CHAPTER – II

CONCEPTS AND REVIEW OF LITERATURE

Operational Definitions of Key Concepts

Concept of Cost

Cost concepts used in farm management studies are adopted. Cost A, includes the actual cost increased on labour, seed, menure, fertilizers, irrigation charges, charges for hire of agricultural implements, land revenue and other miscellaneous expenses. Cost A₂ comprise Cost A₁ plus rent paid on leased in land.

Gross Value of Output

It is these value of main products plus by-products at farm harvest process minus cost A₂.

Farm Business Income

Farm business income equals to gross value of output minus cost A₂.

Participation

Participation is considered in this study as the actual participation of respondents in the selected farm operations, house-hold, dairying activities and decision-making.
1. Women's role and access to agricultural extension services in Asia

2. Women's role and access to agricultural extension services in Latin America

3. Women's role and access to agricultural extension services in the Near East

Women's productive role in agriculture and their access to agricultural extension services in different regions of the developing world have been evident from various reports of international organizations and agencies, literature and research studies. An attempt is made in this section to critically discuss the reviews in order to highlight the research gaps. Hence, they are categorized into four groups in order to obtain a geographic overview of women farmers in farm activities.

1. Women's role and access to agricultural extension services in Sub-Saharan Africa

Technical Centre for Agriculture and Rural Cooperation (CTA, 1993)\(^1\) reported that women in Africa make up more than one-third of the work force. They account for 70% of agricultural workers, 80% of food producers, 100% of those who process basic foodstuffs and they undertake from 60% to 90% of the marketing.

Further, they come up against all sorts of difficulties in their attempts to be seen as agents for development in their own right. First and foremost, they have no land ownership rights. In some communities, they have only annual rights of use of individual fields given to them by the head of the household. Studies have shown that the majority of rural women obtained their farm land from their husbands or their families. Often this land is "given" to the women for a short period, perhaps just one growing season (Ishola, 1987; Aidoo, 1988; Eghugara, 1989; Olawoye 1989 and Modupe, 1990). In general, they cannot make any long-term improvement of the land, such as planting perennial fruit crops, arranging irrigation facilities, etc. In 84% of water and land conservation schemes through which land has been reclaimed, only six per cent of women have been able to acquire official ownership.

It is also stated that women do not usually attract the attention of credit brokers since the loans they request are often small and are costly to administer. Often credit systems use existing village cooperatives of which usually only the male heads of households are members, even though there is no formal bar to female membership. The final obstacle to obtaining credit

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2 Women’s Role in Agricultural Extention Services by different authors in different years.
for women is that illiterate women cannot complete the necessary bank loan forms. Although these days African primary schools have as many female pupils as male, the rate of illiteracy among women is still above 90% in 28 African countries, according to UNESCO figures (CTA, 1993).³

All the project trainings tend to be oriented towards crops traditionally grown by men. Timetables take no account of women's chores such as looking after children, cooking, cutting wood and fetching water. In many countries cultural or religious factors play an important part in preventing women from receiving training. Trainers and agricultural extension agents are usually male and thus may not speak to, or get close to women. This is especially true in Muslim countries (CTA, 1993).

The International Labour Organization (ILO) estimates that 78% of women in SSA and only 64% of men are economically active in agriculture (Buvinic and Lycette, 1988).⁴ Food production there has long been recognised as primarily a women's activity, but women also participate increasingly in other agricultural activities such as processing, cash cropping, animal husbandry and marketing.

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³ Ibid., P.65
Women in West Africa play a pivotal role in agriculture, providing most farm labour and making the key decisions for many agricultural activities which can be documented from different studies conducted in various states of Nigeria (Gbolagade, 1987 and Folasade, 1991). Ohuegbe (1989)\(^5\) observes that women farmers contribute more to food production and family labour than men. It was estimated that over 95% of rural women are small-scale farmers who produce most of the food and bear the burden of day-to-day family subsistence. According to diagnostic surveys of the agricultural extension zones, women perform almost all the cultural operations in food production. Such operations as bush clearing and burning, ridge/mount making, planting, fertilization, weeding, harvesting, storage, processing and marketing are carried out by women. Women also have sole responsibility for cultivating compound farms (or gardens) where continuous cropping is done with household refuse.

Adekanye (1984)\(^6\) reported, from the time use study of men and women in rural areas, that women spent 30% of their time performing prescribed "prime" activities, such as child care and other housekeeping


chores. Moreover, these women managed to spend almost an equal amount of time (about 8 hours compared to the men's 8.1 hours) on income-generating activities of farming, food processing and trading. Women's leisure time was an estimated 1.4 hours, or much less than half of the 3.4 hours which men devoted to leisure.

A time allocation study in one Gambian village reported that women performed 53% of the agricultural and 73% of domestic work, compared with 33% and 6% respectively for men (**Baston 1987**). Available data in Kenya indicate that women spend one-third of their working hours on food preparation and child care, which stretches their working day to 13-14 hours. Most of them are reported to spend 3 hours a day fetching water (**World Bank, 1989a**). **Ishola (1987), Adewara (1988) and Folasade (1991)** identified a much lower percentage of women farmers than Oyo (24%), Kwara (23%) and Ondo (15.7%) as having membership in cooperative organizations.

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Ishola (1987)\textsuperscript{9} further reported that knowledge about improved technologies was the main constraint in agricultural production, while lack of separate land and inadequate contact with extension agents were the main problems reported by Folasade, (1991).\textsuperscript{10}

Olawoye (1993)\textsuperscript{11} reported that lack of mobility, shortage of qualified female extension staff, lack of coordination between the Unified Extension System and Parallel Extension Services, inappropriate extension packages, lack of flexibility in extension strategies were the main constraints in extension services to women farmers.

Akinbode (1991)\textsuperscript{12} indicated that tasks that women performed on the family farms were different in some states from those they did on their personal farms. For instance, in Ogun, Gongola and Cross River states women performed production and marketing related roles both on family as well as on personal farms. On the other hand, the women in Kano and Niger States did not work on the family farms except for processing. More than


70% of the women farmers in Ogun Niger and Cross River State and 60% in Gongola State engaged actively in planting, weeding, harvesting, cleaning, application of fertilizers and transportation. He also reported that in Kano State very few Muslim purdah women (20%) engaged in production related roles. The study also revealed that the majority of women farmers of Ogun and Cross River States made their own decisions. In Gongola, Kano and Niger States, women farmers depended on their husbands. And a similar finding was also reported by Adeniji (1991)\textsuperscript{13} in Oyo state. Furthermore, Akinbode (1991)\textsuperscript{14} indicated that the male agents reached more women farmers than their female counterparts. The proportion of contact of extension services with individual farmers was 61.5% in Ogun State, 45% in Gongola State, 23% in Cross River State, 79% in Kano State and Niger State. Attendance at training sessions and meetings was limited, except in Ogun State. It was also revealed that the extension agents required intensive and comprehensive training in fisheries, agro-forestry, and gender specific nonagricultural technologies.

\textsuperscript{13} Adeniji, M.A. 1991. The role of rural women in household food security and nutrition in Ifedapo Local Government Area of Oyo State. Unpublished Master's Thesis, Department of Agricultural Extension, University of Ibadan.

Staudt (1978) revealed that female-menaged farms are significantly less well served by extension services than are jointly-menaged farms. Further he indicated that women's participation in farmer training was low due to lack of awareness of the availability of training and lack of transportation facilities to the training centre.

