

## **Chapter I**

### **Women and Work: An Introduction**

#### **1. 1. INTRODUCTION**

Women comprise almost fifty percent of the global population, hence their contribution to the economic development of any nation may be considered at par with men who comprise the remaining fifty. However the contribution of women to economic development is grossly underestimated and undervalued primarily due to the non-recognition and non monetization of the majority of the activities that they perform and their consequent exclusion from statistical enumeration. The most important reason for this is the flaws in the definition and concept of national income which takes into account only remunerative/paid work and not the unremunerative/unpaid activities that women perform, especially in poor subsistence economies. This “invisibility” of women’s work is a major reason why women’s employment is not regarded as a specific activity in research or policy formulation (Sundar, 1981). The socially constructed gender ideologies contribute to this invisibility by creating a hierarchy in men’s and women’s roles with men operating in the public domain, more specifically the market, and women being confined to the private i.e. the household which render women’s unpaid work “invisible” leading to women’s status being inferior to that of men.

The undervaluation of women’s activities can be regarded as a manifestation of the several inequalities that women face in almost all spheres, albeit in varying intensities across countries, cultures, religions etc. According to the Human Development Report, 1995 women’s contributions to human development is far too much than the benefits they receive from it which may be attributed to their unequal status (UNDP, 1995, p. 29). Participation of women in economic activities or female labour force participation (FLFP) plays a crucial role in removing such inequalities besides improving women’s economic position. Female labour force participation has been found to be positively correlated with improved well being of the women, in that it reduces gender inequalities and leads to empowerment. It leads to an increase in the familial well being as well, especially the well being of the girl children as intra household inequalities are decreased. In the long run, it may lead to lower levels of poverty and decline in population growth. Women’s labour force participation thus contributes significantly to human and economic development. However, an issue less emphasized is that if women participate in low paying jobs especially under conditions of distress, their progress towards equality may be hampered as such work increases their

drudgery rather than pulling them out of it (Chakraborty and Chakraborty, 2009; Srivastava and Srivastava, 2010).

The research on FLFP has primarily focused on identifying the determinants of FLFP and its impact on a number of issues viz., reduction of gender inequalities, empowerment and emancipation of women, welfare of women and children etc. However, women's labour market experiences are significantly different from that of men, in that it is more diverse and complex, and factors as varied as demographic, social, cultural, religious, reproductive and personal besides economic (Srivastava and Srivastava, 2010) play a more crucial role in determining FLFP vis-à-vis men for whom labour force participation is determined predominantly by economic factors.

For most of the developing countries of the world among which India is one, agriculture is still the primary occupation for the larger proportion of their population. It is well known that in the rural areas women's role in agriculture and its allied sectors is indispensable through their participation in various activities related to crop production, animal husbandry, horticulture, floriculture, fisheries, agro forestry etc. Women play a predominant role in the farming system of any country as cultivators, labourers and entrepreneurs, performing almost all agricultural activities from crop production to animal husbandry including ploughing and hoeing also in some cases, in addition to the household chores which is entirely a woman's domain. Although the degree and nature of their involvement vary between and within regions and across different farming systems, scholars are unanimous regarding the fact that women's contributions to agriculture is a lot more than they have been given credit for.

Mountain and hill areas belong to some of the least developed regions of any country. Women in these regions are reported to have relatively higher work participation (Reddy, 1979; Chen, 1989) vis-à-vis their counterparts in the plains. The higher work participation could be attributed to less stringent gender division of labour in these areas in contrast to the lowlands, with women partaking in almost all activities related to farming including ploughing and terracing the land, to harvesting (Chen, 1989) and hoeing. For the hill peasant women the burden is heavier owing to large scale out migration of men to the plains due to lack of employment opportunities in the hills, resulting in "feminization of mountain agriculture and livelihoods" (Kollmair, 2010). Owing to the constraints imposed by the topography and the climate which results in marginality, fragility and inaccessibility of the hill areas, agricultural activities pose a major challenge. Lack of land titles as a consequence of the patrilineal inheritance systems related to land ownership in most societies, stand in the

way of women's access to and availability of other productive resources such as loans along with financial and extension services which contribute to the under-performance of the agricultural sector. Analysis of women's role in mountain farming systems is therefore an important aspect of research on women's work.

## **1.2. FEMALE LABOUR FORCE PARTICIPATION**

The issue of women's participation in the labour market has received considerable attention from scholars especially during the 1970s. A large amount research in this area has focused on determining the factors affecting women's labour market decisions and the impact of women's labour force participation on a number of issues viz. reduction of gender inequalities, empowerment and emancipation of women, increased role in decision making within the household or in legislative bodies, awareness regarding better health facilities which has a positive impact on women's well being and the well being of their families especially children etc. The various studies have helped provide important insights into the nature and the extent of women's involvement in economic activities along with pointing out the problems related to the definition and measurement of women's work. The relevance of studies on women's labour force participation is closely linked to the fact that women's labour market experiences vary from those of men and they are more diverse and complex (Srivastava and Srivastava, 2010).

The quantity of labour supplied by a country normally known as the labour force may be defined as "the population which supplies or offers to supply labour for pursuing economic activities for the production of goods and services and, therefore, includes both 'employed' and 'unemployed' persons/person-days. Labour-force participation rate (LFPR) is defined as the proportion of persons/person-days in the labour-force to the total persons/person-days" (GoI, 2013). The Work Participation Rate (WPR) on the other hand shows the proportion of workers in the labour force and indicates the demand for labour. It therefore shows that portion of the labour force which is active. In the present study however the terms female labour force participation and work participation have been used interchangeably in certain instances. Since labour is the primary asset of the larger proportion of the poor, reduction of poverty and ensuring food security in the long run in low income countries calls for expansion of productive employment (Dev, 2008, p. 167). According to the Human Development Report (2015), importance of work stems from the fact that it provides economic security to the people by enabling them to earn an income besides fostering economic growth, reduction of poverty and promoting gender equality. It also helps

to develop a sense of dignity and self worth among individuals and builds social cohesion (UNDP, 2015, p.1).

Since the term labour force includes only those who are involved in paid work, it implies that some sections of the country's population who make important contributions to the national output through their involvement as unpaid family labour or domestic workers, particularly women may be excluded from the labour force (Psacharopoulos and Tzannatos, 1989). The significance of studies on women's participation in the labour force arises from this very fact that women's work and their contributions have been concealed and undervalued as pointed out by several studies (Boserup, 1970; Beneria 1982; UNDP, 1995; World Bank, 1991). In this context Beneria (1982) mentions the ideological and monetary aspects which help explain the bias in women's work. Being unpaid, the ideological aspect considers women's work as being secondary and subordinate to men's work and is reinforced by a lack of understanding of the economic role of women. The ideological bias emerges as a result of the concepts used in social sciences, concepts which need to be reconstructed so that women's role in society can be viewed from a proper perspective. The monetary aspect, on the other hand is concerned with evaluating and estimating women's work statistically since women's participation in economic activities is grossly underestimated in most labour force and national accounting statistics (Beneria 1982, p. 120).

Sundar (1981) believes that one of the primary causes of exclusion of large number of women from the workforce lies in society's outlook towards women's work and her status in society which is also reflected in national income accounts. She further adds that it is not only men's perceptions regarding women's work that leads to their exclusion, but many a time women themselves would report being not employed if they were not earning wages (Sundar, 1981). Quite often women tend to identify themselves as "only housewives" even when they are engaged in economic activities which can be attributed to cultural biases in many Third World countries (Agarwal, 1985). Given the fact that participation in home production is not regarded as being part of the labour force and that women's unpaid family labour and domestic activities are intermingled, it is difficult to make a distinction between unpaid family worker and domestic worker leading to women's non domestic work being underestimated (Beneria 1982, p. 123). According to Sundar (1981), the nature of women's work is such that a demarcation between their occupation and work for home is easier said than done (Sundar, 1981). Further, women perform multiple tasks much more than men, among which only some are remunerated (*ibid*). The lack of distinction between domestic work and unpaid family labour, particularly on family farms or enterprises makes it difficult

to empirically measure the economic contribution of women. Despite being involved in multiple tasks which include crop production, tending of farm animals, food processing and preparation, collection of fuel and water, trading and marketing etc., rural women are not regarded as being economically active (FAO, 2011, p.7) since most of these activities are not exchanged for a price or wage. Household and domestic responsibilities of women are not regarded as economic contributions albeit contributing significantly to the well being of the family and in raising the productivity of the male members. The Human Development Report, 1995 points out that if the valuation of all the “unpaid work” that women perform is done accurately, then in most societies women might emerge as the “major breadwinner” or at least “equal breadwinners” because women work for longer hours than men do (UNDP, 1995, p. 6). Further, men’s work outside the household may be considered as “joint production” since they would be unable to perform much of their work if women did not manage the households (*ibid*).

This “invisibility” and the traditional interpretations of concepts such as “work”, “economic activities”, “productivity” and “workplace”, according to Sundar (1981) is a major reason why women’s employment is not regarded as a specific category in research or policy formulation. Thus despite being important productive agents, much of women’s work is subject to economic invisibility or “statistical purdah” (World Bank 1991, p.1). Within the family, this invisibility leads to “hierarchy in gender relations” and acts as the root cause of gender inequalities (ActionAid, 2017, p. 15). The monetization of women’s non-market work is therefore not just a question of justice, but concerns women’s economic status in society (UNDP, 1995, p. 97), and the household because in contemporary society status is often determined by a person’s ability to earn income (*ibid*, p.6). It is also essential to remove the numerous disadvantages that women are subject to.

At the macro level a rise in women’s participation in economic activities is important as the realisation of women’s full economic potential will enhance the growth rate and make it more inclusive (Mehrotra and Sinha, 2017). Mehrotra and Sinha further mention that according to the calculations of the Organisation for Economic Co-operation and Development (OECD) a rise in women’s labour force participation in India with pro-growth and pro-women policies can lead to an increase in the country’s growth rate by about 2 percentage points over time (OECD 2015, cited in *ibid*). Female labour force participation or work participation has been regarded as one of the crucial tools in alleviating poverty and for attaining individual as well as familial and societal well being. As pointed out by several empirical studies it leads to reduced bias against the girl child, better health and lower levels

of mortality along with “more voice in some areas of household decision making” (Chakraborty and Chakraborty, 2009). Household welfare is determined not just by the level of household income but also by who earns that income. Agarwal (1989) notes that there is an increasing evidence of women’s earnings being spent more on meeting the family’s basic needs as compared to men’s earnings; and children’s nutritional status in poor households being associated more with the earnings of the mother instead of the father (Agarwal, 1989). Agarwal further notes that women in poor households especially in rural areas make significant contributions to family income and sometimes even greater than their husbands, where earned income is considered (*ibid*). In a study on the role of women in rural Sudan, Ibnouf (2009) notes that women have been found to be more rational compared to men in intra household allocation of scarce resources such as food and income thus ensuring household food security and maximum utility and well being of their family members. It has also been observed that expansion of women’s labour force participation, especially in activities that boost their productivity and earnings will not only improve their living standards but, over time will lead to poverty reduction, improved family welfare and lower population growth (Murty and Gaur, 2002, p. 94). The contribution of women’s labour force participation to human and economic development of a nation is thus substantial and cannot be overlooked. Further, contrary to popular belief that women in rural areas do not contribute to economic development, being confined to household work only, it is worth mentioning that women in poor rural families show higher economic participation vis-a-vis women from higher income households (Bhati & Singh,1987).

