CHAPTER II
CONCEPTS, THEORY AND REVIEW OF RELATED LITERATURE
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2.1 INTRODUCTION

For any research, a review of the past studies and concepts related to the subject is useful in several ways. This chapter is devoted to a review of the literature related to the present study. The review of literature helps in defining concepts and operational definitions, formulating testable hypotheses, specifying test conditions, choice of analytical tools and in evaluating the findings of the research etc. This chapter is divided into three parts:

(i) Concepts used,

(ii) Theoretical approach and

(iii) Review of related literature.

2.2 CONCEPTS

Agricultural Labour

Agricultural labour in the study refers to labourers without any land and who work in other farms. A landless agricultural labour may be defined
as “one who does not hold any agricultural land and whose principal means of livelihood is manual labour on agricultural land”.

**Small Farmers**

Small farmers are those who are also working in other’s farms as their own land holding as income is inadequate to support their families. A small farmer may be defined as one who owns up to 2.5 acres of wet or dry lands.

**Medium Farmers**

Medium farmers are those who have up to 5 acres of wet or dry lands.

**Large Farmers**

Large farmers are those who have more than 5 acres of wet or dry lands.

**Farm Women**

Farm women are those, illiterate, ignorant assetless women or paid labourers, who have been trapped in the web of traditions and customs.

**Labour**

Labour is measured in terms of mandays of work. Mandays are measured in terms of eight hours per day. Labour is classified into male and female labour. As the average female wage rate is observed to be about half of
what the male worker gets, two units of female labour are considered one unit of male labour.

Human labour constitutes family labour and hired labour.

**Hired Labour**

Hired labour refers to the paid labourers employed for farming activities.

**Family Labour**

The members of the family who are actively involved in farming are considered family labour. Work of 8 hours rendered by the family labour is assumed to be one labour day.

**Bullock Labour**

Bullock labour comprises two bullocks and one male labour. It includes both hired and own services. Bullock labour is calculated on the basis of eight hours of work per day.

**Land or Acreage**

It refers to the actual area operated in acres by the farmers. The rental value is calculated at the prevailing market rate limited to the duration of the crop.
Net Revenue

Net Revenue is obtained by deducting total cost from the total income or gross income

Cost of Cultivation

The details of the cost of cultivation for any crop are useful to the policy makers in determining the price, and to the credit institutions in deciding the scale of finance required for such cultivation. Profitability of any enterprise is estimated on the cost incurred and returns accrued from production. In agriculture, the cost of cultivation refers to the expenditure incurred on various inputs by the farmers to obtain the final output. Cost incurred by the farmers to produce the commodity is classified under two heads (1) Fixed cost (2) Variable cost or operational cost.

Fixed Cost

It includes the cost incurred on depreciation, of implements and machinery, interest, rent, insurance premium taxes and the like.

Variable Cost

It is the cost incurred on inputs like seeds, human labour, bullock labour, manure, fertilizers, pesticides feed and tractor fuel. Fixed cost does not
vary with the changes in the level of output. The former exists even in the absence of production while the latter does not. Fixed cost plays an important role in making decisions on the technological practice to be adopted. In the process of cultivation variable cost is an important factor which determines the amount of output to be produced.

The cost of cultivation has been classified into (i) Cost A1, (ii) cost A2, (iii) cost B and (iv) Cost C in the farm management studies in India. These costs include factors as shown below.

(i) **Cost A1**

1. Value of hired labour (permanent and casual)
2. Value of owned bullock labour
3. Value of hired bullock labour
4. Value of owned machinery
5. Hired machinery charges
6. Value of fertilizers
7. Value of manure
8. Value of seeds (both farm produced and purchased)
9. Value of insecticides and pesticides
10. Irrigation charges (using both owned and hired machinery)
11. Canal water charges
12. Land revenue cess and other taxes
13. Depreciation on farm implements (both bullock drawn and those used by human labour)
14. Depreciation of farm buildings, farm machinery and irrigation structure
15. Interest on working capital and
16. Miscellaneous expenses (on artisans, ropes and repairs to small farm implements)
(ii) **Cost A**

It is Cost A\textsubscript{1} plus

17. Rent paid for leased-in land

(iii) **Cost B**

It includes Cost A\textsubscript{2} and

18. Imputed rental value of owned land (less land revenue paid
There upon) and
1. Imputed interest on fixed capital(excluding land)

(iv) **Cost C**

It includes Cost B and
1. Imputed value of family labour

2.3 **WOMEN WORKERS’ PARTICIPATION - THEORETICAL APPROACH**

Women contribute a lot under several odds. They make up nearly 50 per cent of the world’s population, comprise 33 per cent of the official labour force, perform about 70 per cent of all working hours, receive 10 per cent of world’s income and own even less than one per cent of world’s property. Due to these statistical hard facts the relevance of women-based study has been felt today. It has also been observed that as a specified economic category, women have been subjected to under education, exploitation and social castigation.
Now-a-days their importance as a working force has been either neglected or misrepresented, especially in developing nations. Many activities of women in economically gainful work are either given no recognition or not properly represented in statistical data. As a matter of fact neither their domestic activities are economically evaluated nor are their participation and help/aid in agricultural and non-agricultural activities linked to production. One of the most glaring facts which working class women have to confront today is the discrimination which accompanies them from the time of recruitment. It is revealed in the form of considering women as a secondary labour, the wage differential, discrimination in training and promotional avenues (Joshi, 1976; Chermont, 1987). Their value in the labour market is determined by these notions and therefore their entrance and concentration is confined to limited pockets in both organized and unorganized sectors. The discrimination in wage payment is revealed in the data furnished by Ministry of Labour’s report (1974-75). According to Labour Bureau’s report there are basically four factors which determine female employment. These are:

1. Permanent and growing inadequacy of the income of the principal bread winner.
2. Temporary fall in the family’s income due to accidental circumstances.
3. The death of the bread winner, and
4. Women’s desire for economic independence or for securing a higher standard of living for the family.

These four reasons are purely economic in nature. Verma (1990) argued that it was very difficult to attribute the low female work participation rate to any specific factor. However, four factors may further be considered as explanatory variables. These are as follows:

1. Buffer factor
2. Segregation factor
3. Substitution factor and
4. Income factor.

The buffer hypothesis assumes that some women are treated as reserve army of labour who are drawn in the labour market in the peak season and expelled in the slack seasons. As per job segregation hypothesis, a few occupations are sex-typed hence, demand for female labour is dependent on the demand in the female dominated sectors. According to substitution hypothesis,
as the recession intensifies the search for cost-saving technique induces substitution towards cheaper form of labour such as women. Finally, according to the income hypothesis women enter the labour market to raise their earnings whether due to lack of sufficient income or because of the need to enhance their socio-economic standard.

Several demographers argue that the tendency to participate in labour force changes with the variations in demographic factors. The involvement of women in non-household work varies with their marital status, dependency ratio and age. Generally, the married women work less than the unmarried, widows and divorced ones. Among the married women those having younger children are less likely to work than the mothers of older children and those without children. It has also been proposed that a U-shaped curve for female participation in relation to demographic transition runs parallel to economic transition (Bindary, 1973). In a pre-industrial society high mortality among children forced the women to be occupied with their reproductive role. Their participation was hardly affected because economic activities carried out at home enabled them to combine reproductive role with work. Reduction in infant and child mortality diminished the need for higher number of children making it possible for women to join the labour force. Developed nations went
through this process after World War 1 while developing economies are passing through the second stage because childcare are not institutionalized and household activities are not mechanized. In addition, fertility rate is also considered as one of the most important variables influencing women’s participation inversely. An inverse relation between fertility and women’s participation rate probably explains the higher participation rates among women of older children. A study (Willis, 1973) showed that participation rates of mothers with smaller children increased much more than the participation rates of mothers of older children. A decline in fertility and women’s work participation rates is related to each other. But causal relationship is not so simple because these tendencies may be caused by factors like desire for higher standard of living and more independence.

In addition to the above analysis from the angles of economic and demographic disciplines, there are a few other approaches of various subjects which examine the determinants of female workforce participation in different ways. Important among these are the neo-classical approach, institutional approach, radical approach, biological approach and anthropological approach.
NEO-CLASSICAL APPROACH

The neo-classical explanation for the increasing number of women going for paid employment rests heavily on the impact of income and prices on the behaviour of women. For example, a cross-section study showed that women’s labour force’s participation and husband’s income were inversely related while a time series study showed the opposite. This contradiction had to be resolved and so attempts were made to study the factors behind the choice made by women between market work leisure and home work. Finally, the contradiction is supposed to have been resolved by showing that they ‘prefer more leisure’, that is the substitution effect is greater than the negative income effect (Rene, 1975; Boserup, 1970).

The neo-classical theory further opines that even the question why the family exists at all is explained in terms of marginal utility and marginal productivity. According to Becker “women hire men as bread winners because men earn more than women in the market and men hire women to bear/rear the children as women have superior skills for the task. “In this way the existing division of labour between sexes is justified as being consistent with the principle of maximization. The neo-classical theorists do not consider the
lower earnings of women to be due to social justice but attribute it to small investment in human capital voluntarily made by women which in turn leads to their lower productivity. This happens because

(a) Women are not in the market during child bearing and rearing periods.

(b) They choose jobs which provide lower opportunity for on-the-job training.

(c) They avoid jobs which require training.

The difference in unemployment rates between men and women is attributed by them to the movement of women in and out of the labour force (Kakwani, 1981). Thus the neo-classical explanations seem to see the role of women as that of adjusting to the market forces. They do not pass any value judgment about the position of women.

