total agricultural work and 81 per cent of work related to animal husbandry. Household female labour contributed as much as 80 per cent of value of productive work and nearly 90 per cent of the value of domestic work. Though the women performed more than four-fifths of agricultural work, their decisions were accepted only in less than one-third of the cases. The power to take or influence the decisions by farm women were found to be high in the matters related to seed selection, purchase of agricultural implements and sale and purchase of livestock 34 per cent.
II. 3 Conclusion of the Chapter

The review of literature reveals that women are the backbone of agricultural workforce in different parts of the world. She does the most tedious and back-breaking tasks in agriculture and animal husbandry in addition to shouldering the burden of household work. However, her hard work remains unnoticed and often unpaid. Women’s participation in agriculture has been examined from a number of perspectives. But economic evaluation of women’s work and status and position of women who work on their own farm has been generally ignored by the researchers. Also very few studies have been conducted on women participation in agriculture in Uttar Pradesh particularly in western region.

It is in this context the present study aims to fill these gaps to some extent. It examines with the help of a field study the role and participation of household women in agriculture, animal husbandry and in household work. It attempts to estimate the time household women in farm family spend on different activities and also evaluates their economic contribution in monetary terms also. The study also examines the status and position of farm women and their participation in decision making.