It is however noteworthy that an issue which has not gained prominence is the fact that women’s labour force participation instead of promoting women’s equality, may sometimes actually restrain it (Chakraborty and Charaborty 2009). According to Chakraborty and Chakraborty, labour force participation of women under economic stress may lead to more girl children being withdrawn from school to help in domestic and household chores and sibling care which widens the gender gap in primary education, which leads to further widening of the gender gap in labour market opportunities. This may cause women to be concentrated in low paying and marginal jobs. Similar ideas have been expressed by Srivastava and Srivastava (2010) who mention that if women work due to economic distress and in jobs which are low paying, then it may increase women’s drudgery rather than helping in their empowerment and liberation or in improving their well being and enhancing their capabilities.

The rationale for research on female labour force participation may also be understood from the fact that the factors determining the participation or non participation of women in economic activities is diverse and not easy to identify, and the factors influencing female participation rates are significantly different from those affecting male participation rates (Sundar, 1981). While men's participation is guided primarily by economic considerations having to fulfill their primary role as breadwinners of the family, women's participation may be guided by factors as diverse as demographic, social, cultural, religious, reproductive and personal apart from economic. Thus women's participation depends on a variety of economic and non-economic factors (Psacharopoulos and Tzannatos, 1989) with non-economic factors being more important for females (Sundar, 1981). According to Sundar (1981), besides the wage rate, the factors determining the female participation rate are the family cycle, structural changes in economy, cultural biases and male employment and wage rates. Pampel and Tanaka (1986) have stated family size, female education, the adult sex ratio, economic dependency and growth of labor force to be other important determinants of FLFP. As education expands, the average age of entry into the labour force may be raised leading to lower participation rates for women, although in the long run education may lead to increase in FLFP (Nam 1991). According to Mammen & Paxson (2000) women's labor market activities are determined not only by their education levels, but the education levels of their spouses. Srivastava and Srivastava (2010) have stated that although education may not have a positive impact on women's work participation, having higher levels of education leads to better quality non-agricultural work for the working women.

Several scholars have suggested a U shaped relationship between female participation and the level of economic development (Pampel & Tanaka, 1986; Psacharopoulos and Tzannatos, 1989; Goldin, 1995; Mammen & Paxson, 2000). The U shaped relationship suggests that FLFP declines in the initial stages of industrialization in low income countries as women lose traditional opportunities for work on family farm and businesses within their homes when labour becomes a market commodity. With industrial expansion therefore FLFP remains low. Later, as the tertiary sector advances FLFP also increases in advanced industrial economies giving rise to the U shape (Pampel & Tanaka, 1986).

Not only are the factors affecting supply of female labour different from that of men, but so are the factors affecting the demand for female labour. Social and cultural norms have given rise to a gender segregated labour market where there are specific jobs for men and women with women being concentrated mainly in low paying, low productivity informal sector jobs. Occupational sex-segregation- the division of men and women into different

occupations reflects severe inequalities in the labour market being accompanied by lower pay and worse working conditions in female occupations. It is found to be present in different regions irrespective of the level of development and the political systems, religions, social and cultural settings etc. (Anker, Malkas and Korten, 2003). Prejudices, social beliefs, and stereotypes regarding the fact that women are unable to perform certain types of work may be regarded as a source of gender-based segregation which directly or indirectly affects women's access to education and employment. This gender-based segregation is an important form of discrimination against women and gives rise to rigid social structures leading to long-term discrimination. It also sets in a self fulfilling mechanism where women's entry in alleged masculine jobs is initially restricted due to misperceptions which are later used to block further entry (Kulkarni and Hatekar, 2013). As a consequence of sex segregation individuals' labour market options are restricted, along with having an effect on the valuation and remuneration from work, increasing differentials in pay and reinforcing discrimination across generations (Anker et. al., 2003). Segregation may be distinguished as vertical segregation (defined as "segregation along hierarchical levels of work associated with different levels of education, experience, and skills") and horizontal segregation (which is segregation into jobs having identical educational and other qualifications, but in different areas of work) (Fortin and Huberman, 2002). Although economists have predicted a decline in vertical segregation as women attain higher education levels and experience with time, horizontal segregation persists in the long run since it is often related to attitudes regarding gender role (*ibid*). The presence of the gender segregated labour market has somewhat offset the drive towards reducing gender inequalities and has in fact reinforced the traditional gender roles as education and career choices also become biased. As men and women take up particular occupations, it strengthens the stereotypes regarding their aspirations, choices and capabilities, which further affects employers' perceptions regarding men's and women's skills and attitudes which in turn lead men and women to continue working in jobs which may be regarded as "masculine" and "feminine", thus creating a vicious circle of occupational segregation (Catalyst, 2005; KPMG et al., 2014 cited in ILO, 2016, p. 39).

### **1. 3. THEORETICAL PERSPECTIVE ON FEMALE LABOUR SUPPLY**

Much of the discussion on employment and labour market up to the 1970s has focused on the experiences and attitudes of male workers and in many of the writings of these times labour was considered to be homogeneous and gender neutral (Manjula, 2002). The development policies until the early 1970s which followed the "welfare" approach did not consider poor

women's needs separately but in the context of women's roles as wives and mothers, since it was believed that the benefits of modernisation and growth which the macroeconomic strategies aimed at would trickle down to the poor, and that poor women would be benefitted with improvement in the economic position of their husbands (Derbyshire, 2002). As poor women's position failed to improve, there was growing dissatisfaction over the trickle-down effect. This dissatisfaction led to the basic-needs strategy being adopted with the primary focus being on increasing the participation of the poor in the development process and sharing of its benefits, along with recognition of women's needs and their contributions to society, as women's issues were brought to the forefront nationally as well as internationally (Alba, 2000, p.v). The trickle down effect was also seriously challenged by Ester Boserup in her seminal work *Women's Role in Economic Development* published in 1970, as the development projects in the Third World countries failed to automatically benefit and improve the condition of the women and other disadvantaged groups (Connelly, Li, MacDonald and Parpart, 2000, p.56). Her study brought to light the vital role that women play in society and since then women's role has been the subject of discussion in development discourse. The declaration of the United Nations Decade for Women was made in 1975 in the Mexico City conference with the theme "Equality, Development and Peace". The conference led to the emergence of The World Plan of Action and set the agenda for the Decade for Women, the aim being women's integration in the development process (Moser, 1993 cited in Connelly et. al. 2000, pp. 57-58). Perspective on women's issues experienced a major change since the 1990s with gender equality becoming an international concern. The Fourth World Conference of the United Nations on Women held in 1995 adopted the Beijing Platform for Action in which major priority areas for focused action were identified so as to achieve major benefits, which included increasing women's role in power sharing and decision making; and greater gender equality in natural resource management and protecting the environment (Commonwealth, 2001).

Though there is no such thing as a distinct "model of female labour supply" *per se*, a number of factors such as marriage, the family, and the occupational characteristics of labour supply appear to be correlated to female labour supply, and would thus be important in the analysis of female labour supply (Killingsworth and Heckman 1986, p. 126). As pointed out by Srivastava and Srivastava (2010), the reasons as to why some women work and others don't in gainful activity, either full time or part time, is varied and may arise due to a "complex interplay" of factors such as economic, cultural, social, and personal. Therefore, as mentioned by Panda (2003) besides considering the standard labour supply theories from an

individual's perspective, understanding the underlying nuances of women's labor market behaviour needs careful consideration of other factors such as "gender and familial relations, household circumstances, family resources, and cultural expectations" (Panda, 2003 cited in. Mathew, 2012, p. 20).

In the following section the dominant theories of the Neo-Classical, Marxian and Feminist framework have been examined in the context of participation of women in the labour force. As a critique to the unitary framework of the household the collective model of the household, specifically the bargaining model has also been mentioned briefly. The theories of discrimination which offer an explanation of the gender wage differentials forms an important aspect of the review of literature on women's work.

### **1.3.1. Neo-Classical**

Income and leisure are regarded as the source of an individual's utility in the standard neoclassical theory of individual labour supply (Ratzel, 2009). In the basic neo-classical labour supply model an individual can decide between working for pay or enjoying leisure and he/she selects that combination of hours of work and leisure that maximises his/her level of utility. For individuals who are in the labour force, the opportunity cost of leisure time is the wage rate and they might choose to enter or not enter the labour force accordingly as the value of leisure time exceeds or is lower than the market wage. An increase in wage rate has two effects on the labour supply of an individual- income effect and the substitution effect. Assuming that leisure is a normal good, the income effect states that an increase in wage implies that individuals now have larger income from which they can buy more of all goods including leisure leading to reduced work. The substitution effect on the other hand states that increased wages lead to greater returns from work and higher opportunity cost of leisure in terms of the income forgone by not working, thus leading to a substitution of leisure for work. If leisure is a normal good, as wage rates rise more labour will be supplied if substitution effect is stronger as opposed to the situation where the income effect is stronger (Benjamin, Gunderson and Riddell, 1998). A person's labor supply curve will be positively sloped if the substitution effect dominates and negatively sloped if the income effect dominates. It is difficult for economic theory to predict which of the two effects would dominate, and in reality, the individual labour supply curves could be positively sloped and negatively sloped for different ranges of wage (Ehrenberg and Smith, 2012).

Quite often economists use the concept of a reservation wage in analyzing labour force participation behaviour. An individual compares the market wage rate and the reservation wage, defined as the wage rate at which an individual would be indifferent

between participating in the labour market and engaging in non-labour market activities such as household work, leisure etc.; and decides to participate or not to participate in the labour market accordingly as market wage rate exceeds or is below the reservation wage (Benjamin et. al., 1998). According to Sultana, Nazli, and Malik (1994), the market wage and the reservation wage for women are determined by different socio-economic characteristics such as male and female wages, age, education, and non-wage income which all affect the labour supply decision (Sultana, Nazli, and Malik, 1994).

Neo classical theory did not pay attention to gender issues; nonetheless the increased participation of women in the labour market since the seventies led the neo-classical theory to consider the labour market activities of women (Mathew, 2012, p .22). Men and women have different preferences due to which they make different decisions in similar situations (Atal, 2017) which implies that women's labour supply decisions differ from those of men. Further, the labour supply decisions of a woman cannot be taken by her alone and all adult members, particularly adult males of the household would typically participate in such decisions (*ibid*). The important determinants of level of and trends in women's labour supply are family membership and its obligations (Killingsworth and Heckman 1986, p. 126). It is therefore important to understand the household's decision making process to study the female labour supply behaviour (Atal, 2017).

The conventional family labour supply model, also called the unitary approach is an extension of the analysis of a single individual. The model postulates the family or the household as the elementary decision making unit where consumption and labour supply decisions are taken by the household as a whole (Killingsworth and Heckman, 1986 p. 126; Donni, 2005) The household choice is presented as a result of maximisation of a single aggregate utility function subject to the constraint that the total family income may not exceed the family's total expenditure on the consumer good (Killingsworth and Heckman, 1986, p . 126 ; Myck and Reed 2005, p .20). The use of the family utility function is justified on the following grounds- first, the family members conform to the preferences of the family head; second, existence of social (i.e. family) utility function ; and third, family members "care" for one another (Killingsworth and Heckman, 1986, p . 131). The members of the household may however, not conform to the preferences of the household head which is an important criticism of the unitary model. The unitary family models have also been criticised primarily for neglect of issues like intra household inequalities in decision making which resulted in the formulation of alternative theories of the household i.e. the non-unitary models of the household which will be discussed in a later section of the chapter.