INSTITUTIONAL APPROACH

In recent years academic activities have been involved in attempts to develop methodologies to understand better the truth about women’s oppression and exploitation and to integrate patriarchy into theory and
theoretical models. These efforts at analyzing and integrating women’s exploitation and oppression into theoretical explanations have focused upon evolving an interdisciplinary approach. This approach, while necessary and crucial, has tended to isolate women’s studies as a new social science rather than integrating it into existing disciplines. A new field of study dissociates itself from other areas of study. Consequently, gender segregation has taken place. This trend is disturbing as it has led to the general acceptance of women’s studies as a separate paper to be offered only to those students who are interested in them rather than being incorporated into all existing courses to which students are exposed.

People of poor household do not act properly in terms of maximizing their own utility either as consumers or as producers; rather they attempt to maximize the survival of the households as a unit. Neo-classical rationality is more concerned with under-developed, overpopulated countries where the poor find it rational to have more children to add to the family income far beyond what they consume.

This reality is directly opposed to the dominant macro-economic theories of fertility which equate children to ‘consumer durables’ and more
recently to ‘house hold produced goods’ (Schults, 1981). These economists assume that households like firms, behave ‘rationally’ and they maximize utility in the context of scarcity. They can choose to either consume commodities or produce children subject to the usual constraints of income, prices, tastes and time. Thus, the quantity and quality of children, like other goods, are a function of time and the resources allocated to their production and maintenance.

In some neo-classical models children are included as ‘public goods’ where their welfare and consumption are incorporated in the parents’ utility functions. This model, apart from treating children as objects, intensifies women’s earnings for children as a commitment or a responsibility or even a constraint. “Rotten Kid Theorem” assumes male as the head of the household. According to this theorem head of a family reaps rich dividends. If ‘he’ provides generously for everyone, even the most selfish beneficiary ‘rotten kid’ in the family will be motivated to maximize family income and consumption and thereby would internalize all effects of ‘his’ actions on other beneficiaries. Ultimately there will be no free riders in the family.
Another issue central to mainstream economic theory is the unit of analysis taken. A firm is generally taken in the context of working of the market. This does not hold true for a capitalist semi-feudal country with large segments of both economic activity and people in the non-market sector. However, even where the household has been taken as unit of analysis the underlying assumption is that it is a homogeneous unit. In fact, it is precisely at this level that the system of production and reproduction interact tightly particularly in agrarian societies where small scale household production dominates. The exclusion of the concept of family from economic theory has important implications for price theory, utility maximization, consumption theory, etc. Since many of the commodities produced at home are substituted, for purchased goods what is maximized, therefore, is a common utility function in which the household and not the individual is the unit of inquiry. This utility function is generally equated with the household head’s utility function. Further, allocation of work and power relations within the family work outside the price mechanism. Family members do not share commodities and work through market transactions within the household. An alternative model has also been suggested. The unit of analysis being the household, it is family which operates on the basis of ‘co-operative conflicts’ (Sen, 1983). The
bargaining problem is one of finding a particular co-operative solution yielding a particular distribution of benefits sensitive to various parameters, including the respective powers of the members of the family. Whether one sees the family as an unit of co-operative ‘conflict’ or of ‘non-antagonistic’ contradiction there is no denying of the importance of carrying out analysis at both inter-household and intra-household levels particularly in underdeveloped subsistence economies where a significant proportion of goods and services is produced in the informal household sector where women are the main workers.

This logically brings us to one of the most glaring lacunae in economic theory. Work in economics is generally equated with market work or paid, i.e. labour power which has an exchange value without getting into the entire debate on the definition of ‘work’. Neo-classical concept of ‘market work’, ‘market time’ is not fully applicable either in subsistence economies or in relation to gender based division. And, majority of women work in the non-market sector. They are classified as non-workers, non-producers and hence invisible which leads to the underestimation of labour forces as well as the underestimation of their economic contribution.
It is necessary to point out the relationship between change in the definition of work in an agrarian society and women’s activity rates (Anker, Khan and Gupta, 1988). The activity rate for women was 13 percent when workers were defined as ‘paid labour force’ (i.e. persons engaged in wage/salary employment); when the definition used was ‘market oriented labour force’ (i.e. persons in paid labour force plus those engaged in family farm or enterprise that sells some or all of its goods and services) the rate increased to 32 percent. The International Labour Organization (ILO) labour force definition includes persons engaged in national income statistics. According to United Nations (UN) recommendation (i.e. production of primary goods plus processing of primary goods by producers of these goods plus production of other goods by producers of these goods plus production of other goods partly sold and partly consumed) the activity rate for women became 38 percent. The fourth definition includes all the above categories of work plus those persons who perform an activity that contribute to meet the family’s basic needs for goods and services that are generally purchased in industrialized countries. The activity rate here was 9 per cent.

Now it is evident that the definition of work and other conceptual and methodological biases in data systems must be modified.
Further, it is necessary to analyse to what extent house-work functions as a wage subsidy for the market sector. The relationship between patriarchy and development thus assumes significance, particularly in relation to the power relationship between men and women within the family. The family is a unit in which production and redistribution of income occur on the basis of material aspects of gender relation and division of labour resulting in conflict and change. The central instrument for maintenance of patriarchy is occupational segregation which reinforces the traditional division of labour. This leads to lower wages for women which maintain their economic dependence on men. Simultaneously, the domestic division of labour reinforces occupational segregation by weakening women’s status in the labour market (Sinha, 1980).

In under-developed economies the primary production unit is the household, where non-commodity characteristics are retained along with commodity production. It is necessary to incorporate both in theory and analysis the material basis of house work which is an economic function integral to the systems (Kishnaji, 1980).

Non-market activities have remained out of the scope of non-classical economics. This has been since the rise to dominance of supply and demand theories. This resorts to methods which restrict the incorporation of the wide
variety of conditions under which changes in methods of production, output consumption and distribution take place. They hardly provide a basis for building up an interrelated analysis of a real economy (Bharadwaj, 1988). Gender as other aspects of social relation finds little place in neoclassical economics. In recent times some economists have begun incorporating women’s activities in the market and family maintenance work. Non-market activities have been dealt with primarily by economists in the backward agrarian economies.

Higher entry of women in the market is associated with growing availability of women’s work. This is to show that women have no preferences. Market decides what jobs they would do. However, the dichotomy between home and market work of women should not be carried too far since home is conditioned by the market. While the neo-classical concept maintains that inspite of the segmentation of labour market women get a wage equal to their marginal product, the institutionalists attribute the lower wage of women to labour market segmentation and sex typing of jobs. Division of labour by sex has always been there. At certain stages of economic development the rewards of specialization are equitably distributed between the sexes.
It has been found that even in the advanced stage of capitalism, the differences between men and women cannot be explained merely by the differences in their productivity due to age, schooling or experience. Institutional economics maintain that sex inequality takes the form of job discrimination and not wage discrimination, i.e. sex discrimination manifests in not unequal pay for equal work but rather an unequal job assignment. They also point out that sex-oriented branding of jobs is also the cause of higher unemployment of women.

The main point that emerges from the institutional standpoint is that the role of women is confined to certain sectors of the economy. It is the market which imposes such a role so that they can be paid lower wages.

**RADICAL APPROACH**

This approach can be traced back to Engles’ historical explanation of the dialectical relationship between the development of the means of production, food, theories of property, the state of evolution of monogamy and the subjection of women. This school emphasized the development of means of production through the periods of savagery, barbarism and civilization. At first private property was unknown. In the pastoral stage, when surplus of wealth in
terms of cattle, milk and meat was available, the need for private property emerged. It is at this stage that there was a shift from the mother’s right to the father’s right, namely to patriarchal society. Thus as wealth increased, it bestowed on man a more important status in the family than woman. The overthrow of the mother’s right signified the world’s historic defeat of the female sex. Man seized the reins of control in the house also, while assigning a derogatory and degrading role for women as mere instruments for breeding children.

Hence, the radical approach views women’s labour force participation in a historical perspective. Although they also say that women’s labour force participation outside the household was very much related to the family’s budget requirements, yet they place greater emphasis on change in nature of the family. For example, during the last century, working daughters contributed to the family’s income. But gradually single working girls started keeping their wages for themselves. Thus the old familiar values were replaced by new ones. Due to gradual transformation of family, especially after the second world war, the number of married women offering themselves for paid jobs went up. This brings us to the radical approach which focuses on material and political benefits which capitalists derive from family. They consider that
family survived because it served the interests of the capitalists demonstrating the fact that sex inequality in the market was based on sex inequality at home.

For the radicals the overthrow of capitalism is a pre-condition for liberation of women. More important, nevertheless, is the closing of ranks against the patriarchal family structure. The economic independence and the so-called liberation of women in the advanced industrialized countries is seen by the radicals as an illusion. Although for many women the transformation of the family into industry centered patriarchal capitalism appears to be a liberation, yet it is not so because capitalist exploitation cannot be called liberation. Under patriarchal capitalism women’s oppression does not end, it only takes another form. This is evident in the advanced countries. In US it is believed that there are more than 3 million such family units headed by a divorced or separated mother looking after the children.

The labour market segmentation during the transition from competition to monopoly capitalism arises in response to the needs of capitalists to divide and rule over working class. Even trade unions sometimes pressurize women to stay at home in order to restrict the supply of labour or occupationall
segregate them. Hence class struggle and trade unions sometimes go against the interests of women.