Chale (1991) identified some problems of women farmers in Nigeria in participating in agricultural development programmes. These were as follows: lack of demonstration equipment and teaching aids; insufficient and ineffective extension services to farm women; lack of training on gender specific tasks such as processing, preservation and storage; lack of basic infrastructure; inadequate training of extension agents; lack of appropriate technological and development information; inadequate use of existing women farmers' groups; inadequate coordination between national and international agencies; urban-directed flow of information; lack of access to credit; inadequate agricultural inputs; inadequate interaction between extensionists and technology generating centres; mobility problems and few women extensionists. Further, she revealed from her survey

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conducted in five pilot states of Nigeria that decision-making in agricultural activities in Niger state was fairly shared among the family members while in Kano, Cross River and Gongola it was between husbands and wives. In Ogun state a large number of women farmers expressed their dominance in decision-making in most household and farm activities.

2. Women's role and access to agricultural extension services in Asia

In Asia, women provide much of the labour for the staple crop, rice. An in-depth study from Nepal (Acharya and Bennett, 1983)\textsuperscript{17} gives an unusually detailed picture of the labour contribution by sex for rice and other staples. It reports that women perform 66\% of the labour involved in planting, 75\% in weeding, and all of the cleaning and storage of rice. In the production of wheat, they contribute 66\% of the work; for maize, 94\%; for oil seeds, 85\%; for millet, 94\%. In addition, they make 42\% of the agricultural production decisions and are most influential about seed selection and fertilizer use.

In Thailand, the number of women engaged in agriculture was 6.65 million. They are the major source of labour in subsistence agriculture (100\%) and are engaged in various aspects of agricultural production, animal

husbandry (50%), inland fisheries (90%) and food processing (100%) and 70% are in farm management. The majority of women are engaged in agricultural work on the family farm. Seven out of ten are unpaid family workers and less than 10% are employed in private enterprises. Women generally make decisions on household expenditure and savings and some make decisions regarding big investments, such as buying land. However, men not women decide on the purchase of agricultural inputs, such as seeds, fertilizers and pesticides (Sirisambhand and Gordon, 1987).

The fact that women play a crucial role in agricultural production and trade has been widely ignored by development planners. Women have been excluded from training programmes on modern methods of crop cultivation, food production, labour-saving technologies, livestock and poultry management, small-scale industries, marketing and services. Credit for technological improvements in agriculture is seldom made available to women. Membership in cooperatives through which agricultural loans are generally channelled is restricted to "heads of households" who are traditionally defined as male (Dulyapach, 1985).

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It was noted that in Thailand "most technology transfer activities in agriculture (such as animal husbandry practices, seed selection, utilization of fertilizers and pesticides), do not differentiate between men and women in their target groups. However, it is interesting to note that few women participate in the training programmes. The government officers claim that women are not interested in new technology while according to non-governmental agencies, the number of women candidates always exceeds the capacity of their training budget". This was corroborated by women farmers at a workshop on: "Directions for strengthening the role of women farmers" (Anonymous, 1989).20 There, most of the women participants expressed an interest in receiving training in new technology that would improve their agricultural productivity and lessen the burden of carrying out their tasks. It should be noted also that there are cases where government officers go out of their way to encourage women farmers to participate in agricultural activities. For example, in the dairy project in Surin Province, the majority of the group members are women. The Provincial Animal Husbandry Development Board recognised the pivotal role women could play in raising dairy cows, and supported them in this activity. Income from

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dairy cows has become the main source of family income. With the support of the Department of Cooperatives, a Dairy Cows Cooperative was set up to strengthen the members' knowledge of marketing strategies (Deelau, 1989).21

Provision of credit to women farmers is still limited in Thailand. In general, because poor women do not have assets which they can put up as collateral for loans, they are denied access to credit. Television has superseded all other information channels in importance regarding agricultural information for Thai farmers across the country.

That women and men work side-by-side in nearly all agricultural activities, with the exception of some laborious work such as land preparation. The actual hours women put into crop activities are about 64% of those contributed by men. Furthermore, it was seen that meetings with agricultural extension officers for women are uncommon, as only 20% of women attend such meetings at an average rate of two to three times per year, as compared to 60% of men attending these meetings at the rate of about five times per year. Another interesting point is that formal sources of information are more accessible to men than to women, while women rely

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more on informal sources such as neighbours or their spouses. It was found that men took a more active part in farming decisions than women. With respect to household and social expenditure, women reported that they had more control than men *(Shinawatra and Pitackwong, 1987)*. It was also reported by the Farming Research Institute (Anonymous, 1991) that farming decisions were mainly dominated by men, while women had a more decisive role in domestic tasks.

Throughout South-East Asia and China, women are also heavily involved in agriculture. Within the Indonesian nuclear family, women tend to play an important role in decision-making, but outside the household they are generally subordinate to men. They are responsible for providing family food, collecting water and fuel, generating household income (including unpaid labour on the family farm), providing labour in exchange for a share of the crop and generating an independent income from wage labour, handicrafts, agro-processing and marketing. Philippine women are noted for their menu entrepreneurial activities, often in the informal sector and independent of their husbands *(Saito and Spurling, 1992)*.

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Studies in South Asia showed that women from large landholding families who supervise farm labour share their agricultural information with the women laborers, with beneficial results for both the landowners and the labourers. In these areas, landed women would make good contact farmers (Saito, 1992).  

Data from commercial banks in Tamil Nadu, India, showed that only 6% to 12% of the loans were given to women and, moreover, none of these were agricultural loans. A survey of households in Bangladesh found that women made up only 2.8% of the recipients of formal credit (Saito, 1992).

3. Women's role and access to agricultural extension services in Latin America

Estimates from Peru and Chile, showed rural women's contribution to the work in agriculture as 21% and 10.4% respectively (Baeza, 1982 and Deere, 1982).

Rogers (1980) suggested that the primary impact of the western influence on gender roles in a society is to transfer much of all of the non-

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25 Ibid., P.54
26 Deere case study in Peru, 1982.
farm subsistence work to women, followed later by a transfer of subsistence farming. Case studies indicated that in meny cultures, men clear the land and do the initial ploughing, whereas women plant, weed and help with the harvest. An interesting version of this division of labour is seen in Jamaica where, on steep hillsides, men prepare the soil with a plough for both subsistence and commercial crops (Chancy and Lewis 1980). The tasks that women do also vary according to farm size (Deere, 1982), or when implements are involved. On larger farms where meny modern inputs are used, female participation is limited, but on the smaller farms there is a higher level of sharing of tasks and decision-making between the sexes.

In general, as shown by field surveys in Trinidad and Tobago (Harry, 1980), women farmers perform the less strenuous tasks such as planting, cutting, weeding, fertilizing, moulding of soil around young plants and harvesting. Some of these tasks are gender-neutral or interchangeable, especially harvesting and fertilizing. Pest control is less likely to be undertaken by women because it is thought that the use of chemical sprays is dangerous to women, especially if they are pregnant or lactating. Of the 96

farmers in the Trinidad survey who used insecticides, weed killers and fungicides, men performed the task on 77 farms, whereas it was jointly carried out on 10 farms. Only five females, all of whom owned their own farms, sprayed their own crops. On other female-operated farms, pest control was delegated to hired or family labour.

Decision-making on cultivation, selling and marketing of minor crops was the responsibility of both husband and wife in Trinidad and Tobago (Harry, 1980).