Neoclassical theory distinguishes clearly between the theory of production and consumption with production being undertaken by profit-seeking firms and consumption by utility-maximizing households (Gronau, 1986 p. 274). The distinction however became somewhat blurred in the mid 1960s (*ibid*, p. 274) with the popularization of the “new household economic theory” of Becker which claimed that households are not merely places of consumption but also places of production (Wiro, 1999). Beckers’s ideas were nevertheless not completely new as importance of household production was mentioned by others before him (*ibid*). Charlotte Perkins Gilman (1898) is one of the earliest persons to write on household production. Gilman questioned the traditional gender division of labour and proposed that household production needed to be marketed so as to gain more from greater specialisation and economies of scale, which would also make it possible for women to select their work according to their preference and talent (cited in Ironmonger, 2000). Heckman (2015) mentions the works of Mitchell (1912) who made a comparison between firms’ efficiency engaged in production of goods for the market and the households’ inefficiency in production of services within the domestic sphere, Kuznets (1934) who expressed concern about the exclusion of key components of household production from GNP accounts, and Reid (1934) who wrote a textbook on home production for students of home economics which provided important insights regarding the household and women’s role (cited in Heckman, 2015). Reid (1934) mentions that the importance of household production has been neglected mostly due to the reason that the household is not a money-making institution since the component of the economic system which is not organized on a profit basis tends to be overlooked (Reid, 1934, p.3 ). Unfortunately Gilman and Reid failed to significantly affect mainstream economic theory regarding household production, and households continued to be regarded as places of consumption and leisure with production of goods and services occurring outside the household (Ironmonger, 2000).

According to the theories of household economics initiated by scholars such as Mincer (1962), Becker (1965), Cain (1966) and Gronau (1977) female labour force participation was explained in terms of household characteristics (cited in. Mallika, 2011, p. 23). Becker’s “new household economic theory” is the most complete presentation of the unitary household model in which Becker considers family to be the primary societal institution (Wiro, 1999). Although development of the New Household Economics is considered to be largely due to Becker, Mincer (1962) played a pertinent role in inclusion of female labour force participation of women within economic theorizing through his analysis of the increasing labour force participation of women during the time of rising family

incomes in the United States (Mathew, 2012, p. 22 ). The study of household economics is closely linked to gender issues, mainly the work and status of women within the family and the household (Wiro, 1999).

The analytical foundations for studying household production and the time allocation within the household was laid in Gary Becker's classic study, *A Theory of the Allocation of Time* (Heckman, 2015). Becker's (1965) pioneering study of time allocation introduced time as an additional commodity in the utility maximisation process within the household. The household production model postulates that households rather than being only consumers are producers as well producing commodities as per the neo-classical theory of the firm on the basis of cost-minimisation rules. The theory also suggests that besides efficiently allocating time among commodities, family members also allocate time among themselves so that members who show relatively more efficiency at market activities would spend less time at consumption activities than other members (Becker, 1965). This division of labour within the family may be used to explain the participation of women in the labour market as Becker opines that given the fact that even with similar investments in human capital "if women have a comparative advantage over men in the household sector", then efficient households with both men and women would allocate women's time chiefly to the household and men's time to the market sector (Becker, 1981, p. 38). However, as pointed out by Gronau (1977) Becker's theory does not actually concern household production since the theory does not make a distinction between women's household activities such as cleaning, shopping and other household chores and leisure activities (Gronau 1986, p. 282). Gronau (1977) further states that Mincer (1962) may be regarded as the first to point out that a distinction should be made between work at home and leisure at least in the case of women which was absent in Becker's more general formulation (*ibid*) since according to Mincer (1962) a better part of women's married life is devoted to "work at home" (Mincer 1962).

The labour supply of married women has been analysed by several economists including Mincer (1962) and Cain (1966) (Devi, 2002, p. 17). Mincer (1962) formulated a model for understanding the labour force behavior of married women in which he considers "the relevant choices for married women as between leisure, work at home and work in the market" (Mincer, 1962). He postulated that the male income and female wage rate explained half of the observed variation in the labor force participation rate (in per cent) of married women during the 1950s in 57 largest Standard Metropolitan Areas in USA, with the effect of husbands' income being negative and wives' earning power being positive (*ibid*). Besides considering a variety of essentially static topics, Mincer's analysis also included dynamic

features such as the notion of life-cycle decision making and the distinction between permanent and transitory components of income, earnings, wages etc. (Killingsworth and Heckman, 1986, p. 145). According to Cain (1966) women's decision to join the labour force was not as strongly determined by wage as proposed by Mincer (1962) (cited in Patel, 2012). Nevertheless, it was still stronger compared to the proportion of wife's earnings in family income, with other important determinants being market wage rate for other family members and number of young children in the household which had a negative effect on women's labour force decisions (*ibid*).

One of the chief criticisms of the traditional neo-classical labour supply model is that it does not investigate the different ways in which time outside work may be spent, which may be either in consumption or production, the latter also being referred to as unpaid work. Despite the two activities being different from each other, household production activities are generally included within the neo-classical concept of "leisure" which leads to the assumption that substitutability between market work and household consumption is similar to the substitutability between market work and household production (Stoep, 2008). Another criticism of the neo-classical model is that time allocation of members of the household cannot be taken independently of the decisions of other individuals in the household (*ibid*). Further, the lower labour force participation of women is justified in the neoclassical model according to the principles of efficiency, specialisation and optimal household resource allocation (Mathew, 2012, p. 24).

The neo-classical theories try to explain the complex behaviour of households in terms of the theories of consumer behaviour, market and firm by creating an analogy between the household and the firm. In doing so, the theories fail to take into account many activities which are not exchanged in the markets i.e. household production (Wiro, 1999) thus omitting a substantial portion of women's household work. As mentioned by Beneria (1995) household production and women's work received little economic importance in the New Household Economics since it applied market-oriented criteria to time allocation, the division of labour and individual choices regarding labour force participation (cited in Mathew, 2012). The non-work time which includes household work (the time not spent at market work) represents a loss of earnings in the neo-classical framework and is therefore undervalued (Wiro, 1999).

### **1.3.2. Marxian**

Although there was no systematic theory of gender in Marx's writings and his writings on gender and the family are found scattered throughout his work, they are of far greater

importance than is acknowledged as it leads to an understanding of the division of labour, production and society in general (Tomanovsky, 2010; Brown, 2012, p.3). Marx's views on women's position in the workforce were more nuanced than is acknowledged by feminists (Tomanovsky, 2010). It may be said that as far back as 1844, in his *Economic and Philosophical Manuscripts*, Marx put forth an argument that women's position in society could be used to gauge development of society as a whole though Marx was not the first to make such a statement (Brown, 2012, p.212). In analyzing women's position, most Marxists consider women's relation to the economic system, rather than women's relation to men, with the assumption that the relation between men and women will be explained in their discussion of women's relation to the economic system. They also view women's oppression in connection to production (Hartman, 1979, p. 2). While analyzing social inequalities and exploitation, and relations of domination such as racism and sexism, Marx also draws attention to the social relations of work in different economic modes of production (Ferguson, Hennessy and Nagel, 2016).

Most of the scholars of the Marxist school accepted Friedrich Engels' argument that private property and capitalism led to women's subordination, therefore a change in gender inequities required a successful class struggle and the termination of the capitalist system (Connelly et. al., 2000, p. 59). In his renowned book *Origins of the Family, Private Property and the State*, Engels acknowledged and attributed women's subordinate position in society to the institution of private property (Engels, 1972 cited in. Hartman, 1979 p. 3) and believed that women's emancipation was possible through their participation in the labour force (*ibid*). The early Marxists including Marx, Engels, Kautsky, and Lenin believed that in capitalism women were drawn into the wage labor force which led to the destruction of the sexual division of labor (Hartman, 1979, p.2). Marx notes that the spread of capitalist production to places where domestic industry previously operated, led to dissolution of the family and erosion of the power of the household head as women and children now entered the labour market to support the family instead of just the father (Brown, 2012, pp. 92-93). Capitalism, according to Marx and Engels, removes women and children out of the domestic sphere making them available for work which was traditionally carried out by men, with women and children producing the same value but being paid less than men though they do not point to the reasons for this difference (*ibid*, p.57). With their entry into the workforce, women gained more power in their private lives since they started making monetary contributions to the welfare of the family and were not controlled directly by the male members of the household i.e. husbands or fathers during the larger part of the day (Tomanovsky, 2010). According to

Hartman (1979), Marxists were fully aware that although women's participation in the labour force made them economically independent and led to their emancipation, this meant more hardships for them in having to do two jobs-household and wage work (Hartman, 1979, p.3). Capitalist development and women's entry into the workforce was therefore, two sided. While on the one hand it led to a transformation of the family structure from a "feudally based form to a bourgeois one" where "profit and egoistic interest" gained dominance; on the other hand the dissolution of the "feudally-based patriarchal family" created the necessary settings for the formation of a new family structure where women would no longer be considered inferior, although a detailed transformation of the family was not discussed by Marx (Brown, 2012, p. 97). Marx believed that for advancing beyond capitalism, new social relations need to be formed and development needs to be achieved upto that point where people would be valued for who they are rather than for being a man, woman, child etc. (*ibid*, p.212).

Contemporary theorists like Balbus, Baudrillard, and Sahlins argue that Marx's theory gives primacy to production which implies that the nature, origin, and development of the family, gendered division of labor, male domination, and all other similar and related matters can be explained and determined by economic conditions (Kain, 1992). Kain further argues that over emphasis on "productivism" causes Marx to undermine the importance of several fundamental non economic and non productive traditional activities of women which have been omitted from economic production. These include women's activities in the family and in reproduction. Further, this also means that women's oppression is regarded as just another aspect of economic oppression, along with neglect of the fact that women's oppression continues to be related to non economic factors even in modern capitalist society. Chattopadhyay (2001) mentions that, Marx distinguishes between 'abstract' labour, which is the exchange value producing labour, and 'concrete' labour which is the use value producing labour. In capitalist production only wage labour is regarded as 'productive labour' since by exchanging itself, it not only reproduces itself but also produces a surplus value. On the other hand, unpaid domestic labour producing use values and paid labour performed outside the home such as cooking, sewing, gardening along with the activities of the menial servants, activities of state servants, advocates, doctors, scholars etc. are regarded as unproductive labour under the capitalist system since they are simply "personal services exchanged against income" (Chattopadhyay, 2001). Marx however did not "neglect women's labour" as he emphasises that before becoming wage labourers women performed "labour necessary for

family consumption,” which had “economically sustained the family way of life” (Chattopadhyay, 2001).

In the context of Marxist theory it is also worth mentioning the concept of the reserve army of labour. According to Marx, as labour is replaced by machines through capital accumulation during the process of capital development, there is emergence of the reserve army of labour. Though women were not considered in the reserve army of labour, they can be identified with it due to their disadvantaged position in the labour market. Since they belong to the most volatile section of the labour market, they can be removed from their jobs easily with capitalist development (Devi, 2002, p. 20).

Women’s position in the Marxist paradigm has always been seen as the product of capitalism, and gender relations are not analysed autonomously but subsumed under the analysis of class relations (Kalpagam, 1986 cited in Mathew, 2012, p. 29). According to Brown (2012) feminists criticize Marx and Marxism for according primary importance to production at the expense of consumption and reproduction, which are traditionally women’s tasks, to such an extent that women’s non procreative household work is considered to be outside the market and outside production altogether (Brown, 2012, p. 66). Benston (1969) argues that women need to be treated as a separate class of workers as the work they do is different from those done by men, and that women’s unpaid reproductive work, household labour and childcare- socially necessary forms of labour but viewed as less valuable under capitalism needs to be brought into the public sphere and valued in the same way as other forms of labour to remove discrimination against women (Benston, 1969 cited in Brown, 2012, p. 68). It may therefore be said that Marx’s theory is not well developed in terms of providing a proper account to understanding capitalism by including gender (Tomanovsky, 2010).