**BIOLOGICAL APPROACH**

Proponents of biological view state that there are some fundamental biological differences which not only distinguish women from men but are also responsible for their secondary status and role in the society. In primitive times many vital and life sustaining functions such as food gathering, hunting, preservation of meat and food stuffs, cleaning and sewing, child bearing and child rearing necessitated division of labour. The way out was allocation of duties and functions keeping in view biological, structural and other physical differences between males and females.

This approach followed the basic logic that women, because of their child bearing function and lesser mobility, stayed closer to home and assumed domestic rules. Males, because of their greater muscular strength assumed the arduous roles such as hunting and farming and seized power in the society over which they have maintained their control till the present time. Society continues to believe that men should have roles outside their homes where they interact with other people while women should work inside (the home), closer
to kitchen because of their child bearing and rearing functions. The male’s role has come to be regarded with value and more power because the only way to achieve political power and authority is the assumption of public roles and interaction with other people. This also explains why the isolated, house-bound female role has been underestimated.

Thus, according to this view, the division of labour in simple societies is based upon the biological differences. Due to child bearing and child rearing functions women are forced to be sedentary. During pregnancy, a woman is dependent on man for fulfillment of her requirements, since during this interval she cannot move freely whereas man is always free; he does not have such interruptions.

In other words, the division of labour in primitive societies was based upon biological factors. Freed from biological imperative the young males could roam out for hunting. Women foraged too, but constrained by the necessities of carrying and nursing babies, stayed closer to home. During this stage the division of labour into public and private domain became universal. The males, due to their contacts with other bands, became knowledgeable about a larger geographical area. The female due to child bearing role stayed
home having less contacts with the outside world. The field of women thus became more limited.

Stressing the biological differences between men and women on the basis of the sexual division of labour in society, Murdock suggests that biological differences such as the greater physical strength of men and the fact that women bear children led to gender roles. Given the biological differences between men and women, a sex based division of labour is the most efficient way of organizing society. In a cross-cultural survey of 224 societies ranging from hunting and gathering bands he examines the activities assigned to men and women and finds tasks such as hunting and mining to be predominantly male roles and cooking, water carrying and making and repairing clothes to be largely female roles. He states that “Man with his superior physical strength can better undertake more strenuous tasks, such as mining, quarrying and house building. Not handicapped, as is a woman by the psychological burdens of pregnancy and nursing, he can range a further field to hunt, to fish, to herd and to trade. “Women are at no advantage, however, in lighter tasks which can be performed in or near the home, like the gathering of vegetables, the preparation of food, etc. as due to biological functions of child bearing a woman is tied to home. Because of her physique she is attached to less
strenuous tasks. Murdock finds that sexual division of labour is present in all the societies in his sample and concludes that ”the advantage inherent in a division of labour by sex presumably accounts for its universality”.

Beneria (1982) also talks of the sexually determined “instrumental” and “experience” based division of labour. According to him women play the role of emotional leader in the family whereas husband is the “instrumental” leader. He writes that the fundamental explanation of the allocation of roles between the biological sexes lie in the fact that bearing and rearing of children establish a strong relation of mother to the small child. Thus because mothers bear and rear children they have closer and stronger relationship with them. Criticizing this approach, Ellis says that problems of man and woman cannot be a question of comparative merits of the two sexes. Mankind is one. Men and women are two aspects of one essence. Therefore, the question of the superiority or inferiority of either sex does not arise. However different they may be the two sexes are designed for each other and are complementary to each other.
ANTHROPOLOGICAL APPROACH

Biological fact is not enough to provide an adequate answer to the question of inferior status of women. The task is to discover how the nature of woman has been affected through the course of history. People who believe in the anthropological quest begin with the assumption that human behaviour is largely directed and determined by culture. Thus norms, values and roles are culturally determined and socially transmitted. According to this perspective gender roles are product of culture rather than of biology. The sexual divisions of labour is supported and justified by a belief and value system which implies that gender roles are normal, natural, right and proper. One example is that boys are rewarded for their aggressive physical behaviour whereas girls who are aggressive or “tomboyish”, i.e. climb trees (masculine character) are generally punished. Crying in a boy is frowned upon as being “sissy” or “being girlish” (feminine behaviour). Thus it is culture that creates inequality and not biology. Many researchers have criticized the biological theory of division of roles. Critiques of this perspective argue that biological determinism is insufficient to explain the subordination of women as it is based on simple brute strength. It would seem logical that as civilization progressed
and physical strength became less important the position of women should have improved.

Whyte (1982) observed that biological subordination is not the result of a predetermined biological handicap. She says that child bearing is represented as an external handicap for females. But the child bearing as a disability is relatively a recent conception. It did not exist in the primitive society. Thus according to her, attributing inferior stand is a false proposition. It is true that we must view the fact of biology in the light of anthropological, economic, social, and psychological contexts. The enslavement of female and limitations of her various powers are extremely important facts. The body of woman is one of the essential elements but the body is not enough to define her.

Criticizing the biological approach, some researchers observe that it is an error to assume that female is by nature sedentary whereas the male is by nature active and superior. Such activity differences do not exist between males and females and to a large extent these would seem to be secondary differences and not primary ones. Evaluation of culture as superior to nature is the basic reason for devaluation of women. Women are universally defined as closer to nature because their bodies and physiological functions are more
concerned with natural processes surrounding the reproduction of the species. Further, Women’s social role as mother is also seen as closer to nature. They are primarily responsible for the socialization of the young. Infants and young children are seen as ‘barely human’ (as one step away from nature) because their cultural base is small compared to adults. Women’s close relationship with young children further associates them with nature. Since the mother’s role is linked with family, the family itself is regarded much closer to nature as compared to the activities and institutions outside the family. Thus activities such as politics, warfare and religion are seen as being away from nature and also as superior to domestic tasks. Finally, women’s psyche/her psychological make-up- is defined as closer to nature because women are concerned with childcare and primary socialization. They develop personal, intimate and particularistic relationships with others especially with their children. Following Levi Strauss, it is the men who are engaged in creating social bonds. Men benefit more than women from these social bonds and thus the division of labour between the two sexes is a hierarchal one.

The fact is that traits such as aggressiveness, courage, independence, sexual activity, nationality, passivity and many others, which are considered either “masculine” or “feminine” are as lightly linked to sex as are the clothing
and the manners that a society at given period assigns to either sex. Sir Henery Maine was one of the early theoreticians who wrote about the natural superiority of man over woman. His view is that the patriarchal systems of authority was the original and universal system of social organization. The family was the original unit and the eldest male parent held supreme authority in the household. From the family, such authority had been extended into clans, from clans into tribes and so men always had been the rulers. To conclude, anthropologists emphasize that culture is the main determinant of unequal distribution of roles among men and women in work participation in any existing hum society.

A brief look at the various theoretical approaches on the issue of working women shows that the role of women is an effect of market. The neo-classical theorists see women’s behaviour and role as one of adjusting to the market forces, while the institutionalists show that women have hardly any choice because it is the market which decided the work a woman would do and thereby pays her a low wage by segregating her in the labour market. Radicals point out that the historical growth of capitalism has found different ways of exploiting women both in the family and in the market. Increase in the number of female headed households further shows how patriarchal capitalism, by
giving women the illusion of liberation, actually exploits them. Thus, there is a “reciprocal relationship between economic development and the development of the household”. Sources of modern economic cases can only be fully understood by historians. They examine the development of the household with particular reference to the role of women and their participation in the labour market.

**FEMALE PARTICIPATION - DEMAND AND SUPPLY FACTORS**

**THE SUPPLY DIMENSION**

While one can visualize differential behaviour of women in the labour market according to their class position, one aspect shared by all sections of women is the sole responsibility for all domestic work regardless of the load of her outside commitments or her contribution to the family’s income. The strain of this double burden implies that they have little time to spare to acquire new skills and are willing to accept inferior jobs at low wages closer to their homes. Another feature of female employment is that the decision regarding work is taken according to the needs of the family and not on the terms of their employment. Thus in poor households the entry of women into the labour force is used as a household strategy of survival.
Agricultural labour households form the lowest rungs of the rural class hierarchy and constitute a very vulnerable section of the population. Real wage earnings of these households fluctuated with the vagaries of the monsoon. The actual occupational structure observed at any point in time is the result of the interplay of supply and demand characteristics of labour. It is difficult to delineate these interacting forces since both are determined by the prevailing historical-structural context which varies from region to region. The limited occupational mobility of women is brought out by the fact that in most cases the present status of female workers is matched with the types of jobs they are available for. Occupational mobility is further restricted by the burden of domestic chores and social barriers on their physical mobility.

DEMAND DIMENSION

The entry of women into labour market may be used as a household strategy to increase net incomes by the relatively better-endowed households or to maintain household real incomes by the poor households. In the event of an increasing demand for labour in agriculture and rising agricultural wages, the former type of households use women family workers on their own farms during the busy season. This helps to speed up the agricultural operation and save on wage expenditure. Women from these households are also brought into
family farm work when the male members take up more remunerative agricultural or non-agricultural wage employment.

An increasing specialization of female labour in certain agricultural operations in particular crops would imply an increase in the demand for female labour. Moreover, there has been an increase in female employment in non-agricultural activities in rural areas, leading to slight shift in the structure of the work force. This partly reflects increase in the demand for female labour in non-agriculture putting pressure on the supply of female labour to agriculture. Both these factors help to prop up the wages in the agricultural sector through competition for labour.