Chase (1988)\textsuperscript{31} reported that Jamaican women play an important role in food production as small producers and as agricultural labourers. In an agro-socio-economic survey conducted in six parishes in Jamaica, 45 % of agricultural producers were women. The Agricultural Census of Jamaica (1978) showed that, of the total of 182 farms only 169 having single holders, 19% were operated by women.

In general terms, female farming, especially in the smaller islands, is most common on subsistence holdings of less than five acres of land. The Agricultural Census for Saint Lucia (1987), for instance, reported that of a

\textsuperscript{31} Chase, V. 1988. The economic and social context (Chapter II) of Caribbean Women in Agriculture. Food and Agriculture Organization of the United Nations, Regional Office for Latin America and the Caribbean, Santiago, Chile.
total of 11,504 farmers in the entire country, only 0.9% had holdings of more than five acres; 84% of the female farmers operated less than five acres of land; a further 11.4% were reported as being landless. In Jamaica, according to the Agricultural Census (1978-79) the land owned by women represented only 12% of the total cultivated land.

**Chase (1988)**\(^{32}\) further identified women as being involved in multiple roles: agriculture, child care, home maintenance within the farm household, etc., and because of stereotypic notions of these roles, they confront specific problems in becoming more efficient food producers.

**Knudson and Yates (1981)**\(^{33}\) in their survey on Saint Lucia found that women worked five to six hours a day on the farm, three to four hours on housework and two to five hours on child care. Occasionally, time was also spent on marketing farm produce. It is not surprising that 22% of the women in this survey felt that they had no leisure time at all.

**Chase (1988)**\(^{34}\) also discovered that limited capital (100%), inadequate markets (94%), unavailability of inputs (91%), insufficient land

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\(^{32}\) *Ibid.*, P.


\(^{34}\) Chase, V. 1988. The case of the Mabouya Valley in Saint Lucia, Empirical testimony. Food and Agriculture Organization of the United Nations, Regional Office for Latin America and the Caribbean, Santiago, Chile.
(90%), unavailability of credit (83%) and lack of agricultural extension (82%) were the major constraints faced by the women of Saint Lucia in farming activities.

Lewis (1990)\textsuperscript{35} in his study on female participation rates in agricultural extension programmes revealed that 25% of women farmers attended extension meetings.

Rajak (1990)\textsuperscript{36} reported that nearly 15% of the women farmers of Trinidad received agricultural information from their spouses and only 0.4% from the extension workers. Furthermore, 67% of them made the farm decisions themselves.

4. Women's role and access to agricultural extension services in the Near East

Rural women in Syria do a great deal of agricultural work. They are more involved in lighter work that does not require great physical effort, but needs care and patience: planting, transplanting, weeding, thinning, threshing, harvesting and pulling out the roots. Such activities usually continue throughout the year and are often of a more tedious nature. Most of

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the work is done manually or with the use of hand tools. Poultry raising, care of livestock, milking and milk processing at the family level are also the responsibility of rural women. It was also noted that illiteracy among females engaged in agricultural work was more than 90% and they were mainly considered unskilled cheap labour. Available information has shown that the redistribution of land under the agrarian reform programme did not significantly increase the number or proportion of women landowners in the country. Membership in agricultural cooperatives is open to male and female farmers; nevertheless, social and cultural barriers still limit rural women's participation in cooperatives. It was reported that female membership is increasing, but at a very slow rate, i.e. 0.5% (FAO, 1983b).37

In Syria, it was reported that lack of proper training of the extension workers in extension methodology and technical agriculture subjects, an insufficient number of female field extension agents, lack of incentives, lack of transportation and lack of inputs for extension work are the major reasons for the ineffectiveness of the extension programme to women farmers (Hassan, 1987).38

In most of Western Turkey, women are much involved in agriculture, particularly for the production of fruits and vegetables and the rearing of livestock. There are fewer taboos against men and women interacting than in parts of Eastern Turkey, where women's roles reflect traditional Islamic norms. In Eastern Turkey, women are still active in farming, but more in the seclusion of their homesteads (Saito and Spurling, 1992).39

In Yemen, male emigration is particularly heavy, where an eighth of the population works in paid employment elsewhere. The women left behind have to assume the agricultural duties of the absent husbands and, as direct recipients of remittances, have greater decision-making power than would be expected in an Islamic country. About 80% of women live in rural areas and work all the year round. In contrast, men mostly work seasonally on heavy work, technical (pesticide spraying) work, marketing and delivery, and cash crops (Saito and Spurling, 1992).40

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40 Ibid., P.156.
REVIEW OF STUDIES ON WOMEN'S PARTICIPATION IN AGRICULTURE

Chaudhary and Sharma (1961)\textsuperscript{41} conducted a study in Kanjhwala Block of Delhi territory and found that women participated in manuring, weeding, hoeing, harvesting, threshing and sugarcane production along with men-folk. As compared to joint families, the contribution of women in the nuclear families in the agricultural production activities was maximum. The study further revealed that contribution of female labour to agricultural production was greater than that of males.

Singh (1968)\textsuperscript{42} studied the participation of rural women in agricultural operations in the NES block of Jabalpur in the State of Madhya Pradesh and revealed that a comparatively large proportion of women participated in seed storage, winnowing, harvesting and care of animals. It was observed that women belonging to the middle age group, having frequent urban contacts and with formal education, coming from lower castes and possessing small land-holdings participated in agricultural operations in larger proportions than others.


Devadas et al. (1972) reported that women participated in sowing, harvesting, threshing, transplanting, seedling, storing, the grains, winnowing, preparing seed-beds, picking the cotton pods, shelling the pods, threshing, scaring the birds, caring for cattle, milling and application of fertilizers.

Mulay et al. (1974) examined farm work done by womenfolk in Kanjhayala Block of Delhi territory and observed that majority of women contributed substantially towards the labour-force required on the farm throughout the year except tilling, seeding, and carrying the produce to the market which were exclusively the jobs of the men. Women did weeding harvesting, threshing, winnowing, irrigating lands, and carrying the produce and fodder from the field to home.

Puri (1974) studied the role of farm women in animal husbandry in Najatagarh Block of Delhi and revealed that all the animal related tasks were wife-centered.

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Chakravarty (1975)\(^{46}\) conducted a study in some villages of Rohtak District of the State of Haryana and found that an active farm women spends 8 to 9 hours on the farm during the peak agricultural season, 3 to 4 hours in taking care of cattle and 3 to 4 hours on household chores. They participate in most of agricultural operations.

Chatterjee (1975)\(^{47}\) found that in the operations like sowing, irrigation, transplantation etc., male labourers were generally employed; and the harvesting and post-harvesting operations offered the greatest employment opportunities to all the casual male, female and child labourers in the State of Bihar.

Wahabuddin Ahmed (1975)\(^{48}\) observed that in meny parts of India, women particularly participated in agricultural operations as far as production of grains is concerned like preparing the land, sowing, weeding and harvesting of crops. The only operations in which women are very little involved are ploughing of the fields and irrigating lands.

Women play an all-important role as they cook for the family and serve food to the children, men and other members. He further states that the farm women are actively involved in the four stages of agriculture, viz.,

i. consumption;

ii. production;

iii. storage;

iv. marketing.

**Rajammal P. Devadas (1975)** stated that in modern agriculture, women share a number of farm operations with men.

**Kokila P. Bhatt (1975)** highlighted the important role of women in agriculture and animal husbandry. In the rural areas meny women work as 'helpers' of men or independently on the farm. In agriculture, an overwhelming majority of females carry out agricultural operations and generally they prove to be more efficient as compared to men in carrying out agricultural operations. In fact, in meny cases, once the fields are ploughed and crops sown, all the remaining field operations till harvesting are carried out solely by women; whereas, the male members may go out of the village for service or menual work.