### **1.3.3. Feminist**

Though there are several schools of feminist thought, they are bound by one common thread- that of removing the historically disadvantaged position of women in society and bringing about equality of men and women. The feminist theory argues that patriarchy or male domination exists in all societies and is the primary source of inequality, and that women’s position in the labour market is governed by patriarchy (Devi, 2002, p. 19). While Marxist and socialist feminists consider capitalist system of production and the resultant division of labour of the system to be the root cause of gender inequality and women’s oppression; radical feminists regard patriarchy to be the prime cause of men’s domination of women, wherein patriarchy is not a product of capitalism or any other social structure (Freedman,

2001, p.5). The feminists are concerned with enquiring into the causes of gender inequality, and of men's dominance over women (Hartman, 1979, p.2).

Since times immemorial, the different social roles assigned to women and men have been explained and justified according to their biological differences with women's roles being confined to domestic chores, child rearing and in activities requiring lesser physical strength as they were considered not fit for participation in the public sphere (Freedman, 2001, p.12). Being natural providers men participated primarily in activities outside the household i.e. the public sphere. This link between physiology and a 'natural' differentiation in gender roles was questioned by the feminists; the answer lying in a distinction between physiological "sex" and social "gender" or between the terms "female" and "feminine" (*ibid*, pp.12-13). Sex, as the term is generally used in feminist literature, refers to "biological differences between males and females", while gender "refers to the associations, stereotypes, and social patterns that a culture constructs on the basis of actual or perceived differences between men and women" (Nelson, 1995). Thus while sex is natural, gender is a result of socially constructed ideologies regarding men's and women's roles and behaviours etc. Gender ideology confined women within the "private sphere of the family" while men could operate in the "public sphere of the market" (Jennings, 1993 cited in Barker, 2005) with the activities performed in the household i.e. reproductive labor, being classified as economically unproductive (Folbre 1991, cited in Barker, 2005). The differentiation of men's and women's work thus placed women in a position lower to that of men.

Upto the 1960s, women's traditional labour was subsumed within the "blackbox" of the family within the framework of neoclassical economic theory, and studies conducted on paid labor considered only men and excluded women's household production from national accounts making women, their traditional activities, their well-being and the well-being of children invisible (Nelson, 2005a). The studies on household production upto that time along with the pattern of labor market led to the emergence of feminist economics as we know it today during the 1970s (*ibid*). Feminist economics challenges economic theories that regard women as being invisible, or reinforce women's oppressive situations and includes both studies of gender roles in the economy from a liberatory perspective, and critical work aimed at removing the biases in the subject matter and methodology of economics as a discipline (*ibid*). Mainstream economic theory is primarily concerned with the exchange of goods, services, financial assets etc., which implies that most of the non-market or unpaid activities of women within the household such as caring for children, sick and elderly etc. have been considered "non economic" and omitted from the field of economic research (Nelson, 1995).

Women's household activities were classified as "leisure" leading to exclusion of household production from national accounts (Nelson, 2005a). Through gender analyses feminist economists have revealed that "masculinist values" are deeply rooted in mainstream economic theorizing and have brought to light the asymmetries in economic theories and policies (Barker, 2005). By examining economics through the feminist lenses the feminist school criticised several neoclassical assumptions such as joint utility, altruism etc along with the concepts of patriarchy and class interest of the Marxist theory (Mathew, 2012, p.30). According to Zimny (2014), the feminist critique of mainstream economics is that mainstream economics is not gender neutral as it claims, but has an inherent gender bias which leads to women's discrimination economically and socially (Zimny, 2014).

Feminist critique of neoclassical economics, which gained momentum during the 1980s, was partly a result of the increasing dissatisfaction with mainstream theory regarding treatment of women's issues such as invisibility of women's traditional work, justification of the breadwinner/homemaker gender roles etc., and partly as a result of riding on "coattails of 1980s feminist research on the history of science" (Harding, 1986; Keller, 1985 cited in Nelson, 2005b). Mainstream economics was mostly concerned with analysis of the individual with little or no importance given to the family. The development of the theories of "new household economics" developed by Becker (1965), Mincer (1962) and others during the 1960s analysed household production and added a gender perspective to household decision making. Nevertheless they failed to fully incorporate women's economic contributions since they were working under the assumptions of the neo-classical framework (Zimny, 2014). On issues of labor market discrimination, unpaid household work and intra-household decisions, work by economists provided justification for traditional gender roles, occupational segregation, and lesser earnings of women in the paid labor market on the basis of dissimilarities between men and women arising out of the natural differences between them in tastes and capabilities often expressed in varied choices in human capital formation (Nelson, 2005a). Feminists have criticised the neoclassical approach for treating the household as a homogeneous decision making unit independent of "power relations, authority and hierarchy" and also for treating the household as an isolated unit, "independent of social pressures, norms or values" which is generally not the case (Sen and Sen, 1985). Although the Marxist tradition paid some attention to women's work, they have traditionally only been of marginal interest in the main development of the theory (MacDonald, 1984, pp. 154-155). Feminists have criticised the notions of patriarchy and class interest of the Marxist paradigm (Mathew 2012, p. 30 ) mentioning that patriarchy led to women's oppression irrespective of

their class status or mode of production-socialist, capitalist or feudal (Beneria 1979; Hartmann 1979; Folbre 1982 cited in Barker, 2005). Marxist economics is disappointing for feminist economic research since it lays more emphasis on class relations rather than gender relations and also carries out most economic analysis without referring to women (MacDonald, 1984, p. 155).

According to Barker (2005) feminist economics is primarily concerned with gender analyses of women's work. Barker (2005) mentions that liberal feminist economists like Boserup, Bergmann etc. argued that freedom of women from drudgery and subordination at home requires expansion of wage labour through higher participation of women in paid economy and the commodification of household labour traditionally assigned to women. Socialist feminist economists regard reproductive labour (i.e. cooking, cleaning, and caring for children, partners, the infirm, and the elderly) as being distinctly different from productive labour (i.e. the paid labor that produces goods and services such as food, clothing, and shelter for sale in the market) and expressed the importance of but overlooked the fact that unpaid work performed within the household was essential for social reproduction. The point of agreement among the feminist scholars however, is the fact that women's subordinate role in the economy is a consequence of their participation in household activities and that an improvement in women's secondary status in paid labor markets requires sharing of domestic work between women and men (Beneria and Sen 1981, 294 cited in Barker, 2005). Besides establishing the fact that reproduction of labor-power requires a wide range of activities than simply the consumption of commodities, feminists recognised the importance of reproduction and women's domestic labor for capital accumulation which led to a rethinking of Marx's categories, and a reunderstanding of the history and fundamentals of capitalist development and the class struggle (Federici, 2009).

Feminist economics, therefore, by including the gender perspective has made important contributions in economic analyses regarding measurement and valuation of women's unpaid work, labour market discrimination, occupational segregation, intra household allocation of resources and decision making etc. Through a deconstruction of androcentric theories and knowledge feminists have provided an inclusive understanding of the multiple realities which women face, which have provided a basis for criticizing the existing policies and formulating alternative ones to address the needs and problems of women (Bailey, Leo-Rhynie, and Morris 2000). Barker (2005) advocates using gender as a conceptual rather than an empirical category in further research in feminist economics.

#### **1.3.4. Bargaining Models**

The family labour supply model of the neo-classical theory postulates the family or the household as the elementary decision making unit that maximises a single aggregate utility function subject to the budget constraint. Becker's "new household economic theory" is the most complete presentation of the unitary household model. The unitary framework nevertheless treats the family as a "black box" –no attention being paid to the dynamics of intra household decision making. In its given form the theory may be considered to rely on one of two implicit assumptions, that the decision function of the household is dictatorial reflecting the preferences of its "head", or that the members of the household have identical preferences and choices are unanimous (Lancaster, 1975). Another rationale for the family utility function is based on intra family resource allocation and assumes that family members "care" for one another so that the conflict between the utility functions of different members of the family are eliminated through transfers between them (Becker, 1974 cited in Killingsworth and Heckman, 1986, p.131). In the unitary model therefore the household is considered to be a "harmonious unit with an altruistic patriarch" who ensures the well being of all the members (Wiro, 1999). Although Becker's model emphasises on the concept of altruistic behaviour, Chowdhury (2005) points out that many studies doubt the accuracy of his model because it does not correctly reflect women's individual and collective experience. The studies reveal that all over the world women may be discriminated within their families, e.g. women, more often than men are likely to suffer more from malnutrition in times of famine, and receive less household income without being compensated for leisure time (Chowdhury, 2005).

Economic theory does not justify the transformation of individual utility functions into the family utility function (Myck and Reed, 2005) since a household constituting several adult members cannot be expected to "behave as a single rational agent" (Donni, 2005). Wiro (1999) cites Fortin and Lacroix (1997) who claim that evaluation of preferences of the individual members of the household may not always be possible within the unitary model (cited in Wiro, 1999). It has been argued by (Folbre 1986) that joint utility functions do not take into consideration the fact that there may be any intra household inequalities in access to resources and sharing in the benefits of production although in reality the situation may be different (cited in Chowdhury, 2005). Galbraith (1974) states that in neoclassical economics the problem of non expression of individual personality and preferences by the household members is resolved by ignoring the subordination of the individual (mainly women) and the intra household relationships (cited in Wiro, 1999). Myck and Reed (2005) mention that

actual empirical data do not support the implications of the unitary model and that family labour supply decisions are much more complex than individual labour supply decisions, as they include factors such as decisions to marry, separate, timing of children, etc. (Myck and Reed, 2005).

As mentioned by Lundberg (2005) economists have suggested several alternatives to the unitary framework which include non-cooperative bargaining models (Lommerud, 1997; Lundberg and Pollak, 1994), cooperative bargaining models (McElroy and Horney, 1981; Manser and Brown, 1980; Lundberg and Pollak, 1993), and a “collective” approach that assumes couples jointly choose an efficient outcome on the utility-possibilities frontier (Chiappori, 1988, 1992) (cited in. Lundberg, 2005) with the common factor in all the approaches being that they consider preferences of individual family members, rather than a family utility function (Lundberg, 2005). The collective models consider the differences in the preferences of the household members and the conflicts and inequalities that may arise among them giving importance to individuality rather than the joint decision making process (Wiro, 1999). In the bargaining models of family behaviour (e.g. Horney and McElroy (1978), Manser and Brown (1979, 1980), McElroy and Horney (1981)) the decisions of individual family members were treated in game theoretic terms (cited in. Killingsworth and Heckman, 1986, p. 133). The bargaining problem was initially formulated by Nash who provided a corresponding bargaining solution which could be applied to relationships like marriage (Chowdhury, 2005) by applying the tools of game theory (Wiro, 1999). The bargaining models can be used in the analyses of marriage and divorce also as they consider alternatives to marriage as well as behaviour within the family (Killingsworth and Heckman, 1986, p. 133).

Bargaining models may broadly be classified as “co-operative” and “non co-operative.” The simplest form of a bargaining problem considers co-operation between two people so that each one’s position improves compared to a situation in which there is no cooperation between them (Sen, 1985 cited in Wiro, 1999). An important feature of Nash bargaining models is the presence of a threat point for each household member which is the reservation utility i.e. the utility obtained outside the household in absence of co-operation. Co-operative bargaining models based on Nash bargaining framework suggest that the bargaining power of the family members is determined by a person’s fall-back position, also known as the “threat point” or “outside option” with an improvement in the person’s fall-back position (better outside options) leading to an improvement in the person’s bargaining within the household (Agarwal, 1997). The non co-operative models relax many assumptions,

including those of Pareto-efficiency, income pooling, and enforceable and binding contracts (*ibid*) and each household member maximizes his/her own utility subject to an individual budget constraint, considering the decisions of other household members as given (Rode, 2011). The absence of a pooled budget constraint is an important characteristic of the non co-operative models (*ibid*). The non-cooperative models may have multiple equilibria, which may or may not be Pareto efficient.