Overall, a balance appears to be maintained between the total demand and supply of female labour so that real wages are maintained and even increased slightly. The answer to the phenomenon of stability of real wages in agriculture perhaps lies in the fact that the supply of female labour has not risen more than the demand. If the supply of female has been increasing, the demand is also increasing which helps to hold up real wages in the agricultural sector.
2.4 REVIEW OF RELATED LITERATURE

2.4.1 Female Labour Absorption in Agriculture

It is only recently that issues pertaining to women’s economic contribution, spatial and temporal variations in their participation rates, the effects of development on their economic opportunities etc are attracting overwhelming attention by social scientists. Earlier writings on women centred around their social position and their importance in being mothers and house keepers. Their economic role was considered as either marginal or subsidiary. The most celebrated writing on women, however came from J.S.Mill’s\footnote{J.S.Mill, \textit{The Subjection of Women}, Cambridge, MIT press, 1870, pp.38-45} famous book on the ‘Subjection of Women” in which he noted the importance of earning for the over all dignity of women. Different crops have different intensities for Labour employment. Rice among cereals is the most Labour intensive crop. Since rice production accounts for a major proportion of land use in India, it is the single largest employment generator.

Devadass\footnote{K.P. Devadass, S. Muthu and K. Thangamani, “Role of Selected Farm Women in Agricultural Development”, \textit{Indian Journal of Home Science}, 6(1), 1972, pp.50-51.} et al in their study on female participation opined that the extent of participation of farm women was higher in storing followed by
sowing and transplanting seedlings. They also observed that women supervised all other activities such as arranging for sale of the produce, operating implements and selling the produce. Farm women were almost always consulted in making decisions on various farm operations like getting new seeds, selecting crops, getting fertilizers and pesticides and appointing labourers.

Devadass\(^3\) in his study on farm women reported that in modern agriculture women shared a number of farm operations with men. Activities such as seed selection, storage, sowing behind the plough, dibbling and planting, field irrigation, weeding and cleaning of grains, collection and storage of manure and most of the other farm operations were mainly carried out by men.

A study of Inter State differences by Leela Gulati\(^4\) focused on the relationship between the economic and demographic factors and female work participation. The study does not by any means exhaust all the economic and

\(^3\)Devadass, “Role of Women in Modern Agriculture”, *Indian Farming*, 25 (8), 1975, p.15

demographic factors to which female work participation could possibly be related and a more disaggregative approach at a district or taluka levels could be tried.

The study conducted by Narasimha Reddy⁵ examined the irrigated area, average annual rainfall, crops grown and agricultural Labour productivity. The study showed that the bulk of the female participation in rural areas is better in the agricultural production. Low earnings of the male worker may necessitate female work participation in order to earn supporting income. Further, low Labour productivity is also consistent with scanty rainfall, poor irrigation facilities and dependence on dry crops. Therefore, the study reveals higher female participation wherever the agricultural Labour productivity is lower.

Micro level studies at the village level present highly contrasting scenario across regions or even within the same region. Most of these studies emphasises the importance of socio-cultural factors such as caste and other taboos and/or negative influence of landholding or income. The survey of villages in Bihar and Gujarat revealed that female participation in economic

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activity outside home is negatively activated with their responsibility within home.

A study by Pranab. K.Bardhan\(^6\) states that in rural areas, within the agricultural sector too, a disproportionately high percentage of women work as agricultural labourers. Time series data from Census indicate phenomenal increase in the share of women workers in this category generally associated with landlessness and extreme poverty. This phenomenon has been explained by changes of modes of production and increased skewness of land distribution. The study of the economic aspects of women in India is a more recent phenomenon and it has gained ground after independence, particularly after 1975, the year which was declared the International Year of Women.

Sarathy Acharaya\(^7\) in his study on women’s participation in agriculture laments that during the first half of the century when India was limping towards modernization, there appeared no concern on women’s participation in


economically meaningful occupations which is necessary to guarantee their participation in decision making and equality in deciding status.

Savarimuthu’s study about farm women revealed that farm women participated and supervised to the extent of 75 per cent on activities related to seeds and sowing followed by other cultural practices, irrigation, plant protection and manuring in that ordered sequence. When their role for supervision alone was considered it was found that their role was predominant in operations like cultural practices on manure and manuring, on seeds and sowing, preparatory cultivation and plant protection in that ordered sequence.

It has been noted that women in general have a less diversified occupational structure. This is understandable as the labour market seems to be segmented. This according to Mukhopathayay is due to the branding of specific categories of people with specific jobs affecting the normal functioning of market mechanism, and the perpetuation of discrimination against women in wage, occupation and others.

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As a direct outcome of the social scientists’ obsession with women’s status and its linkages with employment, the temporal analysis of female participation in economic activities has received relatively greater attention, while regional dimension has been neglected or has been marginally touched. The few existing studies almost exclusively depend on census information and are based on aggregate analysis.

The regional studies can thus be grouped into three categories. First, examines variations in female participation rate at macro level; second, inter-state variations, and third, micro level studies such as villages. A few studies analyze female participation rates in relation to cropping pattern. Unfortunately, conscious effort is made to examine female work participation in geographical regions which in India are essentially distinct ecological units. This is perhaps the reason why most analysis based on aggregate units such as states or districts fail to arrive at any meaningful conclusion.

Achanta\(^\text{10}\) in his study on farm operations observed that women continued to share a number of farm operations with men. Activities such as transplanting of rice, weeding crops, scaring birds, sowing behind the plough,

reaping, winnowing, threshing, storage of seeds and food grains, preparations of compost and manure pits and most of other farm operations were mainly carried out by farm women.

Saradamoni and Mehra\textsuperscript{11} in their study on rural transformation insist on the fact that several programmes instituted since independence have shown negative results and have in fact restricted women’s participation in economic activity. Most of the rural development programmes did not contain any special provision for rural women. The only programme worth its name was the institution of Mahila Mandals which was nothing more than the adoption of a middle class model biased towards home economics and welfare.

Barunamitra\textsuperscript{12} stated that women in the small and marginal farm families engage themselves in many of the farm operations either in their own field or in the field of others as hired labourers. In crop husbandry, selection and storage of seeds, preserving healthy seeds, seed treatment, transplanting, fertilizer application and storage of food grains are done by the farmwomen.


Santha Govind\textsuperscript{13} stated that a higher percentage of women was engaged in farm operations like seed treatment, sowing, manuring, inter-cultivation, harvest and post harvest technology that were traditionally done by women. Women’s participation in terms of active performance was relatively more as compared to either supervision or exchange of ideas.

Anuva Saiba\textsuperscript{14} reported that work participation rate of females depended on cropping pattern, crop intensity and economic compulsions to engage in farm activities. The average female participation rate was 54.24 per cent in small farms whereas it was higher on marginal farms. The female participation rate and the volume of employment were higher in paddy dominated villages. Transplanting and harvesting of paddy were done exclusively by female workers.

\textsuperscript{13}Santha Govind, “Participation of Farm Women in Farm and Home activities”, Unpublished M.Sc (Agri.) Dissertation, Tamil Nadu Agricultural University, Coimbatore, 1984.

Dutta\textsuperscript{15} and Sharma reported that the percentage of female Labour input was significantly higher on peasant farms, most of which belonged to the small and medium size classes. The women workers are generally allocated lighter works such as transplanting, while others jointly performed depending upon the disposition of male labour time.

Seema Sirohi’s\textsuperscript{16} study on the involvement of rural women arrived at the conclusion that the maximum number of women participating in harvest and post harvest operations belong to the age group of 15 to 40 years. All the rural women involved in irrigation and plant protection measures belong to the age group of less than 15 years of age. Married rural women having 5-8 members in their nuclear families participated more in harvest and post harvest operations whereas unmarried rural women belonging to 2-5 member joint families, confined themselves to irrigation and plant protection.


Yadav and Yadav\textsuperscript{17} stated that the participation of female farm Labour was maximum in small farms to the tune of 59.78 per cent while it was 46.45 per cent in large farms. They participated in a variety of farm operations such as land preparation (excluding ploughing), transplanting, harvesting, mechanical threshing, winnowing and primary processing of agricultural commodities. Due to their enhanced participation in work on the farms, seasonal variation of agricultural labour had declined.

Joshi and Alshi\textsuperscript{18} studied the impact of High yielding varieties on employment potentialities for female labour in Maharashtra. The study was conducted to evaluate the impact of HYV on employment opportunities for women, through a random survey covering the period 1980–81. The study found that per hectare employment generating capacity of HYV is greater than the traditional varieties.


Female Labour participation in Rice farming system of Chathisgarh Region was studied by Marothia and Sharma. The study focused on the relative share of female Labour in paddy production and subsidiary activities to account for their economic contribution to the farm level.

Saradamoni studied involvement of women in rice production in three states. The study was conducted to fill in a substantial gap in the data base on women’s economic activities and documented the contribution of women to the production of rice, at different stages. The study revealed that the women had a special function in the rice production which had made them skilled and specially equipped for farm work.

Prasad reports that as far as efficiency is concerned, women are more efficient than men, in respect of rice planting (16 percent more), weeding in rice and wheat fields 7-8 per cent more, picking of pearl millet (25 percent more)


and in picking cotton (37 per cent more). Their efficiency in harvesting and processing of tea, coffee and horticultural crop is well established.

Sardana et al\textsuperscript{22} found that women did almost all the dairy work in cattle rearing. Activities such as transplanting of crops, weeding and harvesting involved joint work, while the more arduous tasks such as field preparation and irrigation were carried out by men.

Sanghi\textsuperscript{23} opines that about 60-70 percent of the labour input is provided by women in production, processing and storage of grain. The main contribution of women labour is in agriculture and allied activities, either as cultivators or as agricultural labourers.