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Abbott (1975)\(^{51}\) observed that in Kenya women have traditionally done most of the subsistence farming and to-day they continue to do the subsistence farming as well as carrying the burden of most of the cash cropping including care of cows, a job formerly the exclusive domain of men. Women are primary farm menagers and farm labourers in rural Kenya, and not the men.

Aronoff and Carno (1975)\(^{52}\) on the basis of the study of 862 societies, revealed that women contributed appreciably to their respective economies. The world-wide percentage of food production contributed by women is 43.88 with a range of 32.24 to 50.73 over specific culture areas.

Jones and Jones (1976)\(^{53}\) observed that Limbce women in East Nepal work with men in the Fields during planting, cultivation and harvesting. Only men work with oxen, and women follow with hoes to smooth out the earth, tidy the fields, repair terraces, plant seeds, transplant rice and weed.


Kabir et al. (1976)\textsuperscript{54} opines that women in Bangladesh undertake seed preservation and storage, post-harvest rice processing, grain storage, vegetable and fruit sowing poultry raising, livestock care, food processing, food preservation, household manufacture, repair and fuel gathering.

Simmers (1976)\textsuperscript{55} observes that West African women play significant roles as farmers, traders and entrepreneurs in their own right and these roles are of central importance to the women, their families and the economy of West African countries.

Miranda (1977)\textsuperscript{56} reported that women’s employment in agricultural sector is inversely related to regional development. Data on the labour-force participation of Brazilian women in 1970 revealed that 8 per cent of the women in developed region were in labour-force and in the intermediate region and less developed region this percentage was 24 and 36, respectively.

\textsuperscript{54} Kabir et al. (1976).
Sandhu and Dhesi (1977)\(^{57}\) analysed the data for three years in the villages of Ludhiana District in the State of Punjab and indicated that the advancement in agriculture had increased the work of women in preparing meals and dish washing, because the families cook a variety of dishes and the farmers take their meals at home rather than in the fields.

A report of the Japan's Prime Minister's Secretariat (1978)\(^{58}\) shows that most farm wives are engaged in agriculture. Two thirds of them are the principal worker and their number increase with decreasing holding. The rapid and wide-spread introduction of improved agricultural machinery has led to the gradual reduction in the proportion of time spent by farm women in agricultural tasks.

Ahuja (1979)\(^{59}\) on the basis of data from 1971 Census and five villages of Rajasthan, reported that demographic and economic factors influenced the work pattern of rural women.

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\(^{59}\) Ahuja, K. (1979), "Women Workers in Rural Rajasthan", The H.C.M. State Institute of Public Administration, Jaipur.
Gasson (1980)\textsuperscript{60} identified three roles for women on the basis of a study of farm women in England. Home-centered housewives only work on the farm occasionally, working farm wives assist their husbands regularly, while women farmers threaten male status by doing men's work. It was observed that a women's role is influenced by such variables as size of farm business and socioeconomic status. Widowhood might push a women into the role of farmer.

Dhillon (1980)\textsuperscript{61} while studying the changing role of rural women in Ludhiana District of the State of Punjab found that women's work in the household registered little change. Their contribution to agriculture was declining as they were unable to cope with the technological advancement. They continued doing certain monotonous chores of farm work associated with harvesting and processing of food-grains.

Chaney et al. (1981)\textsuperscript{62} argues that women are playing an important role in crop-production, storage, processing and off-farm activities but their access to land, agricultural extension and non-agricultural employment continues to be limited.

Spencer (1981)\textsuperscript{63} on the basis of series of detailed surveys of both farm and non-farm households in Sierra Leone, indicates that women play an important role in agriculture and contribute at least 40 per cent of the total labour input. It is observed that agricultural development projects which stress mechanization tend to have an adverse effect on the female work load as they increase the amount of land available for planting, weeding, harvesting which are the women's primary functions in agriculture.

Jately (1981)\textsuperscript{64} has analysed the impact of planned social change and modernization on women in a study of the most developed villages of one of the progressive districts of Western Uttar Pradesh. She observes that women are increasingly participating in modern agricultural operations. Increasing wealth has led to an expansion in live-stock and since women are responsible for caring for cattle, this leads to an increase in their work-load. Increasing commercialization of agriculture and dairying has led to concentration of income in the hands of men.

Saikai and Gogoi (1981)\(^{65}\) reports that the number of female workers in Assam villages is higher than the Census estimate and the type of jobs done by women are uprooting of seedlings, transplanting, harvesting and threshing, of paddy besides their day-to-day house-hold work.

Jain and Chand (1982)\(^{66}\) reported that women were spending a few hours each day on gainful activities such as picking groundnut, cutting grass, winnowing and threshing crops and working as domestic servants etc., in selected districts of West Bengal and Rajasthan.

Khan and Ayesha (1982)\(^{67}\) studied the activities of women in six villages of Bangalore District in the State of Karnataka and found that there were 53 per cent agricultural labourers who were involved in all processes to labour excepting ploughing, followed by stone-cutting (19 per cent) and construction work (14 per cent). Scheduled Caste women constituted the bulk of women labour in agriculture. Along with this, majority of respondents were found to be performing non-marketing activities such as cooking (100 per cent), child care (100 per cent), sweeping (100 per cent), fetching water (64 per cent), washing clothes (87 per cent), washing utensils

(90 per cent), purchasing (34 per cent) and care of animals (52 per cent). The study showed that majority of women were over-burdened with work.

**Laxmi Devi and Achanta (1982)** have studied that in many places the entire management of livestock, collection, carrying and chaffing of fodder to feeding and milking, preparation of milk products, cleaning of cattle-shed, collection of urine and cowdung to the menure pits, preparation of cowdung cakes and their Riorage are done by women. Kitchen gardening and poultry keeping are also the jobs of farm women.

**Agarwal (1983)** has revealed that in rice systems women supply, on an average, 70-80 per cent of labour for transplanting; 70-55 per cent for weeding; over 60 per cent for harvesting. They do all the husking and have important role in seed selection.

**Agnihotri (1983)** studied the contribution of female workers in the farm sector in Una District in the State of Himachal Pradesh and noticed that 63 per cent of women were participating in work force and 90 per cent of these were associated with agriculture.

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Menohar (1983)\textsuperscript{71} on the basis of selected case studies, indicated that women had to do a large part of their domestic duties after returning home from work outside. As a result, they were subjected to heavy physical strain outside their homes and mental strain inside their homes.

Mencher (1983)\textsuperscript{72} has indicated that women's labour roles vary from region to region. In Tamil Nadu, men uproot rice seedlings in rice farming and women transplant, while in Kerala, both operations are primarily and sometimes exclusively performed by women. Threshing is mainly men's responsibility in Tamil Nadu and women's in Kerala. In West Bengal, women formerly applied cow dung to the fields, a practice now being replaced by chemical fertilizers applied by men.

Ahuja et al. (1984)\textsuperscript{73} studied the time utilization pattern of rural women in two villages of Ludhiana District in Punjab which revealed that, on an average, maximum amount of time was spent in care of animals, followed by meal preparation, cleaning activities, farm activities and care of children. Medium sized families were the maximum time spenders in the

case of women’s participation in farm, care of the house, washing dishes and meal preparation. As regards size of farm, large size farm households were spending maximum time on washing dishes, care of the house, care of the children, care of animals and miscellaneous activities.