Within the bargaining approach, however, intra household interaction may contain elements of co-operation as well as conflict (Agarwal, 1997). Wiro (1999) points out that Sen (1987) regards bargaining problems as a special category of co-operative conflicts. According to Sen (1987) household members are confronted with two problems simultaneously, one concerning co-operation and the other conflict, and these in turn determine social arrangements such as the sexual division of labour, who consumes what, and who makes which decisions (cited in Wiro, 1999). The underlying conflict which may arise between those co-operating is due to the fact that among the set of co-operative outcomes among the household members some outcomes may be favourable to one group and unfavourable to others (Agarwal, 1997). Which outcome will emerge depends on the relative bargaining power of the household members which may be determined by several factors, in particular the strength of a person's fall-back position which, according to McElory (1990), depend on extra-household environmental parameters (EEP) such as parental wealth, a person's nonwage income, and the legal structures regarding marriage and divorce (cited in Agarwal, 1997) and may have a distinct gender dimension. Chowdhury (2005) notes that according to Dreze and Sen (1995), women's relatively weak bargaining power depends on their relative capability deprivation since their ability to exploit opportunities such as improving their human capital is inhibited by such deprivation, besides preventing them from controlling their own lives and taking their own decisions (cited in Chowdhury, 2005). Moreover, women's bargaining is limited to certain areas of decision making (*ibid*). The model also ignores situations where although bargaining may be allowed, it does not lead to long term advantage of the weaker member.

The bargaining models are better than the unitary models because they take into account individual preferences of the household members and the existence of conflicts or inequality among them. The nature of intra-household decision making is also considered and the existence of multiple utility functions within one household instead of a joint utility function is also recognised. In doing so, the bargaining models add a gender perspective in

household functioning by focussing on disproportionate gender relations within the household.

### **1.3.5. Theories of Discrimination**

An important aspect related to participation of women in the labour market is the inequality in men's and women's wages and discrimination between them. The neo-classical theory can be used to explain the gender differentials in wages in the labour market in terms of the human capital theory and the theory of discrimination. Becker who popularised the term "human capital" defines it as "activities that influence future monetary and psychic income by increasing resources in people" (Becker, 1991, 11 cited in., Teixeira, 2014), with its main forms being schooling and on-the-job training, although other factors such as medical care, migration, and searching for information about prices and incomes are also considered (Teixeira, 2014). The theory suggests that the differences in human capital which is influenced by the decision to invest in human capital, the criteria being the returns to investment, causes differences in productivity and earnings among people, with people having more human capital being more productive and earning more as compared to people with low human capital (Mathew, 2012, pp. 24-25). Recognizing the fact that the incentive to invest in human capital specific to a particular activity is positively related to the time spent at that activity (Becker, 1964 cited in Becker, 1981, p. 57) a number of studies (Oaxaca, 1973; Mincer and Polacheck 1974, cited in *ibid*) have explained the lower earnings of married women in comparison to married men due to their lesser participation in the labour force (*ibid*). Since neo-classical theory expects women to spend more time in household activities and men in market activities, women invest mainly in human capital that raises household efficiency, especially in bearing and rearing children and men mainly in capital that raises market efficiency (*ibid*, p.39). Therefore, women's investments in human capital in terms of the education they receive and the skill they acquire are much less which leads to their lower productivity and participation in jobs which are less remunerative (Mathew, 2012, p. 26). The male-female wage differentials are thus explained on the basis of differences in investment in human capital based on the traditional gender roles and gender division of labour.

Gender wage differentials can also be explained in terms of the theories of discrimination. The neoclassical approach to discrimination, according to Boyer and Smith (2000), went through at least three generations with important contributions from Alfred Marshall, John Hicks, Paul Douglas, H. Greg Lewis, George Stigler, Jacob Mincer and Gary Becker (cited in Chakraborty, 2016). Becker (1957) may be regarded as the pioneer of the

modern study of discrimination in neo-classical economics through his formulation of the “taste” model in which he argued that there may be a “taste for discrimination” on the part of the employers, workers or customers who may prefer not to hire, work with or buy from a particular group (*ibid*). In the context of gender, it may imply not having a preference for or simply disliking or refusing to work with someone of the opposite sex, with the result that customers are willing to pay a price for this discrimination (Calaway, 1999). Discriminating employers will therefore pay lower wages to women which may help explain the gender wage differentials. The theory suggests that competition will however, eliminate discriminators in the long run as laws would be formulated which would make discrimination costly and employers would be discouraged from practising discrimination (Drydakis, 2018).

Discrimination, in neo-classical theory may also arise due to imperfect information which leads to “statistical discrimination” (originally proposed by Phelps, 1972) (Calaway, 1999; Chakraborty, 2016). The theory of statistical discrimination suggests that employers use group averages for predicting individual characteristics and productivity, to set corresponding wages which also proves to be cost-effective (Drydakis, 2018). However, this may lead to incorrect predictions regarding workers’ productivity (*ibid*) as all individuals belonging to a particular group may not always exhibit the average group characteristics. Imperfect information may therefore lead to individuals being discriminated against by virtue of being members of the broader group and believed to share some undesirable, stereotypic characteristics of the group (Calaway, 1999). In the context of women, assuming that women have a lower expected employment life as compared to men, many employers may not provide similar opportunities to men and women such as firm-specific training, job assignments, or promotion (*ibid*) and thus discriminate against them which results in women’s lower productivity and lower earnings.

The gender wage differentials may also be explained in terms of the crowding hypothesis formalised by Bergmann (1971) (cited in Olson, 2007). The hypothesis which postulated that blacks were discriminated against and excluded from jobs reserved for whites despite having similar education and qualifications, led to them being overcrowded into few jobs reserved for them resulting in their lower wages (*ibid*). Bergmann (1974) argues that women’s exclusion from alleged “male” jobs leads to women being in excess supply in alleged “female” occupations, which leads to a lowering of wages in female jobs (cited in Blau and Kahn, 2005) due to demand-supply mismatch. Bergmann argues that the job segregation by gender is rooted in history, tradition and misogyny which leads to exclusion of women from jobs that would make them equal or superior to men causing overcrowding of

women into a limited number of jobs defined as female (cited in Olson, 2007). Since women are expected to be caring and nurturing, they tend to take up those jobs which emphasize these feminine characteristics causing crowding in these jobs. Although it may be argued that crowding could be the result of differences in tastes and preferences between men and women, for women who do not prefer the traditionally female occupations crowding may be regarded as a form of discrimination (Calaway, 1999). Besides lowering the wages in occupations traditionally held by women, crowding also lowers women's pay in jobs where both men and women or mostly men participate, and prevents women from accumulating human capital and experience which allow them to earn better wages reducing women's overall productivity and efficiency (Bergmann, 2005 cited in Olson, 2007).

#### **1.4. GENDER ROLES IN AGRICULTURE AND MOUNTAIN FARMING**

##### **1.4.1. Gender Roles in Agriculture**

According to the World Development Report 2008, three out of every four people in developing countries live in rural areas, and most depend on agriculture for their livelihoods. Thus even in the 21<sup>st</sup> century, agriculture continues to be an important source of livelihood for the majority of the rural population and can make substantial contributions to economic growth, poverty reductions, food security and sustainable development in countries where it is the primary occupation of the people (World Bank, 2007 p.1). There is no denying that growth in the agricultural sector paves the way for effective reduction of poverty and accelerating economic growth (Dixon, Gulliver and Gibbon, 2001, p. 3). According to Mellor (2000), this can be achieved through an increase in incomes of farmers-producers and workers, and also by creating demand for non tradable goods, viz. locally produced goods and services (cited in *ibid*, p.3). It is further mentioned that poverty reduction is mainly achieved through this indirect effect on demand and the subsequent employment generation in the non farm sector in the rural areas and the market towns (*ibid*). Dixon et. al. also mention other studies (Dhatt and Ravallion, n.d.) which show that the urban sector also benefits significantly from agricultural growth as urban food costs decrease and migration to urban centres is also cut back, thus reducing the rates of urban poverty (cited in, *ibid*). Although agriculture alone would be insufficient in reduction of mass poverty through achievement of food security, it has been considered to be most “uniquely powerful for that task” (World Bank, 2007 p.1). Nonetheless, it needs to be accompanied by other measures which lead to broader access to food viz. provision of public goods, research, extension and education for which the role of the public sector becomes crucial (Dixon et.al., 2001, p. 4).

The discussion on women and agriculture may be initiated with the definition of the agricultural labour force. The Food and Agriculture Organisation (FAO) (2011) defines the agricultural labour force to include all those “who are working or looking for work in formal or informal jobs and in paid or unpaid employment in agriculture”, and “includes self-employed women as well as women working on family farms”, and excludes “domestic chores such as fetching water and firewood, preparing food and caring for children and other family members” (FAO, 2011, p.7). Thus women in agriculture includes all the women who contribute to agricultural production either by working on their own farms or as wage labourers on others’ farms and by participating in food production and other allied activities such as rearing of livestock, poultry, fish farming etc. both for subsistence or commercial purposes.

Historically, women are known to have had a greater involvement in agriculture as pointed out by M. S. Swaminathan, the famous agricultural scientist, that according to some historians women were the first to domesticate crop plants and initiate the art and science of farming. While men were engaged mainly in hunting and searching for food, women gathered seeds and started their cultivation for food, feed, fodder, fibre and fuel (cited in Research Foundation Science and Technology, 2005). It is a well known but unrecognized fact that women play a significant role in agricultural activities through their role as cultivators, family labour, agricultural labourers and entrepreneurs. However development policies’ failure to recognize them as farmers leads to them being denied access to productive assets such as land, credit, extension services etc. partly leading to the underperformance of the agricultural sector in many developing economies. Identifying the constraints that women face in agriculture and taking steps accordingly to close these gender gaps in access to productive assets will go a long way in improving the position of women in agriculture and will also accelerate the pace of economic growth and poverty reduction that agricultural development promotes, along with ensuring food security (FAO, 2011, p. 3). If female farmers’ positions are strengthened, the well being of the family in terms of “improved nutrition and care of children, especially girls” is enhanced since women allocate more of their income on household expenditure than men (Rao and Gulati, 1994).

According to the latest estimates of the International Labour Organisation (ILO), 27 percent of females in the world were employed in agriculture in 2017 although the percentages have been showing a steady downward trend. The percentages vary from about 8 percent in Latin America & Caribbean, and Europe & Central Asia to about 22 percent in East Asia & Pacific, 24 percent in Middle East and North Africa, 57 percent in Sub Saharan

Africa and 59 percent in South Asia. Among the South Asian countries the percentage of women employed in agriculture is as high as 83 percent in Nepal with the percentage for India being about 56 percent (ILO, 2017). However, women's roles and status in agriculture and rural areas vary widely across region, age, ethnicity and social class and are undergoing rapid changes in some parts of the world (FAO, 2011, p. 4).