Srivastava\textsuperscript{24} assessed that small farms had more surplus female labour than their large counterparts and the availability of such labour varied between months. The estimated surplus female labour was greater in the mechanized

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\item \textsuperscript{22}P.K. Sardana, “Role of Women in Agriculture: Farm Women and Dairy Cattle Supplement one another”, \textit{Journal of Extension Systems} 4(1), 1988, pp.67-69.

\item \textsuperscript{23}N. K. Sanghi, \textit{Crop Technologies for Farm Women Identification, Application and Research Gaps in Agriculture}, (Editor C. Prasad and S. Ram) IFWA, Krishi Anusandhan Bhawan, New Delhi, 1990.

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farms then bullock-operated farms. It was therefore suggested that the skills of the farm women could be improved by specially designed training.

Bala\textsuperscript{25} has observed that more than 90 per cent of total human labour required on the farm had been contributed by family labour of which 53 per cent was the share of female labour. Female labour contributed more than male labour in case of paddy, maize and vegetable crops. The estimates of log linear production functions showed that the co-efficient of elasticity for female labour in all cases was less than that of male labour in all cases except paddy and livestock. The share of female labour income for the farm as a whole was 17 percent and that of live stock was 20 percent.

Chauhan et al\textsuperscript{26} in their study on assessment of women’s participation have concluded that women contributed more labour to crop production (63.19 per cent) and dairying (73.79 per cent) than men. The contribution of women members to the total household income was 30 per cent and to the farm income


was 65 per cent. They concluded that educated women did not like the dairy business and preferred to take up jobs which involved less manual labour.

According to Patel and Sadangi\textsuperscript{27} the activities wherein the majority of farm women participated were harvesting (97.7 per cent), planting (9.5 per cent), post harvest operations (75.5 per cent), nursery raising and planting of vegetables (75.47 per cent), live stock care 75.76 per cent), preparation of farmyard manure and compost (63.2 per cent) and winnowing (54.7 per cent). Plant protection, bee keeping and land preparation were the three less important activities attended by farm women.

The Reports by SD Dimensions\textsuperscript{28} 1997 (Sustainable Development Department, FAO) report on Gender and Development in India states that in rural India, agriculture and allied activities employ as much as 89.5 percent of the total female labour. Women have extensive work loads with dual responsibility for farm household production. Women contribute considerably to household income through farm and non-farm activities as well as through work as landless agricultural labourers. The Indian agricultural production


\textsuperscript{28}www.fao.org/sd/Wpdirect/Wpre0108.htm
area is delineated to 15 agrobased regions on water resources, irrigation pattern, rainfall, soil characteristics and cropping pattern. The mode of female participation in agricultural production varies with the land-owning status of farm households. Their role ranges from managers to landless labourers. In overall farm production, women’s average contribution is estimated at 55 per cent to 66 per cent of the total labour with percentages much higher in certain regions.

N. Tesha et al\(^{29}\) noted that over 80 per cent of the Tanzanian population lived in rural areas and among them over 90 per cent were engaged in agriculture. While the agricultural sector engaged more men than any other sector, it was women who did most of the agricultural work. Women constituted 57 per cent of the agricultural labour force and produced 60 per cent of the domestic food as well as cash crops for export. Women also maintained livestock such as cattle, pigs, goats, rabbits and poultry.

Santha Govind\textsuperscript{30} reports that women’s involvement in plant protection was less (7 per cent). About 67 per cent participated in drying, 60 per cent in sowing and 60 per cent in cleaning. About 40 per cent involved in activities like hand weeding and reaping. Regarding supervision 46 per cent involved in hand weeding and reaping activities. About 40 per cent involved by way of supervision in threshing and winnowing and 33 per cent in cleaning operation.

Anjugam and Alagumani\textsuperscript{31} analyzed the extent of women labour in agriculture, floriculture and dairy activities and the factors influencing supply of women labour in agriculture. It was estimated that it ranged from 97.25 womendays / to 350 womendays in garden lands. Operation-wise employment of women labour use showed that the employment per year was 285.54 days and 155.73 days in wet and garden lands respectively. The reduction in number of days employed in garden land was attributed to less cropped area and less cropping intensity due to scarcity of irrigation water.


\textsuperscript{31}M. Anjugam and T.A. Alagumani, “Participation of Women in Agriculture in Madurai District, Tamilnadu”, Paper presented at Seminar on \textit{Women in Agriculture} held at Tamilnadu Agricultural University on April 28, 1998.
Subramanyam\textsuperscript{32} studied the female labour absorption in Andhra Pradesh Agriculture, especially in Godavari region, where paddy is grown extensively. The study revealed that only 27.2 per cent of paddy area was under high yielding variety. The results showed positive impact on high yielding variety on labour demand and it compensated for the negative effect of mechanization. The demand for labour increased by 16.2 percent (111 days to 129 days per hectare). Female labour increased by 84.8 percent and male labour declined by 12.8 percent. The share of females in paddy cultivation increased from 27.9 percent to 47.3 percent.

Kronner\textsuperscript{33} in his study on women in Rural Production noted that Women in Iran played a major role in the national economy and also at household level. In regions with intensive farming, women’s share in rice and tea production was 77 per cent.


A study conducted by Amudha and Veerabhadriah\textsuperscript{34} on women in commercial poultry revealed that the farm women had played a part in poultry activities like collection, grading and storage of eggs, cleaning and disinfecting the equipment, feeding and watering. It was observed that in case of small poultry farms women’s participation was more than 70 per cent in all the operations except fumigating the house. As flock size increased, work load also increased which demanded more labourers. So, in the large poultry farms, Farm women could not involve themselves fully and therefore they supervised the work of labourers.

Shoba\textsuperscript{35} reports that 100 per cent of women belonging to lower socio-economic group in Andhra had to perform all labour intensive activities such as transplanting, weeding, harvesting and winnowing. More than 50 per cent performed sowing and threshing involving muscular activity. Therefore, women generally were assisted by men in this task. Milch animals’ care was not a major activity of women belonging to lower socio-economic group,

\textsuperscript{34}S. Amudha and V. Veerabahraiah, ”Women in Commercial Poultry”, \textit{Kurushetra}, 48 (2), 2000, pp. 36-40.

whereas poultry care was undertaken by about 46 per cent of women in this category.

Gurajala Sudarshan\textsuperscript{36} reported that a large number of woman labourers belonged to backward castes and were marginal farmers and agricultural labourers. The analysis of working hours showed that most of the women labourers worked for 6 to 7 hours in distant fields and for a longer duration in the nearest fields. The relation between the employer and employee showed that most of the woman labourers preferred to work with employers who possessed a large extent of land for social, economic and political benefits. Most of the women labourers were used for transplantation, irrigation, weeding, applying fertilizers, harvesting, post harvest works and household work.

Cherian et al\textsuperscript{37} reports that more than half of the women labourers were participating in seed selection, seed treatment, land preparation for nursery, nursery raising, land preparation for transplanting, application of manure and


fertilizers and transplantation. Women’s independent participation was found to be low in all the activities of major cash crop production. When joint participation was considered, participation jointly with female members was seen in the activities of seed selection, seed treatment, land preparation for nursery, application of manure and fertilizers and transplantation ranging from 20.8 per cent to 33.7 per cent. It was encouraging to note that more than half of the women labourers were participating in post harvest activities like threshing, dehusking, cleaning, shelling, grading, drying and storage for household consumption. About 64 per cent women were participating in drying and storage for household consumption. The reason for this might be that drying and storage comes under household work which was principally the prerogative of women. In marketing, the participation of women was only 7 per cent It was also noted that women’s participation in most of the activities which require technical knowhow was very low. Also regarding the type of participation in farming, a joint participation of women was found dominant and where money was involved participation of women was very low.
S.S. Deshpande and Ali\textsuperscript{38} report that Indian women involved in post harvest operations ranging from 35 per cent to 80 per cent. They are involved in activities related to production, processing, preparation, marketing and selling of different food products. The tasks of rural women demand considerable time, energy and are marked by drudgery. But these contributions are not well identified, quantified and recognized and the result is that women remain outside the main stream of development.

**COST OF PRODUCTION IN AGRICULTURE**

Earl O. Heady\textsuperscript{39} and Herald Jensen studied costs in farming which comprised two main categories, fixed costs and variable costs. Fixed costs represented farming expenses of overhead nature and did not change with the output. Taxes, building, depreciation, insurance, cash rent and interest payments for a farm were included in fixed cost. The variable costs referred to the farming expenses which changed with output, their amount depending on the total produce.


According to Varma and Shukla,\textsuperscript{40} the cost of production consisted of the sum total of the various values (price times the quantity used) that must be paid for the various goods and services employed in the production of a commodity. This was divided into Cost A\textsubscript{1} equal to all cash and kind expenses, rent, wages of hired human labour, value of bullock labour (hired and owned), seeds and manures, pesticides, fertilizers, interest paid in cash and depreciation on implements. Cost A\textsubscript{2} was equal to Cost A\textsubscript{1} plus rent on land and buildings leased-in. Cost B was equal to Cost A\textsubscript{2} plus interest on owned land and borrowed capital. Cost C was equal to Cost B plus imputed value of family labour.

Sharma\textsuperscript{41} while studying economics of farm crops in cotton belt of Punjab, divided the cost of production as fixed and variable costs. The fixed cost included such expenses made on permanent human and animal labour, depreciation on farm implements and machineries, land revenue and taxes, rental value of land and interest on investments other than land. The variable


cost covered the wages paid to hired human and animal labour, cost of seeds, manures and fertilizers, irrigation charges, betterment levy and miscellaneous cost such as plant protection charges, cost of gunny bags and interest on variable costs.