Gulati (1984)\textsuperscript{74} has conducted a study in a village in the State of Kerala and observed that Scheduled Caste women carry out the physically exhausting field work, such as transplanting in which high caste women rarely participate. However, Scheduled Caste and low caste women are usually excluded from certain other tasks such as threshing and winnowing in which high caste women usually participate.

Mies (1984)\textsuperscript{75} in her study at three villages in the State of Tamil Nadu, observed that women did more field work than men. In one of these villages, 96 per cent of women were engaged in agricultural work. She opined that women were not working less than before the introduction of improved agricultural technologies but that for social reasons, their work was no longer defined as work.

\textsuperscript{74} Gulati L. (1984), Profile in Female Poverty-A Study of Five Poor Working Women in Kerala, Hindustan Publishing Cooperation, New Delhi.

Mukhopadhyay (1984) on the basis of study of six villages in the State of West Bengal, reported over-all labour force participation rates of 8 per cent for men and 10 per cent for women. The main agricultural activities absorbing female labour were transplanting, weeding, processing, storage and supervision. The study revealed that although female participation in traditionally defined economic activities was low, the total hours of work including work within the household turned out by women were marginally higher than that of men.

The Report of the All India Co-ordinated Research Project in Home Science (1985) throws light on the disposition pattern of rural women in three districts in the State of Haryana. The study revealed that, on an average, a rural-home-maker spent fifteen hours and forty six minutes per day in various household activities including care of animals. Regarding activities of rural women in farm-related activities, performed by rural women, it was found that planting activities, viz., raising of nursery, ploughing, tilling and sowing were male jobs; while crop-related activities, namely, weeding, hoeing, punning etc, were mainly performed by females.

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76 Mukhopadhyay, S.K. (1984), "Constraints to Technological Progress in Rice and Cultivation-An Experiment Survey Research in West Bengal", University of Kalyani, West Bengal.
alone in Jind and Hisar, Districts; whereas, in Ambala, these were male jobs. Irrigation, fertilizer application and plant protection were male-dominated jobs, while there was joint involvement of both males and females in harvesting and post-harvest activities.

**Pandey et al. (1986)** examined the crop-wise as well as operation-wise participation of women in agriculture in Hisar District of Punjab and indicated that cotton, paddy, wheat and rabi fodder were the major crops to absorb the female labour. The male labour was more employed for operations such as weeding and hoeing, harvesting/picking, threshing and winnowing. Size of operational holdings and percentage of cash crops to the total cropped area were positively and significantly related to the rural women employment.

**Rani and Singh (1986)** analysed the contribution of women in dairy enterprise, on the basis of data collected from three villages of Karnal District in the State of Punjab and found that female labour utilization was higher than that of males and the women's participation rate of 70 per cent in

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the category of landless labourers was the highest, followed by marginal and small farmers.

**Pratibha Patil (1987)**80 observed that, according to U.N. Food and Agriculture Organisation in Rome, women are responsible for at least 50 per cent of all food production. A study by the Economic Commission for Africa, for example, has shown that women do 60 per cent of all the agricultural work on the continent plus 50 per cent of all animal husbandry and 100 per cent of the food processing.

**Mohapatra and Eswar Rao Pattanaik (1988)**81 observed that most of the major part of the day was spent by women in household work and in attending to various economic activities of the family. In rural areas, women perform a major part of agricultural operations like breaking clods of earth, menuring, weeding, transplanting, harvesting, threshing and winnowing. Women do most of the work of caring for the dairy animals and marketing of their products. Indeed, they are over-burdened by work. The difficulties of getting drinking water, fuel for cooking, attending to health services of family members etc., stand as obstacles to run their domestic front smoothly.

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Narayana Prasad Sharma (1989)\textsuperscript{82} has observed that, according to 1981 Census, compared with 63 per cent of men, 79 per cent of female working population is actively engaged in agriculture. Women as agricultural labourers and cultivators participate in several activities which are exclusively carried out by women only.

Richard M. Khandawine (1989)\textsuperscript{83} has observed that women in the South Africa are primary cultivators. Women in general work longer than men in the field, besides their involvement in domestic activities. In most cases, women, however, contribute more than 50 per cent to farming. It is observed that women in South Africa participate in activities like processing of food crops, transportation of water and fuel, threshing operations, storage and selling, weeding and harvesting.

Ravidnra Nair (1990)\textsuperscript{84} finds that the vast majority of rural women in the un-organised sector are landless and that they work in the field, performing a variety of farming occupations. In addition, they bear the burden of bearing and rearing children, collecting and fetching water,

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\textsuperscript{84} Ravindran Nair G. (1990), "Women Workers Demend a Better Deal", Yojana, March 1-15, p. 20.
gathering firewood, cooking and clearing activities which consume much time and energy.

**Punia (1991)** conducted a study in Stayabadi Block of Puri District in Orissa, and found that, the participation rate of females in the farm sector was 9.33 per cent according to 1981 Census. This participation of women in agriculture includes the work of transplanting, weeding, threshing and reaping. However, in contrast to the official statistics, women also participate in other activities relating to farm having economic significance. These include looking after farm cattle and other livestock, collecting fodder, carrying menures, other inputs and food for male partners to the field. Besides, they are also engaged substantially in non-farm activities during slack periods of agriculture as well as their free time.

**Singh et al. (1991)** has conducted a study in Udulguri village of Darrang District in Assam. It has been observed that majority of all the categories of women have medium involvement in kharif, rabi and zaid seasons. It is clear from the observation that Muslim women have higher involvement in all the three seasons as compared to Hindu women. Further,

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seasonal involvement of farm women is found to be associated with their caste and religion.

Sarah Whatmore (1991)\(^{87}\) states that the major contribution of the growing body of research on farm women in Europe and North America has been to show the varied combinations of labour roles performed by women on the family farm. These include agricultural labour, business partner, off-farm income earner and farm secretary.

Chetana Kalbagh (1992)\(^{88}\) observed that agricultural employment is available to women only two months each year. Work is available to them, for 10 to 15 days at sowing and weeding time and 5 to 8 days at harvesting time in each cropping season. Women do not get any other farm of employment within the village and they cannot seek employment outside.

Neeta Gautam and Meenakshi (1992)\(^{89}\) have observed that, on an average, females contribute more time as compared to males in farm activities. Crop production work has been sub-divided into seven basic crop production operations, namely, field preparation, menuring, sowing, inter-

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\(^{89}\) Neeta Gautam and Meenakshi (1992), "Women Participation in Farming of Himachal Pradesh", Kurukshetra, 13 (6), p. 17.
culture, irrigation, harvesting and threshing, and the size-wise analysis has revealed that as the size of holding increases, the proportionate time spent by females decreases on these operations.

Chandhari and Ganorkar, (1992)\textsuperscript{90} observed that in inter-culture activities, farm women played a major role in weeding operations to the extent of 87 per cent. Application of fertilizers and thinning and gap filling jobs have been carried out by 56 per cent and 46 per cent of farm women respectively. The works like spraying, irrigation and dusting were also attended to by one-third of farm women, by and large. These findings are supported by Sangawan et al, (1990)\textsuperscript{91} who stated that majority of the farm women participated in farm operations like storage of produce, uprooting of seedlings, transplanting, weeding, hoeing, harvesting, picking, threshing, winnowing and clearing.