Division of labour in crop production has been reported by several studies (Boserup, 1970; Stone, Stone and Netting, 1995; Mollel and Mtenga, 2000; Gurung and Gurung, 2002; Shimray, 2004; Ishaq & Farooq, 2006). However, the nature and extent of it differs from one society to another (Mollel & Mtenga, 2000). Gender roles in agriculture vary widely across different countries, regions, ethnic groups, cultures, socio economic status and across different crops and farming systems. According to Gurung and Gurung, (2002) gender roles in agriculture are generally determined by the traditional concepts of culturally appropriate work for women and men, which are based on the concepts of masculinity and femininity leading to a distinction between the concept of indoor work and outdoor work. In their study of a village in a district in eastern Nepal, Gurung and Gurung report that men's work is primarily outdoor involving activities such as ploughing, clearing land for swidden, planting, and harvesting; while women's work is within the home or domestic space and is associated with femininity and indoor work such as caring for the family, cooking, etc. along with seed management, an important agricultural activity that is considered indoor work. However, Chowdhury's (1993) study of women in rural Haryana points out that in Haryana, participation of women in own family farms outside the house as opposed to wage labour on others' farms is not considered as lowering of family prestige, except for certain traditional high castes, with the exception of Brahmins, who have never allowed their women to work in the fields.

Boserup's (1970) work is an outstanding study in the context of women's role in economic development especially agriculture. In her seminal work entitled *Women's Role in Economic Development* she has carried out an in depth analysis of the different types of farming systems that have prevailed historically and has discussed a shift in the gender roles in agriculture over the years. According to Boserup, changes in the gender division of labour have usually been related to changes in population density and farming techniques (Boserup, 1970, p. 18). Boserup has talked about two types of farming systems- the male and female farming systems, with the African shifting cultivation practiced by the African tribes being predominantly female and the Asian plough cultivation being predominantly male, women's contribution in the latter being confined to harvesting and taking care of domestic animals.

“The advent of the plough”, according to Boserup, “usually entails a radical shift in sex roles in agriculture” (*ibid*, p. 33) with women doing little farm work than men as opposed to shifting cultivation where the opposite is true. However as population density increases along with the increase in the intensity of agriculture, both men and women work hard and often take up tasks which were formerly performed by the other sex. Boserup has linked female seclusion to the demand for family labour and the type of farming system with women being generally subject to seclusion where their labour is not very important such as in plough cultivation whereas in wet rice cultivation where demand for female labour is very high they will not be subject to seclusion. Deere (1982) suggests that Boserup’s (1970) study is significant in highlighting the fact that sexual division of labour in agriculture was not based on cultural perceptions regarding the type of tasks that is proper for each sex to engage in, but varies over time in accordance with changes in socioeconomic variables and may be affected by factors such as changes in land tenure, type of cultivation, technology, employment and outside intervention in local productive processes.

Women’s involvement in agriculture and the extent of their participation varies according to the type of crop and the “specific activities related to that crop” (Ishaq & Farooq, 2006). Different crops also require different combinations of male and female labour and “different labour cycles” (Sundar, 1981). The Food and Agriculture Organisation (FAO) (2011) reports studies which reveal that time spent by women in agriculture varies widely and depends on the crop and the phase of the production cycle, the age and ethnicity of the women, the type of agricultural activity and a number of other factors (FAO, 2011, p. 12). In this connection one may cite the differences in labour inputs of the two sexes in dry field plough agriculture and intensive rice cultivation as put forward by Moore (1973) and mentioned by Miller (1982) in her study. Moore (1973) mentions that in contrast to dry field agriculture for alternative staple crops such as millet, maize, wheat etc., intensive rice cultivation involves major contributions from women for transplanting, weeding and harvesting, the latter being shared with males. In rice cultivation, ploughing, which is undertaken by men in all cultures, forms a small proportion of agricultural operations as compared to dry cereal plough agriculture (cited in Miller, 1982). Mollel and Mtenga (2000) mention that in certain areas in Tanzania men control cash crops while females control the production of food crops whereas the FAO (2011, p. 12) reports that studies in Indonesia indicate that women are involved more in the management of young plantation crops such as cinnamon and rubber rather than the same crops at maturity. However, there are inter-country and regional variations in the involvement of women in the production of different crops.

Female labour force participation in agriculture also depends on the size of the holdings. While some studies point to a negative relation between the two some others posit a positive relation. According to Nayyar (1987) there are several micro studies that have established a negative correlation between landlessness and female participation rates. She argues that since landlessness and poverty are often regarded to be synonymous in rural India, women belonging to the category of landless agricultural labourers and marginal and small farms are forced to seek employment in response to their family needs (Nayyar, 1987). Chowdhry's (1993) study reveals that in technologically most advanced and considered the "richest regions" of Haryana, there is an increasing involvement of family females in agriculture with increase in size of the operated holding. Bhati and Singh's (1987) study of women's contributions in agriculture in hill regions of north-west India and Thakur's (1991) study of female farm workers in Himachal Pradesh corroborate the positive relation between the size of the holdings and the work load of the farm women.

The gender roles may also vary across different farming systems. Here a broad distinction can be made between farming systems practiced in the hill and mountain areas termed as hill agriculture, and the plain and lowland areas. The gender division of labour in hill agriculture has been observed to be less strict in contrast to that in the plains, with women playing an important role in almost all agricultural activities. Women's roles in hill agriculture have also been linked to different factors. In a study of the work patterns of women in the central Himalayas, Chopra and Ghosh (2000-01) have linked the nature and extent of a woman's daily workload in the mountain districts to four factors-marital status/age; season; location of the village on the mountain sides and class. In another study of women in Garhwal Himalayas in India, Sidh and Basu (2011) have related the number of hours worked and the nature of women's work on their social status i.e. as daughters, daughters-in-law, or mothers-in-law. The studies also indicate women's role as key agents for collection of energy sources i.e. water and fuel wood. However according to Mollel and Mtenga, (2000), in the farming system of a matrilineal society in the Tchenzema ward in the Western Uluguru mountain in Morogoro in Tanzania, females of all ages did all the domestic work except fuel wood collection which was done by males of all ages. There was no definite gender division of labour either in cash or food crop production although there were differences in the proportion of labour contributed by men and women in few tasks. Decision on production and resource allocation were done jointly between spouses while decision on hiring of labour was mostly done by men. The same is true in the tribal Naga society in north eastern India, as mentioned by Shimray (2004). Though there is a sexual

division of labour, it is more pronounced in housework and not so much in agricultural activities where both men and women are equally important.

Since gender roles in agriculture vary widely across different cultures, socio economic status and different regions, it is inappropriate to make generalizations, and needs to be analysed within specific geographical and cultural contexts for effective policy formulation.

#### **1.4.2. Mountain Farming Systems**

According to the global farming system study conducted by Food and Agriculture Organisation (FAO) (2001) seven broad types of farming systems are prevalent to a greater or lesser degree in the developing countries (Dixon et. al., 2001, p. 7). Among them the one of particular relevance to the present study is the rain fed farming systems in steep and highland areas, often mixed crop livestock system better known as mountain farming systems or hill agriculture. “Mountain Farming is broadly defined as all land based activities, such as cropping, horticulture, animal husbandry, forestry, and their interlinkages, and is the prime source of sustenance of the mountain populations. Farming is also the prime user of the natural resource base and production environment in the mountain areas” (Partap, 1995).

The importance of the mountain areas can be understood from the fact that mountains occupy 24% of the world’s area and are home to 12% of the human population, with important resources and assets being located thereof. Mountains and mountain resources directly benefit about 10% of the world’s population as a source of livelihood and well being, and indirectly benefit about 40% through provision of water, hydroelectricity, timber, biodiversity and niche products, mineral resources, recreation, and flood control (Schild, 2008 cited in Schild & Sharma, 2011). Besides, among fourteen tropical hotspots of endemic plants in the world seven of them have at least half of their area in tropical mountains; among them being the Eastern Himalayas and India’s Western Ghats (Denniston, 1995 pp. 38-57 cited in Sharma, 1996). Mountain areas are nonetheless, some of the least developed regions in the world with the mountain communities being for the most part dependent on subsistence farming activities (Shahbaz, Ali, Khan and Ahmad, 2010). The “unique vertical dimensions” of the mountain areas which tell them apart from the plains have created certain distinctive features of the mountains, often called mountain specificities such as “inaccessibility, marginality, fragility, niche, and human adaptation mechanisms” (Sharma, 1996). The first three features lead to “physical isolation, distance and high transportation costs” which results in “poor mobility, vulnerability and risk, limited input absorption, and limited production capacities.” The positive features of the mountain areas are due to the niches or comparative advantages,

and human adaptation mechanisms which provide scope for the development of these areas (*ibid*).

Majority of the people living in the mountain areas depend upon agriculture for their livelihood which is predominantly subsistence in nature, although there is an increasing trend towards commercialization in recent times through high value cash crop farming which is expected to contribute positively to the economic prosperity of the mountain people. The constraints of hill agriculture however, which include remoteness, inaccessibility, marginality and fragility in terms of moisture stress, poor soil conditions, short growing season, along with socio-economic constraints such as small holdings, low productivity, poor production and post-production management, shortage of labour, poor marketing and networks and lack of entrepreneurship have led to under-utilisation of resource bases and limited generation of surpluses (Partap, 2011). These constraints are threatening the very existence of mountain agriculture in recent times making agricultural practices less productive and less remunerative with serious impacts on mountain livelihoods and the future of mountain communities.

An important characteristic of mountain farming systems is their diversified nature unlike the highly specialized modern agriculture usually practiced in lowland areas (Holmelin, 2010). Mixed farming systems are generally adopted and animal husbandry forms an integral part of mountain farming besides crop production. In certain regions the principal agricultural land use is for animal husbandry, such as in parts of Slovenia where cattle breeding is important (Cunder and Markes, 1998) and in Switzerland and Germany where the primary agricultural activity is dairy farming (Giorgi, Eschler and Stucki, 1998 and Kobler, 1998). Pasture animal husbandry dominates farming in Mongolia and the high altitude areas of the Tibetan plateau in China. In certain regions, shifting cultivation is still practiced e.g. in certain dry zones of Sri Lanka, the north-eastern Indian Himalayas where it is known as *jhum*, on the steep slopes in the mountain areas of Thailand and in the eastern regions of Bhutan where it is known as *tsheri*.

Mountain agriculture is primarily rain fed as scope for irrigation is very limited. Animal husbandry is an integral part of mountain farming systems as livestock provide manure and draught power for ploughing, besides supplementing farm income through sale of milk and other dairy products. Farming techniques are simple and primitive and labour intensive (Bhati & Singh, 1987). Altitude plays an important role as range of crops cultivated varies with the altitude. Land available for farming is scarce due to large areas of forest, rocky terrain, low soil fertility and fragmentation and sub division of holdings due to which

the average size of holdings is very small making mechanization difficult. Partap (2011) reports that a majority of the households in the Himalayan states have landholdings of less than 0.5 hectares. Besides being small in size, the land holdings are divided into flat and sloping land with cultivation taking place on terraced fields and slopes with the farmers in the Himalayan regions cultivating sloping lands beyond 25 and 30 degrees in some cases due to scarcity of cropland (Partap, 1999 cited in Partap, 2011).

In recent times mountain areas are being subject to change and commercialization and there is a shift in focus from food crop farming to high value cash crop farming and horticulture as is evident from studies in certain regions of countries like Italy, Korea, Himachal Pradesh in India etc. The cultivation of apples in Himachal Pradesh, saffron in Soppore valley of Kashmir, pashmina goats and yak in highlands of Ladakh or mithun in Himachal Pradesh etc. offer good examples of harnessing of the niche or the specific advantages of the Himalayan areas leading to improvement of livelihoods of mountain communities in sustainable ways.