Bernard and Nix\textsuperscript{42} classified costs in farming as fixed and variable costs. Fixed cost represented farming expenses of an overhead nature and did not change with the output. This included taxes, depreciation, cash rent and interest payments. Variable costs referred to the farming expenses which changed with the output. It was related to the variable resources such as seeds, fertilizers and pesticides.

Samuelson\textsuperscript{43} divided costs into fixed and variable costs. Fixed costs represented the total expenses that continued when no output was provided but it honoured its short-run commitments for rental maintenance, depreciation, and overhead salaries by any variation. It was a sink cost because it was quite unaffected by any variation in the level of output in the time period for which it was sunk.


Rajagopalan\(^{44}\) who made a study on the cost and returns of principal crops in the districts of Tamil Nadu, used only Cost A (variable cost) and Cost C (fixed cost). The following components were included in the two cost concepts.

(i) Cost A:

1. Value of human labour including family labour,
2. Value of bullock labour,
3. Value of machinery services,
4. Value of seed
5. Value of Insecticides
6. Value of manures and pesticides
7. Value of irrigation and
8. Investment on working capital.

(ii) Cost C:

Cost A along with rent (including rent paid by the tenant or rental value of owned land), interest on fixed capital excluding land and land revenue, cesses and taxes and depreciation of implements and machinery, constituted Cost C.

\(^{44}\) V.Rajagopalan, “Studies on Cost of Production of Major Crops in Tamil Nadu”, Department of Agricultural Economics, Tamil Nadu Agricultural University, Coimbatore, 1978.
Ramasubramanian\textsuperscript{45} while studying the economics of banana cultivation, classified the costs as fixed and variable costs. Fixed costs included rental value of land, land revenue, depreciation and interest on farm buildings, implements and irrigation structures. Variable costs consisted of labour charges, cost of suckers, manures, and fertilizers, electricity charges, plant protection charges, cost of propiing materials, bullock labour charges and interest on working capital. Cost A included only variable cost and Cost C included Cost A plus fixed cost.

The Cost A\textsubscript{1} consists mostly of paid-out costs by the farmers and Cost A\textsubscript{2} arises when the land is leased-in and rent has to be paid for it. Cost B is an addition of imputed interest on owned fixed capital and Cost C is the most comprehensive cost which is an estimation of explicit and implicit cost items. This is obtained by adding the value of family labour imputed on the basis of prevailing market wage rate with Cost B. Cost C had been computed from Cost A on the assumption that Cost A accounted for 70 percent of the total cost. But this is a highly arbitrary assumption.

WAGE DIFFERENTIALS IN AGRICULTURE

Jones Christine\(^{46}\) studied the mobilization of women labour for cash crop production. The study focused on the relationship between the amount of compensation women received from their husbands for their labour on rice production and the amount of labour they allocated to rice production. The data was derived from a study of the mobilization of women’s labour for irrigated rice production in North Cameroon. It was based on Nash bargaining model and contrasts it with the neoclassical model of the household. It sets out the framework for an alternative model of the household based on mixed interest Co-operative game theory, which unlike the neo-classical model, explains how the intra household terms of exchange are determined.

Narayan Prasad\(^{47}\) Sharma studied the wage differentials for women agricultural labourers of Mathura District in U.P. The study revealed that the labourers are not paid the minimum wages fixed by the state government under Minimum Wages Act. The study showed that there is an urgent need for


effective implementation of the Minimum Wages Act in respect of women agricultural labourers.

A study focusing on women’s roles in agriculture in terms of six agro-ecological zones was undertaken by Martha. The study showed an all India decline in rural wages for both men and women and an increase in male/female earning differential in the majority of states. However a contradictory and welcome trend towards a reduction of male/female differentiation in wage earnings has been noted in some states such as Tamilnadu, Andhra Pradesh and Kerala. Women should be considered not only as consumers but also as managers of irrigation projects.

Tuteja in her study on contribution of female workers to total income states that it was negatively related to farm size because females belonging to medium and large farm households occasionally go out to the fields except in time of emergency when males were away for long periods. The results showed that the contribution of female worker as labourer was more than 50

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49 Usha Tuteja, “Contribution of Female Agricultural Workers in Family Income, their Status in Haryana”, Indian Journal of Agricultural Economics, Vol. 55(2) 2000, pp.36-44.
per cent in all farm sizes. It also revealed that females received less wages than their male counterparts. For instance, women in Gurgaon village were given Rs. 27.50 and men received Rs. 32.50 for the same job. The highest wage differentials in Ambala was 58.5 per cent in 1990-91. On the other hand, Kaithal with a differential of 9.09 per cent in 1990-91 and Jind with that of 8.33 per cent in 1994-95 have shown the lowest difference. However, wages for male and female workers were found equal in Rohtaq and Gurgaon during 1994-95.

FARM WOMEN AND DECISION MAKING

Jegannathan \textsuperscript{50} opined that women took part in decisions on what crops to grow, in the selection of plant stock and seeds, organizing operations like seed selection, planting, weeding, fertilizing, plant protection, harvesting and the equipments involved in production, for farming and care of livestock.

Ray \textsuperscript{51} defined decision making as the process of consciously choosing courses of action from available alternatives and integrating them for the purpose of achieving the desired goal.

\textsuperscript{50} M. Jegannathan, ”Profile of Rural Women in India”, \textit{Kurukshetra}, 33(3), 1984, p.38.

Jeemol\textsuperscript{52} analyzed the job choice of married women in rural India as a joint decision by spouses in a household. Two models of labour participation were estimated. The first model defined work only as market wage labour and the second defined work broadly to include wage and self-employment. The quadratic term introduced in the age variable indicated that married women tend to withdraw from wage work at an earlier age than from self-employment. The relationship between education and wage labour participation was significant only at higher level of education compared to human capital. The household’s access to land and business assets had the opposite effect of encouraging labour participation of married women, particularly in self-employment.

Nand et al\textsuperscript{53} in their study on decision making role of women state that the women provided a high level of consultancy in decision-making with regard to marketing of produce and storage, a medium level of consultancy on sale and purchase of animals, purchase of fertilizers, sowing time and method of sowing and intercultural operations and a low level of consultancy on

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adoption of new technology, crop protection, fertilization use of chemicals for spraying and irrigation. However the final decision on all these matters was taken by men only.

The study showed that the number of women marginal workers in rural areas increased but less than that of men. But in 1981 the proportion of marginal workers in the female population was much higher than that of men.

With their increasing role in the male domains of milking and driving tractors, farm women felt that they had more freedom within their job than other women. The displacement of women from wage labour has implications for the crucial issue of women’s empowerment and the welfare of the household. In 25 per cent of the households women were the decision makers, whereas in 52 per cent of the households men were the decision makers. In 23 per cent of the households decisions were taken jointly by both. On an average, women had only about 36 percent role in the farm decision making process.

Darley Jose and Shanmugaratnam\textsuperscript{54} conducted a study in Palode village in Kerala and found out that 97 per cent of the farming community in

the village comprised small and marginal farmers. Out of the 80 farmers interviewed, 19 were female (23.75 per cent) farmer cultivators. Out of the 19 female farmers, about 79 per cent belong to the smallest holding size class (below 5 cents). And in the largest holding size, none of them were women. There was a 28 per cent decline in the number of male cultivators, while the number of female cultivators increased by by 84 per cent between 1971 and 1981. The number of male agricultural labourers increased by 14 per cent and female labourers decreased by 24 per cent.

In more than 50 per cent of paddy field in the village, there has been a shift from labour intensive rice crop to other cash crops, which require less female labour. This could be a reason for the reduced number of women agricultural labourers. The data is a pointer towards the increasing trend of marginalization and absorption of women workers in unpaid agricultural activities.

In the study of Patel et al\textsuperscript{55} the results indicated that the majority (72 per cent) of rural women themselves made the decision on storage of grains, for

home consumption and other purposes. On the other hand decisions on animal husbandry activities, expenditure pattern, education and marriage of children were made jointly by rural women and their husbands in a majority of cases. It was also observed that decision on cropping pattern and marketing of produce was made by the husband alone in majority of cases.

In his study Pattanik\textsuperscript{56} reported that participation of women in farm management and other areas of decision making varied in relation to their status in the family and the size of the holding. The participation and non-participation of women is due to several reasons such as inadequate exposure to mass media, lack of extension, contact, lack of time, illiteracy and large size of family.

According to Johl and Kapur\textsuperscript{57} farm management is a science which is concerned with making decisions and choices about combining different enterprises and optimal utilization of resources available and it is necessary to understand the typical farming operations and some decisions in agriculture


and horticulture were taken by the farm women, but the most crucial and economic decisions like selling the produce, purchase of animals and inputs were exclusively decided by men. It was argued that access to information would help women to achieve parity with man in the decision making process.

Reddy and Rasid\textsuperscript{58} concluded that most of the decisions in animal husbandry and some decisions in agriculture and horticulture were taken by the farm women, but the most crucial and economic decisions like selling the produce, purchase of animals and inputs were exclusively decided by men. It was argued that access to information would help women to achieve parity with man in the decision making process.

Talukar and Karmakar\textsuperscript{59} have identified the problems faced in decision making by women in agriculture. The major problems faced in decision making by women were lack of economic resources under their command (9 percent) lack of contact with information sources (87 percent) and lack of pertinent facts or knowledge about agriculture (81 percent).


Alston and Wilkinson\(^6^0\) discussed on lack of women in leadership positions in Australian agriculture. It calls for action on the part of the government industry leaders and women’s group to address the lack of women in decision making positions in agriculture.