Tripathy (1992)\textsuperscript{92} has observed that the working women are engaged in agricultural activities like land preparation, seed grading, sowing, dibbling, planting, irrigation, threshing, winnowing, storing crops, feeding cattle, looking after milch animals and poultry etc.,

Shashi Kanta Varma (1992)\(^93\) states that animal husbandry is predominantly a male affair in case of high socio-economic status, where male labour is employed to look after the animals; whereas, it is predominantly a female affair in case of farmers of medium and low socio-economic status. On an average, a women devotes 3.5 hours, against only 1.6 hours per day devoted by men, in these categories. Besides, irrespective of socio-economic status, women devote more time to house-hold activities during slack agricultural season. On an average, a women devotes about six hours in peak season as against seven hours in slack season.

Kalbagh (1992)\(^94\) says that most of rural agricultural women have to work from early in the morning to late in the evening without rest. They generally get up at 4 A.M and go to bed at 9 P.M. In the meanwhile, they participate in house-hold, agricultural and animal husbandry activities and looking after the children, taking care of mother-in-laws etc.,

Grover and Grover (1993)\(^95\) have opined that about 47 per cent of rural women are classified as agricultural labourers and 34 per cent as

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\(^95\) Grover D.K. and Grover, I. (1993), "Farm Women Face Wage and Job Discrimination in North-Western India", Indian Farming, June, p. 11.
cultivators. The corresponding percentage for men are 20 and 44 respectively. This indicates that rural people have an inadequate control over means of production and highly dependent on recruitment of the labour force.

Prem, Chawdhry (1993)\textsuperscript{96} in a study conducted in Kernal District of Haryana State, observed that women of all caste groups were playing a dominant role in agriculture-related tasks such as processing and storage of farm produce and making of farm yard, menure, all of which were, however, home-based tasks. Likewise, size-class wise data given in the same study showed that females from different land size categories, ranging from below 2.5 acres to above 15 acres, did not really show any significant difference in respect of their participation in the listed agricultural activities; which means that those activities were being generally performed or avoided by all females irrespective of the land-holding. This was specially noticeable in activities like weeding, inter-culture, and harvesting.

Sen (1993)\textsuperscript{97} opines that Indian agricultural scene cannot be improved without making the women equal partners in its developmental efforts. As

women play a key role in many facets of the composite farming system practised by farm families, their pauperisation will increase rural poverty, because the poorest families are the most dependent upon women's economic productivity.

Virender Kumar (1994)\textsuperscript{98} has observed that the proportion of female cultivators is more when compared to that of male cultivators. Male participation as cultivators is much lower at 62.34 per cent than female participation. Here, it is important to note that except for poultry which is entirely, males domain, in all other farm operations like land preparation and cod breaking, sowing and transplanting, gap filling, inter-culture, weeding, fertilizer application, irrigation, harvesting, threshing and winnowing, women play a major role.

Maithili Vishwanathan (1994)\textsuperscript{99} has stated that National Perspective Plan enumerates eight employment streams for women-agriculturists, viz., dairy farming, cattle rearming, fishery khadi hand-loom, handicrafts, and sericulture. Without a change in agrarian policy, the marginalisation of the rural poor and especially women cannot be stopped.

\textsuperscript{98} Ibid., P.517.
\textsuperscript{99} Maithili Vishwanathan (1994), Women in Agriculture and Rural Development, Print Well, New Delhi.
Samenta (1995)\(^{100}\) states that 44 per cent of the world's food is produced by women which indicates how important their role is in farming. Rural women in general and farm women in particular are engaged in different activities. Despite their substantial contributions, women continue to be marginalised, under-valued and unrecognised. There is a tendency among most administrators and policy makers, to see "men as farmers" and "women as farmer's wives" and to highlight their "supportive role" rather than their "productive role".

Swarna Lata Arya (1995)\(^{101}\) in her study in Ambala District of Haryana State has found that female labour participated in such agricultural operations such as sowing, harvesting, threshing, winnowing, storage and preparation for marketing. By the adoption of the water-shed management programme, the percentage contribution of farm women, as compared with men in these activities, has increased substantially. Multiple cropping systems have been adopted due to the availability of irrigation water and, as a result, the productivity has increased. This enhances the involvement of rural women in agricultural operations. The female participation has


increased from 21 to 52 days per hectare of cropped area of the project; and further, it reveals that women's contribution has increased by 150 per cent as compared to 85 per cent.

Sankari and Uma (1995) have observed that according to 1991 Census figure, 74 per cent of the female working force are engaged in agricultural operations; 28 per cent as cultivators and 46 per cent as agricultural labourers. About 60 per cent of agricultural operations like transplanting, winnowing, storage of grain etc. are handled almost exclusively by women while in all other jobs, except ploughing the fields and in some areas, sowing of the seed, they share the work with men. During the peak of agricultural operations, especially at harvesting time, women of farm families work, on an average, seven to eight hours a day in the fields. This is, besides their routine duties of cooking, cleaning, fetching water etc.

Aminah Ahmed et al. (1995) have observed that in Malaysia, 47 per cent of the women are in the labour force and out of which 28.2 per cent were absorbed by the agricultural sector in 1990. Although this percentage has declined from 49.3 per cent in 1980, women's role in agriculture is still

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crucial to the nation's development since the labour force greatly underestimates the work done by women-excluding their contribution in the form of seasonal, part-time and unpaid family labour.

Rural women have many roles to perform as wives, mothers and agricultural producers. As agricultural producers, women are involved in raising live-stock, and producing, harvesting, processing and marketing the agricultural products. They cultivate subsistence crops for family consumption and also work on cash crop production. Unfortunately, recognition of their contribution has not always led to their inclusion as project beneficiaries.

Samenta (1995)\textsuperscript{104} has observed that justification for improving farm women's access to agricultural extension must begin with analysis of women participation in agricultural production process. Further he observes that at present, 44 per cent of world's food is produced by women, which indicates how much important their role in farming is. Rural women in general and farm women in particular are engaged in a wide range of activities making their working a multi-dimensional one. This picture is vivid both in Asian and African countries. Interestingly, despite their substantial contribution,

women continue to be systematically marginalized and undervalued. In the recent past, though everybody has recognized the role of women in overall agricultural productivity, due recognition has not been given to them as yet. Even the extension services available in all the countries do not give much importance to serve women farmers or the wives of male farmers. It is often assumed by the policy makers and administrators that mostly "men as farmers" and "women as farmer's wives". Also, there has always been a tendency by the male dominated policy planning and administrative body to highlight women's 'supportive role' rather than 'production role'. Further, he lamented that although, women are involved in various types of labour, including agricultural production, domestic production and off-farm work, the society lends legitimacy only for their subordinate position.

Hansra and Dhillon (1995)\(^\text{105}\) have observed that the participation of women varies from carrying out actual farm operations in the field to supervision, management and decision making in different agricultural operations. In many places, the contribution of women towards agriculture is more than that of men. They are responsible for the entire management of livestock, starting from cutting, collection, carrying and chaffing of fodder.

In States like Manipur, Meghalaya and Nagaland, women even control the marketing of agricultural products. As compared to southern States, the women's participation and supervision in agriculture is less in northern States of the country like Punjab and Haryana.