## **1. 5. STATEMENT OF THE PROBLEM**

Relatively high work participation of women is found in hill areas (Reddy, 1979), and more particularly in hill agriculture. This has been attributed to several factors, such as male out migration for job or education; or due to “armed conflicts in recent times” (e.g. in Afghanistan and Nepal) (Sherpa, 2007) which causes women to participate in almost all agricultural activities from preparing the soil, “sometimes even ploughing and terracing the land, to harvesting, when men occasionally join them” (Chen, 1989); and less stringent gender division of labour in mountain farming systems compared to mainstream agriculture practiced in the plains. The increase in the already high work load of mountain women in recent times due to male out migration has been referred to as “feminization of mountain agriculture and livelihoods” (Kollmair, 2010). This has led to a change in the traditional gender roles in agriculture with women taking up tasks previously performed only by men, which include land preparation, cultivation of crops, spraying pesticides, harvesting, and post-harvest processing and marketing of the produce. If these tasks are performed by women at a wage rate they receive lower wages (Kelkar, 2010). Male out migration and the consequent feminization of agriculture may be said to have a varied impact on the role of women in mountain society. Labour out migration may be said to have some positive impacts as women experience some level of empowerment in terms of managing small budgets and household decision making and less frequent pregnancies, besides improvement in their

economic conditions due to remittances (Xu and Rana cited in Sherpa, 2007; Sherpa, 2007; Kelkar, 2010); but it has also led to “a vacuum” in these regions through extra responsibilities on those few who are left behind resulting in “gendered impacts” (Sherpa, 2007). It has been noted that in certain areas of Nepal, female headed agricultural households have a particularly difficult time due to non availability of male labor for tasks such as ploughing since it is considered to be a taboo activity for women (cited in Lokshin and Glinskaya, 2009).

The predominant role that women play in hill agriculture through their active participation in all aspects of mountain farming from crop production to animal husbandry and collection of fuel wood, fodder and water has been highlighted by several scholars- Bhati and Singh (1987); Chen (1989); Thakur (1991); Rana (1996); Pande (1996); Chhetry (1999); Bose (2000); Chopra and Ghosh (2000-2001); Kursany (2003); Singh (2005); Ishaq and Farooq (2006); Shahbaz et. al. (2010); Sidh and Basu (2011); Moktan and Mukhopadhey (2012); Dwivedy (2014) to name a few. Almost all the studies have highlighted the predominant role played by women in productive activities in mountain farming systems measured both in terms of the number of women working and the number of hours worked, even in conservative Islamic societies of Pakistan and Sudan as mentioned by Ishaq and Farooq (2006); Shahbaz et. al. (2010) and Kursany (2003). Kelkar (2010) observes that the proportion of agricultural work carried out by women is higher in the poor areas. Chetty (1999) in his study of women workers in the informal sector in the Darjeeling Hills has included agricultural activities as an informal activity, because according to him hill agriculture is traditional, highly labour intensive with unregulated goods market and should thus be included in the informal sector. The International Centre for Integrated Mountain Development (ICIMOD), a non-profit organization established in 1983 based in Kathmandu, Nepal has conducted several studies related to various aspects of mountain areas for the Hindu-Kush Himalayan region encompassing eight countries.

It is also well documented that women spend a considerable proportion of their time in the collection of fuel wood and water, the two most essential resources for survival. However, these resources are depleting rapidly due to the effects of poverty, population pressure, climate change, and inappropriate development interventions which have increased women’s work burden in terms of time spent in their collection leaving women with little time to participate in other productive activities, besides posing health hazards (Sharma, 2010). Policies for development of hill and mountain areas should also address these issues.

However, there is a lack of wage labour in these areas as most of the female workers are family farm labour, and face severe constraints due to marginal rain fed agriculture; inadequate sources of fertiliser, seed, credit and agricultural extension; poor irrigation and water management; low yields; labour shortage; and lack of markets for input purchase and marketing of products (Chen, 1989). For the women to be recognized as farmers, the issue of land rights is a crucial one. However, due to socio cultural rigidities and discriminatory policies against women, they are denied access to productive assets such as land, credit and extension services. Women's access to financial resources e.g. land, property or other assets is vital not only for increasing production, but for improved levels of welfare for themselves and their families and a betterment of their economic position along with changes in social and cultural gender norms (Kelkar, 2010). Agarwal (1994) notes that although women have struggled for land inheritance and ownership and have also been victorious in legal terms in many South Asian countries, the reality is different-very few women own land and even fewer have effective control over it (Agarwal, 1994, p.2).

It is therefore apparent that rural women in the hill regions play a very vital part in ensuring household food and economic security through their labour inputs as unpaid family helpers on family farms or as petty traders, together with their unpaid contributions to domestic activity. A major proportion of their labour and time contribution nevertheless, being subsumed as home based work remains unquantified and hence undervalued. Given the mountain specificities of marginality, fragility and inaccessibility, farming practices in the mountains are demanding, especially for women folk. Taking the hill region of the state of West Bengal the present study endeavors to highlight the role of rural women in mountain economy through an empirical analysis of the gender roles in the various activities related to agriculture i.e. crop production and livestock rearing, along with domestic activities which are crucial for the sustenance of the household. Not being offered for a price or wage women's unpaid labour escapes statistical enumeration. In this context time use surveys, which provide detailed information on how individuals spend their daily time, have been used to examine the differentials in time allocation to different activities by men and women which would help capture and value women's unpaid work and also provide an in depth understanding of women's daily life, their work and contributions to the rural hill economy. Besides this, the study attempts to explore and identify the factors determining the work participation of women in paid as well as unpaid activities as family labour on household farms. This is important to understand the factors that foster or inhibit women's involvement in the labour market, and suggest ways to enhance their participation in economic activities

for individual and familial wellbeing. Realising the importance of women's role in agriculture, the study also aims at exploring the determinants of the time spent by women in agriculture and the constraints they encounter.

## **1.6. A BRIEF INTRODUCTION OF THE STUDY AREA**

The study area chosen for the purpose is the hill region of the state of West Bengal, India which comprises the Darjeeling district, the only hill district in the state. On 14<sup>th</sup> February 2017, Darjeeling district was bifurcated to form two districts- Darjeeling comprising Darjeeling Sadar sub-division and Kurseong sub-division; and Kalimpong comprising Kalimpong sub-division. On 30<sup>th</sup> March 2017, Kurseong sub-division was also bifurcated to form two sub-divisions- Kurseong and Mirik sub-divisions. However at the time of undertaking the present study Kalimpong was a sub-division of Darjeeling district and Mirik was included in Kurseong sub-division.

The study area forms a part of the north-eastern Himalayas of the Indian Himalayan range. The Himalayas, the youngest and highest mountain systems in the world traverse an arc of about 2,500 kms between the Indus and the Brahmaputra rivers, with an average width ranging from 100-400 kms. The Himalayas pass through eight countries- Afghanistan, Pakistan, India, China, Nepal, Bhutan, Bangladesh and Myanmar. In India it stretches from the states of Jammu & Kashmir in the west to Arunachal Pradesh in the east and includes the states of Jammu & Kashmir, Himachal Pradesh, Uttaranchal (now Uttarakhand), Sikkim, Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and West Bengal covering 18 percent of the geographical area and accommodating 6 percent of the country's population (Shaheen, Wani and Baba, 2010). The northeast Himalayas include the states of Sikkim, Manipur, Meghalaya, Nagaland, Tripura, Arunachal Pradesh, Mizoram, hilly areas of Assam and Darjeeling and Kalimpong districts of West Bengal. Though the hills and mountain areas are characterized by heterogeneity, there are some common features which are characteristic of hill areas such as inaccessibility, fragility, marginality, difficult terrain, extreme vulnerability to natural calamity such as landslides, poor infrastructure and distinct gender dimensions.

Renowned the world over for its aromatic "Darjeeling Tea" and the mighty Kanchanjungha, the Darjeeling hills of West Bengal fondly known as "The Queen of the Hills", occupies an important place in the tourist map of India. The economy of the region is primarily dependent on three Ts i.e. tea, tourism and timber, along with agriculture. The tea industry is the backbone of the hill economy with the Darjeeling Hills having the highest

concentration of tea industries in the eastern Himalayas and absorbing the largest number of workers in the region (Chhetry, 1999, p. 36). Tourism occupies an important place in the economy of the region and attracts a huge number of domestic and foreign tourists every year. Besides, agricultural activities also contribute to the economy of the region despite its declining share in the district's net domestic product.

Agricultural activities in the hill regions are constrained by the climate and topography, and are characterized by traditional and labour intensive subsistence modes of production. The region has only over 13% of the total geographical area under cultivation (Dasgupta, 1990, p. 62). The type of crops cultivated depends upon the altitude and climate and no crops are cultivated above 9,500 ft above sea level due to the cold climate (Dash 1947, p. 99). Due to the slope of the land, cultivation takes place on terraced fields which are generally rain fed or irrigated in some cases. Cash as well as food crops are grown and in the valleys fruits may also be cultivated. Animals are important as they supply the main draught power and manure for the fields and are supplementary sources of income.

The district shows relatively higher work participation rates for females vis-à-vis other districts. According to the 2011 Census, the rural female work participation rate for the hill district of Darjeeling (including Kalimpong sub-division) was 26 per cent, which is the third highest among all districts and higher than the State average, which stood at 19.4 per cent. Lack of caste-specific occupational specialisation, higher cost of living, and low productivity of land are identified as some of the reasons for the high rate of work participation in Darjeeling district vis-a-vis other districts (Subba 1985, p. 20). Gender division of labour, which is weaker in highland areas, may be contributing towards high female work participation in the district.

Realising women's pivotal role in sustaining rural livelihoods through their active involvement in agriculture and allied activities together with other domestic activities, the present study has been undertaken to understand the nature and extent of women's work and to enquire into the factors determining their participation in the hill region of West Bengal.

## **1. 7. OBJECTIVES OF THE STUDY**

From a survey of related literature, the proposed study would endeavor to fulfill the following research objectives:

1. To analyse the structure and pattern of women's work participation in the district through an analysis of Census data.

2. To examine the gender roles in domestic and agricultural activities i.e. crop production, animal husbandry and allied activities.
3. To examine the daily work patterns of men and women in the rural hill economy.
4. To determine the factors affecting female work participation in the study area.
5. To identify the factors determining women's participation in agriculture.
6. To highlight the role of women in providing household food security.
7. To highlight the constraints faced by the hill women farmers.
8. To suggest policy prescriptions for improving the condition of hill women farmers for their economic betterment and the economic betterment of the region as a whole.

### **1. 8. RESEARCH QUESTIONS**

The study endeavours to answer the following research questions.

1. What is the structure of employment of men and women in the study region?
2. What are the gender roles in domestic and agricultural activities in mountain farming system?
3. What are the factors determining the labour input of women in mountain farming systems?
4. What are the factors that determine the time spent by women in agriculture?
5. What is the relationship between male outmigration and women's work participation?
6. What constraints do women face in access to productive resources?

### **1. 9. RESEARCH HYPOTHESES**

The study would like to test the following research hypotheses.

1. Women's work burden in hill areas is higher than that of men.
2. Labour input of women is higher than that of men in agricultural activities.

3. Labour input of women is higher than that of men in domestic work.
4. Male outmigration has increased the work participation of hill women.
5. Education enhances women's participation in the labour market.
6. Labour force/work participation of women is relatively higher in case of low income families.
7. Women with larger land holdings spend more time in agriculture.
8. Women have unequal access to productive resources- land, credit, information and extension services.