Alagumani\(^6^1\) analyzed the role of women in household decision making in Madurai district and found that women were involved to the extent of about 73 percent age of matters concerning household consumption, and 39 percent in investment decision making and the rest did not involve any activity. She also found that nearly 48 percent did not undertake any work and they could be motivated assisted to undertake entrepreneurial activities.

Ajit Kumar\(^6^2\) in his study on the impact of Women participation in agricultural work and their role in decision making process states that adult females accounted for 85 per cent of agricultural work. Female family labour


contributed as much as 80 per cent of the value productive work and 90 per cent of the value domestic work. The higher participation of women in economic activity was found to have positive impact upon the status and power of women within the household as reflected in their participation in decision making.

Though women performed more than four fifths of agricultural work, their decisions were found to be high in matters related to selection of seeds (29 per cent), purchase of agricultural implements (30 per cent), and sale and purchase of livestock (34 per cent). However, the decisions regarding the purchase and mortgage of land, agricultural credit, sale of produce and use of fertilizers rested with the male members.

TECHNOLOGICAL CHANGES AND WOMEN IN AGRICULTURE

Ramesh Chand, Sidhu and Kaul\textsuperscript{63} studied the impact of technological changes on modernization of Labour use with special reference to women agricultural Labour in Punjab. The study was conducted to examine the impact of technological changes on female Labour employment and wage payment.

The modernization of agriculture showed that the employment per hectare of cultivated area had increased the employment of female Labour than men. The new agricultural strategy has resulted in reducing the differential wage rates between men and women.

This study was conducted in the three villages namely, Dharmapura, Labhandi, and Pirlsha of Dharsiwa block of Raipur District. The study revealed that the women Labour played a significant role in paddy production and subsidiary activities on the sample farms both in terms of working days and wage earnings.

Mortha Achen states that chemical fertilizers and herbicides often displaced women from operations that are typically female dominated. After manuring and weeding when mechanization takes place women generally withdraw as men assume control of the machines. Even introduction of HYV seeds which normally increases employment opportunities at least in the beginning has not affected female employment favourably.

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“Technological change and women workers” was a study by Sheila Bhalla. The study was conducted to analyze the demand for women workers in the field of crop operations and the supply behavior of cultivating and landless agricultural labour households and on the impact of the Green Revolution on women’s work in India. She arrives at the following conclusions.

Rosier estimated that women, on an average spent 20 hrs per week on farm work. They did less work in houses and in the fields than before, and were responsible for book-keeping and direct marketing. Technical progress has made agricultural work easier, but has not reduced women’s working hours.

Kaur and Goyal found that men performed all operations involving the use of machinery and draught animals. But operations which demanded direct manual labour were performed by women such as transplanting, weeding,

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winnowing and harvesting. Women were much disadvantaged in their access to employment due to more limited access to mass media, lower literacy level and less interaction with market place.

Paris\textsuperscript{68} studied the impact of technological changes on the socio-economic equity of male and female members of the households. The study revealed that women who formed the bulk of labour in rice planting and mechanical technologies have displaced women from rice production and processing, but at the same time reduced the drudgery of women in agricultural work and reducing their work burden. An important conclusion was that women’s concerns should be reflected in research priorities and strategies.

**EMPLOYMENT PATTERN AND STATUS OF WOMEN**

Suryawanshi and Kapase\textsuperscript{69} studied the impact of good irrigation project on employment of female agricultural labour in Ahemednagar District in Maharashtra. They examined the changes in female labour employment after introduction of this irrigation project. The study was on the per farm and per


hectare Labour participation and Labour utilization of females over a period of time two years i.e. 1968-69 and 1975 – 76.

The study found relatively a low level of employment for female labour. It also found that there was negative relationship between the family female labour, employment and the size of the holding. The low level of employment is found to be an indicator of low level of economic status.

Bhati and Singh\textsuperscript{70} studied the contribution of women to Agricultural Economy of the Hill regions of North-West India. The study concentrated on women Labour conditions and focused the attention on their contribution to rural economy. The study was conducted in Himachal Pradesh using multi-staged random sampling method.

In Hariyana as a whole, women from landed households contributed, on the average, only 10 days labour per 100 total male hired labour days and about 18 days per male casual labour days. but in the high technology regions, the figures for women are much higher. The study reveals in short, most of the women who shift either to more gainful employment (45 per cent) or had a

\textsuperscript{70}J.P Bhati and D.V. Singh, ”Women’s Contribution to Agricultural Economy in Hill Regions of North – West India”, \textit{Economic and Political Weekly}, Vol.22(17), 1987, p.ws.11.
gainful subsidiary activity 93.57 per cent) during the rest of the year and only 18.7 per cent were wholly engaged in unpaid domestic activity or were mainly inactive.

Jeemol Unni\textsuperscript{71} studied the changes in the women labour in rural areas during 1961-83. The study focused on women workers in rural areas who were mainly engaged in agricultural activities. It is found that women formed a significant proportion of the labour force. The study revealed that the percentages of both male and female workers have shown a tendency to shift away from agriculture. A trend towards increasing actualization of the work force in rural areas, and more specifically, an increase in the proportion of workers dependent on wage labour in agriculture was noticed.

Some macro level observation was made by Nirmala Banerjee\textsuperscript{72} in her study of the trends in women’s employment 1971-81. The study concentrated on the over all direction of the changes in the position of women labour. This


study analyzed 14 to 15 States of India. The study adopted the Census and NSS statistics.

Tarujyoti\textsuperscript{73} in her study on determinants of Employment states that the low level of literacy is one of the major reasons for high rural female work participation rate. Inadequate incomes earned by the males often force women to join low paid, unskilled and low productivity occupations. Landlessness in rural areas is another important determinant of high female work participation rates. SCs and STs are considered as disadvantaged in the society and a very high proportion live in rural areas. Work participation rate in rural areas among women is directly related to high illiteracy among women including a large number of SCs and STs living in rural areas and landless population.

Hirway and Roy\textsuperscript{74} found that though the women spent comparatively less time per week (3.12 hrs.) on animal husbandry than men (3.93 hrs) women spent most of their time on tending animals, making dung cakes and milking, while men spent more time in grazing and tending cattle sales and purchases.


\textsuperscript{74}Indira Hirway and Anil Kumar Roy, “Women in Rural Economy; The Case of India”, Indian Journal of Agricultural Economics, 54(3), 1999, pp. 251-271.
and related activities. Rural women workers spent more time than men on processing and storage of food which is a part of the system of national accounts activities.

Singh and Garia\textsuperscript{75} reported that women performed more than 4/5 of agricultural work and their involvement in decision making was found to be high in matters related to seed selection (29 per cent) purchase of agricultural implements (30 per cent) and sale and purchase of livestock (34 per cent). However the decisions regarding the purchase or mortgage of land, agricultural credit, sale of produce and use of fertilizers rested with male members.

Sankhala et al\textsuperscript{76} examined the tasks performed by farm women in agriculture and dairying activities in Rajasthan. Indians performed all work related to agriculture and allied activities and also played an important role in decision making i.e. crop selection and storage of food grains. It was noted that there was considerable similarity between the role expectation of the husband and the role performed by farm women.

\textsuperscript{75}Ajit Kumar Singh And Pratap Singh Garia, “Female Work Participation and Involvement in Decision-making Process: A Study in Uttarkand”, \textit{Indian Journal of Agricultural Economics}; Vl.54, N.4 October-December, 1999.

\textsuperscript{76}Gopal Sankhala, B.M.Sharma, and R.M. Fulzele, “Expected Role and Role Preferred by Farm Women in Agriculture and Dairying Activities in Rajasthan”, \textit{Indian Journal of Agricultural Research}, 33 (2), 1999, pp.70-79.
Among the lower middle socio-economic group of the workers, 100 per cent of women performed weeding, harvesting and also prepared food for the labourers who worked on their farms. The majority of women in this group performed winnowing (90 per cent) and transplanting (85 per cent).

The other activities did not involve these women to a large extent (33 per cent) where as 75 per cent of them were engaged in poultry care too. About 58 per cent of the women spent 6 – 8 hours per day in the field engaged as labourers. Among the female labourers who worked on contract basis, the number of working hours were much longer. They were reportedly unhappy with the poor wages earned inspite of long hours of work.

V.N. Misra, in his study on “Female labour force participation, Rural Poverty and Non-farm Employment, classifying States into three levels—high, medium and low in 1993-94 found that female labour force participation was quite high in Andhra Pradesh, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu.(40 – 50 per cent). States like Orrisa, Haryana and Gujarat belonged to the category of medium female labour force participation rates (25

to 40 per cent) The female labour force participation rates were very low in the case of Assam, Bihar, Uttar Pradesh, West Bengal, Kerala and Punjab (below 25 per cent).

A study by D.K. Nayak states that another important development in the countryside has been rapid growth of literacy among women. Paradoxically, it has had negative impacts on the economic participation of women. Literate young women are no longer keen to accept low paid jobs or to do agricultural work which they were offered earlier and they are neither qualified nor willing to accept better ones. The net result of literacy has been a decline in female participation rates.

D. Logamatha reported that the decisions related to farming system were jointly made by farm women and male heads of households in 50-60 per cent of households, solely by women in 8-15 per cent of households and solely by male heads of the households in 25-32 per cent of households. Decisions

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related to livestock activities like feed mixing were solely made by women in 50 percent of households.

Gargi Prasad\(^\text{80}\) opines that women in agriculture face widespread inequality as they have no access to raw materials, resources, marketing networks etc. In economic field they lack disposable income, legally they have no individual status, they are recognized as farmer’s wives and are unable to obtain access in their own names to existing farm services. This problem is increasing as the number of farm house headed by women are growing steadily.