**Brinda Karat (1997)**\(^{106}\) observes that in popular perception, because of the constant and motivated propaganda that women's work in agriculture is supplementary, the agricultural work is usually associated with men. However, in some States such as Tamil Nadu and Orissa, women workers outnumber men. In almost all the States, more women workers are joining the agricultural work-force than men. This trend was noted in the 1991 Census which put the number of women workers in agriculture during the decade 1981 to 1991 at 28.3 millions, which was an increase of 36.15 per cent during the decade compared to the increase of 31.18 per cent for men workers. Sixty six per cent of these women workers belong to either to the SCs or ST categories and a vast majority of them are landless.

**Jeemol Unni's (1997)**\(^{107}\) paper observes that, in rural areas in India, while women are still predominantly self-employed/family helper, the proportion of casual employees has been increasing in the last two decades.


Casual workers also form a much larger proportion of the female work force when compared to their male counterparts. On the contrary, the proportion of regular workers is relatively high among the male work force. However, while this proportion has been declining in recent years, that of women has been relatively stable.

**Kishtwaria et al. (1998)** made an attempt to estimate and compare the invisible contribution of women across different approaches and arrived at the best alternative in the Indian context.

There seems to be a universal tendency to ignore the unpaid household labour of women and to devalue their role as household menagers and producers and to ascribe greater value to 'exchange values' compared to 'use value'.

**Review of Studies on Role of Women in Decision-Making**

**Wilkening (1953)** observed that about two-fifth of the farm owners informed that their wives had encouraged them to make specific changes in enterprises or practices on their farms. To the extent that wife provided labour for the farm, she was involved in these decisions.

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Slocum (1956)\textsuperscript{110} indicated that in matters affecting the home, decisions between husbands and wives normally preceded decisions. Joint decisions were not prevalent on farm matters and the husband normally made decisions. However, a considerable amount of shared responsibility was reported.

Abell (1961)\textsuperscript{111} conducted a study in Ontario in Canada and revealed that in about one-third of the farm operations, husbands consulted their wives in making farm plan, purchase of farm machinery and equipments.

Schlesinger (1962)\textsuperscript{112} found that in the area of home management, child rearing, management of money and free time activities, women were more emotionally involved in decision making than men. Further, women appeared to be more active in home management, and men in the money management.

Craven (1963)\textsuperscript{113} indicated that home decisions were likely to be made jointly at all economic levels than farm decisions. Farm families of

low and medium income were more likely to make decisions jointly than the families of high income and those who lived on highly specialised farm.

Arya (1964)\textsuperscript{114} has found that family type, size of land-holding, and age of the farmer affect the participation of women in decision-making. Their participation is more when the family is nuclear, holding is small and the farmer belongs to younger age group. Besides, women are found to be playing dominant role in matters of home improvement, agricultural marketing and sale and purchase of land.

Bhamrah (1966)\textsuperscript{115} carried out a study in Ludhiana Block in the State of Punjab and revealed that wives ranked among the most important family members to be consulted in order to arrive at decisions concerning home and farm affairs. In case of joint families, brothers and wives were most important family members to be consulted; while, in nuclear families, wives and sons were the most important family members consulted.

Kahlon and Brar (1967)\textsuperscript{116} in their study conducted in Pakhowal Block of Ludhiana District in the State of Punjab found that about one-

\textsuperscript{114} Arya, B.S. (1964), "Role of Family in Decision-making as Related to Farm Operations", Division of Agricultural Extension, IARI, Delhi.
fourth of the decisions were made jointly by the men farmer and his wife. This study was repeated by Kahlon et al. (1970) in the same area and it was found that wife's participation in joint decisions increased and the farm home-maker changed as the independent decision-maker in seven per cent of the total decisions.

Sharma and Singh (1970)\textsuperscript{117} found that in issues concerning care of animals, selection of seed storage and time of selling produce, wife and husband decided jointly. Husband alone decided about application of fertilizers and manures, and use of weedicides. Age, education, caste, type of family and urban contact did not affect the extent of participation in decision making, while social participation and size of holding significantly affected the extent of participation in decision making.

Puri (1971)\textsuperscript{118} conducted a study in Mehrauli Block in the Union Territory of Delhi and found that the rural women were associated with decision-making in a number of areas but the role of head of the family was decisive. Decision-making pattern regarding the education of children was significantly associated with age, type of family, occupation and urban


contact. Women were found to be playing an important role in areas of decision making regarding marriage of children, payment of dowry, education of children, selection of occupation and expenditure pattern.

Devadas et al. (1972)\textsuperscript{119} reported that farm women were invariably consulted in making decisions with regard to various farm operations like getting new seeds, selecting crops, getting fertilizers and pesticides, appointing labour etc.

Sawar (1973)\textsuperscript{120} collected data from 67 married couples living on farms in the lower Fraser valley of British Columbia, Canada and found that, in general, joint involvement was most evident in decisions pertaining to borrowing money for the farm, buying or renting more land and switching to a new concern. It was revealed that family size, income and farm size seem to restrict or encourage the wife's participation in farm decision.

In a study conducted in Kanjhawala Block in the Union Territory of Delhi, Mulay et al. (1974)\textsuperscript{121} found that women, especially from nuclear families and with initiative, decided how much area should be put under

\textsuperscript{119} Devadas, P.R., et al. (1972), Muthu, S. Thangameni, K., "Role of Selected Farm Women in Agricultural Operations", The Indian Journal of Home Science, 6(1), p. 50.


what crops and they were playing decisive role regarding the agricultural
financing as well as in marketing of agricultural produce. But their role was
not important in decisions regarding adoption of new seeds, fertilizer,
implements and pesticides as they had poor knowledge of the improved farm
practices.

Puri (1974)\textsuperscript{122} found that decisions regarding the number of cattle to
keep, selling of milk product, feeding, milking and making and selling of
milk products were made mostly by wives. But, decisions on treating sick
cattle and buying and selling of cattle were made predominantly by
husbands.

Jahan (1975)\textsuperscript{123} indicates that in Bangladesh, decision-making rests
mainly with men and women have little power to influence.

Rajammal B.P. Devadaa (1975)\textsuperscript{124} observes that, in addition to
participation in farm activities and the physical work, women also help in
decision-making with regard to farm practices and operations. Women as
wives and mothers have a considerable part in decision-making in the farm
and the home. Decision making is important because, much of the success of

\textsuperscript{123} Jahan, R. (1975), "Women in Bangladesh in: Women for Women Research in Study Group" (Ed),
University Press, Dacca.
\textsuperscript{124} Rajammal, P. Devadas (1975), "Role of Women in Modern Agriculture". Indian Farming 25 (8): p. 15.
farming depends upon how well the family makes decisions. Only when the women in the family are convinced about the practicability of new ideas in agriculture, they would be implemented on a large scale.

Licunen and Gonzalez (1976)\textsuperscript{125} find that the decision-making pattern in Philippines is more egalitarian than patriarchal. Among lower classes of rural families, women exercise the greatest influence in matters relating to house-hold chores, care of children, disciplining of daughters and allocation of monetary resources.

Shanti Chakravarthy (1976)\textsuperscript{126} states that the contribution of women in agriculture is roughly estimated to be 50 to 60 per cent. The largest number of working women in India is engaged in farming operations, either as cultivators or as agricultural labourers. They participate in most of the agricultural operations. As a mother or a wife, a farm women makes decisions regarding development of farm and home.

Michelwait et al. (1976)\textsuperscript{127} on the basis of field survey on role of rural women in seven Latin American and African countries, reports that women play active roles both as decision-makers, and participants in most

\textsuperscript{125} Licunen, P.B. and Gonzalaz, A.M. (1976), "Filipino Women in Development Draft of Final Report", Institute of Philippine Culture, Ateneo de MahUa University, Quezon.  
rural development-related works. In six of the seven countries, it is found that they take part with men in basic agricultural production.