### **1.10. SIGNIFICANCE AND LIMITATIONS OF THE STUDY**

The study is significant due to the following reasons:

1. The study presents an analysis of the structure and growth of the work force and the trends in the female work participation rates vis-à-vis the male work participation rates, in the (former) district of Darjeeling using secondary data from the Census of India. This will help to provide an insight into the position of women vis-à-vis men.
2. The study is significant because it highlights the role of mountain women in the subsistence agricultural hill economy of the Darjeeling Himalayas through an analysis of the differences in gender roles in agriculture, livestock rearing and domestic activities. Through time use analysis the study also presents the time patterns in the daily life of mountain women.
3. The results of the present study will help to understand the role of women farmers in hill agriculture, their constraints and their potential. The findings of the study can also be utilized in formulating policies and development plans for the region so as to generate employment opportunities for improving the economic condition of the women and their families.

The study is not free from limitations. Being based on primary survey data the study is fraught with several problems which have reduced the scope of the work to some extent.

1. Some of the women respondents were illiterate as a result of which they were unable to provide precise information regarding certain aspects like income, expenditure, land holding of the household and the price at which the agricultural products were

sold. In such instances, the male members of the household were also questioned to provide the required information.

2. Most of the responses i.e. the time spent on different activities, the expenditure on food and non-food items etc. were based on the recall method. As such, the recall errors present in such studies is an inherent limitation of the present study.
3. Since the study considers only three villages in the hill region, the results of the study may not be representative of the women folk of the entire hill region.

### **1.11. DATA AND SAMPLING DESIGN**

Since the objective of the present study is to analyse and highlight the role of rural women in mountain farming system, the hill region of the state of West Bengal which comprises the district of Darjeeling (including Kalimpong sub-division) has been selected, as it is the only hill district in the state.

The study is descriptive in nature and utilizes both primary and secondary data. However, the key source of information is primary data collected through socio-economic survey of the various rural households. Detailed information as required by the study has been collected through in-depth interview of the rural women using a structured questionnaire. Information on socio-economic and demographic characteristics of the household was also collected. The male members of the household were also interviewed to obtain additional information regarding the nature of activities performed, the cropping pattern, household income, size of land etc. Besides, information was also obtained from some knowledgeable person of the village like the village headman or other educated persons. Besides the primary data collected through field survey, secondary data from various sources has also been used as required. The various secondary data sources have been obtained from the Census of India, National Sample Survey Organization, District Statistical Handbooks, Block Development Office and other public documents.

Multi-stage purposive and random sampling techniques have been used for selection of villages. Since the study intends to highlight the role of women in mountain farming systems, the first stage involves selection of the hill district of Darjeeling (including Kalimpong sub-division) in the state of West Bengal. The second stage involves selection of the sub-divisions. At the time of undertaking the present study Kalimpong was a sub-division of the district of Darjeeling and was accorded district status on 14<sup>th</sup> February 2017. The former district of Darjeeling comprised four sub-divisions; Darjeeling Sadar, Kurseong, Kalimpong, and Siliguri, with the first three sub-divisions being in the hill areas and the

fourth in the plains. Siliguri sub-division has therefore been excluded from the present study as it lies in the plains and the study has focussed on the three hill sub-divisions of Darjeeling Sadar, Kurseong and Kalimpong.

The next stage involves selection of the blocks. Among the three former hill sub-divisions of Darjeeling district, i.e. Darjeeling Sadar, Kurseong, and Kalimpong; Darjeeling Sadar and Kalimpong (now district) have three Community Development blocks each and Kurseong sub-division two Community Development blocks. One community development block each, with a higher than average proportion of agricultural workers, was chosen from Darjeeling Sadar and Kalimpong, and Kurseong block was chosen from Kurseong sub-division because of its proximity to the town. Darjeeling-Pulbazar block was chosen in the Darjeeling Sadar sub-division with 44.2 percent of agricultural workers, and Kalimpong II was chosen in Kalimpong sub-division with 61.9 percent of agricultural workers. In Kurseong sub-division Kurseong block was chosen over Mirik due to proximity from the town.

The final stage involves selection of the villages. In this stage a village with a relatively high proportion of agricultural workers was selected randomly from each block. The villages selected for the purpose of the study were Samalbong in Darjeeling-Sadar, Git Dubling Khasmahal in Kalimpong, and Sitong Khasmahal in Kurseong. At present Darjeeling district has four sub-divisions; Darjeeling Sadar, Kurseong, and Mirik, which was carved out of Kurseong sub-division on March 30<sup>th</sup> 2017; and Siliguri. Kalimpong is a separate district. Fifty households were selected from each village. The households chosen in the study are those wherein the family members participated in agricultural activities either for commercial purposes or for subsistence. This gave a total of 150 households surveyed.

## **1.12. ANALYTICAL TOOLS USED**

For testing of various hypotheses in the proposed study, statistical and econometric tools have been used for the analysis of primary data. Statistical tools such as percentages, means, averages, measure of dispersion etc. have been used along with econometric tools such as Analysis of Variance (ANOVA), logistic regression and multiple regression to test the different hypotheses. One way ANOVA test along with pos hoc tests have been carried out to check for differences in the time spent by men and women in different activities. Differentials in time allocated by women to various activities on the basis of size of the holding has also been analysed using the ANOVA and post hoc tests. To draw inferences regarding the causal relationship between women's work participation and selected socio-economic and

demographic variables, a logistic regression exercise has been carried out. Since most of the women in the region have been found to be involved in agriculture, a multiple regression exercise has also been undertaken to identify the factors that may influence the time spent by women in agriculture. Secondary data have also been used only to throw light upon the demographic characteristics, industrial classification, work participation rates, cropping pattern, cropping intensity etc.

### **1.13. PLAN OF PRESENTATION AND CHAPTERISATION**

The introductory chapter provides a general outline of the study. The theoretical perspective on female labour force participation has been discussed along with important issues related to women's work especially in the hill areas. The research problem has also been introduced with a brief review of related literature along with the objectives of the study, the research questions to be answered and the research hypotheses to be tested during the course of the study. The chapter also outlines the sources of data, the sampling design, analytical tools to be employed, introduction to the study area etc.

The second chapter provides a detailed review of related literature by analyzing different aspects related to female labour force participation. A global perspective on female participation rates and a review of women's work in India has also been discussed. A review of literature has been done on determinants of female labour force participation, time use studies and women's role in agriculture and their work in the hill areas with the primary focus being on highlighting women's contributions and their disadvantaged position.

The third chapter describes the study area which is the hill region of the state of West Bengal i.e. the district of Darjeeling. All information in the secondary data sources pertain to the former district of Darjeeling. In this chapter a brief account of the history, geography, economy and demography of the former district of Darjeeling is provided along with a concise description of the state of agriculture as available from secondary sources.

The fourth chapter presents an analysis of the trends and structure of female labour force participation in India, West Bengal and the district of Darjeeling. The analysis is based entirely on secondary data obtained from Census of India, National Sample Survey Organisation (NSSO), and District Statistical Handbooks for different years. The trend in female labour force and work participation rates for India and West Bengal on the basis of NSSO data has been presented followed by an analysis of work participation rates on the basis of Census data for the state and the district according to male-female, rural-urban, main-

marginal etc. differences. Work participation rates by age, level of education and marital status for the district has also been discussed in the chapter.

The fifth chapter is based on primary survey data. The main focus of this chapter is to provide an insight into the nature and extent of women's work in the study area and highlight their importance to the rural hill economy. The chapter provides a comparative analysis of the labour market characteristics of the study villages by representing the structure of employment. Women's workload vis-à-vis that of men has also been assessed through portrayal of gender division of labour in various activities. ANOVA and post hoc tests have also been carried out to test for differences in time allocation pattern of men and women in different activities, and differences in time allocation by women belonging to different size class of land holdings.

In the sixth chapter an econometric analysis of primary survey data has been carried out wherein the study attempts to identify the covariates of female work participation in mountain farming system through a logistic regression exercise. In doing so, the study has estimated two models- Model I which takes into consideration both paid and unpaid employment of women as participation in the workforce; and Model II which considers a more restrictive definition of participation to include only paid market work, and covers both wage and self-employment. Selected socio-economic and demographic variables have been considered as explanatory variables in the analysis.

The seventh i.e. the penultimate chapter provides an account of women's role in agriculture in the study villages. A multiple regression analysis has been carried out to find the determinants of the time spent by women in agriculture. Women's role in ensuring household food security and the constraints they face in terms of access to productive resources is also highlighted in the present chapter. The chapter concludes with a few case studies of women in the study villages.

The final and the concluding chapter includes a summary of all the previous chapters and also provides some policy prescriptions for increasing women's participation in income generating activities which would help in improving their economic status besides contributing to the development of the rural hill economy of Darjeeling in a suitable and sustainable manner.

## **1.14. CONCLUSION**

Female work participation which shows the proportion of economically active females among the total female population has been an important area of research for several

scholars. Women's issues gained importance during the decade of the 1970s due to disappointment over the "trickle-down effect" which did not consider women's issues as different from those of men. Ester Boserup's (1970) seminal work *Women's Role in Economic Development* along with the United Nations Decade for Women launched in 1975 paved the way for integration of women's issues in the development agenda and gender equality became a global concern. The preoccupation of scholars with the issue of female labour force/work participation stems from several reasons. Firstly, women's labour market experiences are more varied and complex vis-à-vis that of men, being determined by a combination of economic and non-economic factors. Secondly, much of work that women perform, especially in poor subsistence economies is unrecognised and undervalued since a major portion of work that women do being unpaid, is subsumed under the category of household work. This leaves much of their work outside the realm of national income statistics, which negatively impacts on their status within and outside the household as being inferior to that of men. Thirdly, women's participation in economic activities has important implications for the growth and development of economies due to the positive correlations it has with improved individual and familial welfare as observed from several micro level studies.

The review of literature on theoretical perspective of female labour supply considers the most dominant schools of the neo classical, Marxian and feminist frameworks and the bargaining models along with a brief mention of the theories of discrimination. In the neoclassical framework the new household economics of Becker, Mincer etc. is important in explaining women's labour supply for it includes time as an additional element in the utility maximisation process of the household and regards households as places of production and not only consumption. In the Marxist paradigm women's questions were not considered separately but subsumed under the analysis of class relations. Early Marxists consider capitalism to be the factor for women's increased participation in the labour force. Nevertheless the priority accorded to production in the Marxist analysis and the distinction between exchange value and use value led to women's unpaid domestic labour producing use values as being unproductive. At the heart of the feminist theory is the need to bring about gender equality through proper evaluation of women's reproductive labour which includes all the unpaid work that women perform and which is essential for sustenance of households. In contrast to the unitary model of the household, the bargaining theories are significant as they capture individual preferences, conflicts and inequalities that may arise among the household members and help explain intra household dynamics. The theories of discrimination help

explain the gender differentials in wages in terms of the human capital theory, Becker's taste model, model of statistical discrimination, and the crowding hypothesis.

The vital role that women play in agriculture especially in developing nations where it is the primary occupation of the people, is well document in development literature. A lot of studies also focus on the gender roles in agricultural activities with women being concentrated in activities which are regarded as "indoor" in contrast to men who have a higher involvement in "outdoor" activities. Although women in hill and mountain regions are known to have higher participation rates which have been accorded primarily to high male outmigration in these regions leading to feminization of agriculture and livelihoods, most of them are family labour. Women in these regions face double oppression, firstly, by virtue of their gender and secondly, by virtue of their location i.e. the hill and mountain regions considered to be some of the least developed regions in the world. Studies which focus on the role of mountain women express concern over their invisibility in mainstream development policies despite their high workload owing to their lack of access to productive resources, and constraints due to the unique physical features of these regions. These regions nevertheless possess some unique advantages due to climate, temperature etc. which may be harnessed for commercialization of traditional agriculture to non-traditional items for making agriculture in the region more remunerative. In this regard, women may be regarded as important agents of change given their high involvement in agriculture and allied activities.

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