Shoba\(^\text{81}\) had reported that the entire 100 per cent of the women belonging to the lower socio-economic groups in Andhra Pradesh had to perform all the labour intensive activities, such as the transplanting, weeding, harvesting and winnowing operations. More than 50 per cent of them had performed the sowing and the threshing operations involving muscular activity. Therefore, women were assisted by men in these tasks. Taking care of the milk animals was not a major activity of the women belonging to the lower socio-


economic groups, whereas care of poultry was undertaken by about 46 per cent of women in this category of labourers.

Gurajala Sudarsan\textsuperscript{82} had reported that a large number of the woman agricultural labourers had belonged to the backward castes and were mostly marginal farmers and agricultural labourers. An analysis of the working hours had shown that most of the women agricultural labourers had worked for six to seven hours in the distant fields and for long duration in the nearby fields. The relationship between the employer and the employee had shown that most of the woman agricultural labourers had preferred to work with the employers who had possessed a larger extent of land for social, economic and political benefits. Most of the women agricultural labourers had been employed for transplantation, irrigation, weeding, for applying fertilizers, for harvesting, post harvesting items of work and for carrying out household work.

Cherian\textsuperscript{83} had reported that more than one half of the women agricultural labourers had participated in seed selection, seed treatment, land preparation for nursery, nursery raising, land preparation for transplanting, application of


\textsuperscript{83}A. Cherian, “Participation of Rural Women in Agriculture”, \textit{Indian Farmer’s Digest}, April 2001, pp.39-46.
manure and fertilizers and in transplantation. Women’s independent participation had been found to be low in all the activities of major cash crop production. When joint participation was considered, the participation of jointly with women members had been found in activities related to seed selection, seed treatment, and land preparation for nursery, for transplanting, for the application of manures and fertilizers and for transplanting and the participation by women had varied between 20.8 per cent to 33.7 per cent.

It was encouraging to note that more than one half of the women agricultural labourers had participated in post harvest activities like threshing, dehusking, cleaning, shelling, grading, drying and storing for household consumption. About 64 percent of the women agricultural labourers had participated in drying and storage for household consumption. The reason for this might be the fact that drying and storage came under household work which was principally the prerogative of women. In marketing, the participation of women was found to be only seven per cent and it had also been noted that women’s participation in most of the activities which is required to know how had been found to be very low. Regarding the type of participation in farming, a joint participation by men and women was found to
be very predominant and where money was involved the participation by women had been found to be very low.

Sobha\textsuperscript{84} had made a study on “Wage Labour Arrangements” with the objective of studying as to whether there had been any caste stratification in the employment of women agricultural labourers, and had observed that there had been the influence of the socio-economic hierarchy in the categorization of agricultural activity and also on the socio-economic conditions of the agricultural labourers. A total number of 14 villages had been randomly selected and 138 respondents had been interviewed for the study. A pre-tested schedule had been used for getting information from the respondents and the interview method had been followed the age of the respondents had varied between 10 to 70 years. However, the majority of the respondents were in the age group of 20 to 40 years.

Education was considered to be an essential indicator of the status, and the women agricultural labourers in the present study were found to be mainly illiterates (67 per cent) and the remaining labourers had been educated up to the upper primary level. In the present study women belonging to the scheduled

caste, backward classes and the scheduled tribes had been found to be the major participants in the various agriculture activity. Among the lower middle socio-economic groups of the labourers, all the 100 per cent of the respondents had performed the weeding and harvesting operations. Poor harvests and limited cultivation due to poor water supply, the high costs of seeds, fertilizers and the farm machinery had resulted in indebtedness which had aggravated the problem of low wages among the women agricultural labourers.

Molly Chattopadhyay\textsuperscript{85} had a made a study on “Wage Labour Arrangements, in West Bengal”, in the District of Brigham out of the sample of scheduled caste households, seven were found to be share croppers, one kaiborta does not participate in boro only one share cropper’s son and his wife had participated in kisan work. The average number labour days for men and women were found to be 45.4 and 45.5 days, respectively. It was found from a discussion with the wage labourers, that there seemed to be no attachment to any particular land lord and there was the client employed relationship and the fact that the labourers had been regularly given extends preferential treatment had been found from the findings of the study.

Muguntha Raj had made a study on “Problem of Farm Women in Small Holdings in Karnataka”, It was a study of the rural women in one of the taluks, namely of Chintamani, in Kolar District and it was conducted during the year 1998-99, with the objective of finding out the socio-economic profile of the rural women in the study village. He had suggested an equal participation by women in the task of household maintenance. The average age of the respondents was found to be 36 years and only 42.5 per cent of the total sample population was found to be literates most of the small farm women were found to be illiterates and ignorant women, which had indicated the poor status of women agricultural labourers. He had pointed out that the various institutional financing agencies also did not advance any loan to them. This trend had forced the small farmers to resort to the local money lenders for their day – today urgent money requirements. This had adversely affected the women in the households in their participation and the interest on the loans advanced was collected by the village money lenders from the women agricultural labourers in an unethical manner. He had concluded that in order to improve the small farmers, the co-operative management of farms was very essential, which

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would pool the resources of the fragmented holdings and bring them conveniently together in one place.

Singh\(^{87}\) had made a study on "Social Security for Agricultural Labour", with the objective of finding out the various socio-economic and political characteristics of the agricultural world. There was a great need to encourage the member–based organizations for providing social security for the agricultural labour force. In this regard, the role of the voluntary organizations operating in the rural areas might become vital in organizing the agricultural labourers in self – help groups, since, the number of attached farm labour has been continuously declining and the number of casual and contract labourers in agriculture had been rising. The formation of such groups would be feasible and desirable as against providing for individual labourers.

The annual average growth rate had been observed to be on the increase between 1992-94 and 1999-2000, and the growth in the real wages had been of the order of 4.98 per cent per annum between the year 1983-84 and 1987-88. This had also confirmed the fact that the relative position of the agricultural labourers had worsened during the 1990’s. In spite of having a relatively low

economic growth rate, Kerala had the highest human development level. The author had found that the people’s participations and involvement in various rural devilment programmers through panchayat raj Institutions in the Kerala state had enhanced the efficiency of the delivery of the various rural development programmers. He had concluded that providing social security to the poor agricultural labourers was the almost need of the hour.

Venkata Naidu\(^{88}\) had stated that the census enumeration had consistently ignored the contributions of women in the unorganized sector. Hence, women who had functioned as dual labourers, both at home and in the agricultural sector, had often been included as “housewives”. Such distortions in the understanding of the women’s contribution to the national economy could no longer be ignored if India had proposals to give equal justice to all its citizens.

Meera Bai and Merlin Joseph\(^{89}\) had written an article on “Women agricultural labourers in the Informal Sector in India: Emerging Trends”, Informal sector in India is over represented by women. Feminization of labour


force is heavily taken place in agriculture and related activities which are often considered as informal. In many cases, women agricultural labourers in the informal sector work in deplorable working conditions. This is very true in sectors like garment-making, electronics, export processing zones etc., in these sectors little consideration is being given to health and safety.

Bajinath Singh\textsuperscript{90} had written an article on “Agricultural Labourers in Bihar: Problems and Remedies”. He had stated that there was a dire need to encourage the member-based organizations for the agricultural labourers. In this regard, the role of the voluntary organizations operating in the rural areas might been vital in organizing the women agricultural labourers in to the SHGs, since the number of attached women agricultural labourers had been continuously on the decline and the number of casual and contact labourers in agriculture had been rising continuously and the, formation of such groups would be feasible and desirable.

Manohari\textsuperscript{91} had written an article on “Women Agricultural Labour: A Case Study”, in the Southern Economist. The Integrated Rural Development


Programme, and the poverty eradication and rural development measures undertaken by the government had given importance to the women agricultural labourers in their income generation and asset creation efforts. The TANWA project had taken steps to impart trading to the women labourers in agriculture. But much had to be done to the women agricultural labourers in the fields of preventive and the curative health aspects. Insurance and the old age pension facilities had to be created exclusively for the women agricultural labourers.

Dawn, Ambrose and Muthamil Selan\(^2\) had stated that the food processing sector was very important in India’s national economy and it had accounted for 10 per cent of total India’s exports. India’s food processing industry had developed well and it had been characterised by a diverse industrial base that had included both the small as well as the large scale enterprises.

Women, as a result of the gender bias, were the cheapest source of labour and as such, were multinationals’ main employees. Multinationals have had an impact on women’s employment in both the formal as well as the informal sectors.

In the formal sector, multinationals had established factories to undertake a portion of the production process and had employed women directly as wage earners. The informal work was undertaken in women’s home or in rented premises; for instance. A contractor rented a shed and women were made to work there on a piece rate or casual basis.

Dimensions (Sustainable Development Department, FAO) ⁹³ report on gender and development in India had stated that in rural India, agriculture and allied activities had employed as much as 89.5 per cent of the total women labour force. Women had shouldered extensive work load with the dual responsibility of farm as well as household production. Women had contributed considerably to household income through their farm and non-farm activities as well as through work as landless agricultural labourers. The Indian agricultural production area had been delineated into 15 agro based regions on the basis of water resources, irrigation pattern, rainfall, soil characteristics and cropping patterns. The mode of women participation in agricultural production had varied with the land–owning status of the farm households. Their role had varied from working as managers to work as landless labourers. In the overall farm production, women’s average contribution had been estimated to be 55

⁹³ www.fao.org/sd/wpdirect/Wpre0108.htm
per cent to 66 per cent of the total labour inputs with much higher percentages in certain regions.