Nantanee et al. (1977)\textsuperscript{128} analysed the pattern of decision making in Thai families of villages in North and Central Thailand and indicated that decisions were generally made jointly. Around 58 per cent of couples decided together on the children's future; 57 per cent on family planning (i.e. in 36 per cent of the families, wife alone decided); 40 per cent couples and 40- per cent of husbands alone decided whether to borrow money; and 50 per cent of couples decided together how to dispose the products of family labour.

Sandhu and Dhesi (1977)\textsuperscript{129} reported that women were mainly consulted for selling the produce, the area to be sown under various crops, the change in the cropping pattern, the hiring of farm services and the purchasing of seeds. They were rarely consulted in the supervision of the servants and the least consultation was made while purchasing tractors and other farm machineries.

\textsuperscript{128} Nantance, J., et al. (1977), Status of Thai Women in Two Rural Areas, National Council of Women of Thailand, Bangkok.

Hiranand (1979) revealed that areas in which women influenced the decision-making process were settling of marriages, purchase and sale of animals and the education of girls.

Findings of the study by Badiger and Rao (1980) revealed that the farm women's decisions were frequent in the care of animals and storage of grain; but, less in matters concerning application of fertilizer. In home based-decisions, 75 per cent of women were involved; whereas, only 52 per cent were involved in farm decisions.

Sajogyo et al. (1980) indicated that in Indonesia, decisions are usually shared with men intervening in domestic matters and women in agricultural and economic fields. Decisions on purchase of land, moving to new house, education of children and their marriage were discussed together, though the husband's decision was the final.

Chhayadevi (1980) on the basis of study in Dharwar District of Karnataka State, indicated that the extent of participation of farm women in decision-making was more in religious, health and hygiene practices in

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131 Badiger and Rao
132 Sajogyo, P., et al. (1980), The Role of Women in Different Perspectives, Centre for Rural Sociological Research, Bogar, Agricultural University.
home area and storage of grain in farm area. Participation in farm decisions was associated with age and marital status.

Dhillon (1980)\textsuperscript{134} conducted a study in villages of Ludhiana District in the State of Punjab and found that in majority of the cases decisions were jointly taken and women played an important role in decision-making concerning farm and home management.

Hiranand and Kumar (1980)\textsuperscript{135} reported that women very often influenced in decision-making in matters pertaining to fixing of marriages of sons and daughters, purchase and sale of animals and education of girls.

Spencer (1981)\textsuperscript{136} in a case study of the role of women in Sera Leone, found that women play a minor role in agricultural decision-making; but, they were found to be playing an important role in house-hold decision-making as well as in decisions related to the borrowing of money.

Menon (1981)\textsuperscript{137} conducted a study of Muslim women in India and observed that education level of the respondent and her actual role in decision-making process were related to each other. Consultation by

\textsuperscript{135} Hiranand and Kumar, K. (1980), "Role of Farm Women of Dry Farming Tract in Decision-making", Indian Co-operative Review, 17 (2): 104.
husbands in decision-making process regarding children's education, career and marriage, family budget, buying property, clothes and house-hold articles were found to be significantly related to the respondent's level of education.

Rani and Bhave (1981)\textsuperscript{138} studied the decision-making pattern among rural women of Hayatnagar block of Ranga Reddy District in the State of Andhra Pradesh and indicated that with regard to decision-making process pertaining to purchase of land, amount to be spent on seed, purchase of fertilizers, purchase of farm power and farm implements, husband was the leading person to take decisions. Both husband and wife were involved in making decisions about place and amount to be spent on children's education and marriage of children. Wife held a responsible position in deciding about the quantity of food-grains to be purchased and type material for clothing.

Awasthy (1982)\textsuperscript{139} in her study of a Jammu village in the State of Jammu and Kashmir has found that women have a say in spending the family income but their decision-making is limited to purchase of articles of food consumption, directly needed clothing, repair of home-steal and such

other needs very basic to their existence. In nuclear families, the involvement of women in all family decisions was found to be intensive.

Findings of All India Co-ordinated Research Project in Home Science (1985)\textsuperscript{140} revealed that in the home-related areas, joint decision-making was prevalent, in matters pertaining to purchase of food materials, clothing, repair and maintenance of house, storage and care of farm produce, purchase of household equipments, purchase of milch animals and sale of milk while in those related to agriculture, husband was the dominant decision maker.

While studying the participation of rural women in decision making process, Pandey et al. (1986)\textsuperscript{141} observed that rural women had supportive role in most of the agricultural decisions.

Avadhani (1987)\textsuperscript{142} was of the view that agricultural scenario cannot be improved without making women equal partners in decision-making.

Satnam Kaur (1987)\textsuperscript{143} made a case study of the role of women in home operations and it was found that all the respondents were engaged in

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\textsuperscript{140} All India Co-ordinated Research Project in Home Science (1985) \\
\textsuperscript{141} Pandey et al. (1986) \\
\textsuperscript{142} Avadhani, M.H. (1987), "Role of Women in Indian Agriculture", The Co-operator, 24 (13): 642. \\
\end{flushright}
household chores such as cooking and it consumed maximum time as compared to all other activities, on an average, 75.43 minutes and 137.56 minutes were being spent in pre-cooking and cooking activities respectively. After cooking, maximum time, on an average, was spent in care of children, followed by cleaning the house, washing the clothes, fetching water, washing utensils, cleaning the kitchen, stitching clothes and fetching fuel.

**Richard M. Mkandawire (1989)** observed that a considerable proportion of women were found not only to head their households but also to have a privilege of making all decision's related to agriculture. In Malawi, 28.8 per cent of rural households were headed by women and 51 per cent decisions in agricultural production activities were made exclusively by women. This clearly shows that even in male headed households, women make most of the decisions connected with farming activities.

**Sarah Whatmore (1991)** suggested that the level of farm wife's involvement in menagement and decision-making processes on the farm might also be expected to be related to either their farm labour contribution or their financial and legal stake in the land and business assets of the farm.

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or both. On the whole, there was a slightly higher rate of participation in long-term decision-making than in day-to-day management decisions. A higher proportion of women in family business farms were likely to be completely excluded from farm decision-making and management processes.

Singh et al. (1991)\textsuperscript{146} conducted a study in Udulguri village of Darrang District in the State of Assam and found that the Hindu women were more independent in decision-making than Muslim women. Upper caste Hindu women made decisions independently with respect to accepting family planning measures, education of children, employment of grown-up children and family budgeting etc. It was further seen that upper caste Hindu women made more independent decisions as compared to lower caste Hindu and Muslim women.

Chandhari and Ganorkar (1992)\textsuperscript{147} observed that during the cultivation of crops the farm women were taking decision regarding weeding operations (82 per cent), thinning and gap filling (51 per cent). Though not less, the farm women also had some role to play in the decision-making


about spraying (36 per cent), dusting (32 per cent) irrigation (21 per cent) and crop watching (20 per cent) and so on.

**Alexandria Stephens (1994)** in her paper presented in the Asian Productivity Organisation Seminar throws light on the policy of decision-making. Women play an important role as workers in agriculture, forestry and fisheries industries. Conversely, they are subject to hard work and have little participation in the process of decision-making. They also participate fully in house work, child raising and they also look after aged women.

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