

## Chapter V

### Pattern of Rural Employment: Women's Work and Gender Division of Labour

#### 5.1. INTRODUCTION

Gender division in the labour market i.e. the distribution of work between men and women is an important manifestation of gender inequalities that are prevalent in societies the world over albeit in varying intensities. This gender division of labour may be said to have evolved due to the different economic and social roles adopted by men and women and the different valuation of these roles, which may vary across different regions and cultures. While women devote a greater proportion of their time to household activities and bearing and rearing children which are termed as reproductive activities, men are more concerned with market activities with little or no role in domestic activities. In carrying out such activities women generally forgo their career. They also devote less time for development of their skills and build up of knowledge and experience which leads to women being concentrated in low paying and casual jobs. The differences between men and women in terms of investment in education, skill formation and income generating activities has its roots in the differences in the valuation of the tasks performed by men and women (Gupta and Yesudian, 2006). In patriarchal family structures, being married is expected to reduce women's opportunities for participating in economic activities (Lisaliner and Bhatti, 2005) as married women are expected to be involved more in domestic and household responsibilities. Ejaz (2011) notes that married women exhibit lower participation rates since they are more involved in providing services to the household.

The gender division of labour is primarily based on the biological division of labour in procreation and may thus be termed as 'natural' being an old pre-historical aspect of human society. But besides the biological division of labour, where only women can give birth to and nurse children, there is no other natural division of labour between men and women (D.N. and G.K., 1989). The social and household dynamics which determine the gender division of labour increases the pressure on women and the burden of unpaid work (Mehrotra and Sinha, 2017) which includes household work such as cooking, caring and nurturing of children and other members, collection of critical resources for family survival such as food and water, fuel and fodder. Much of unpaid labour is considered to be women's responsibilities. Even in cases where women are participating in paid work, there is little sharing of unpaid domestic responsibilities between men and women. As cited by Sayer

(2005) in her study, many scholars believe that although women have increasingly moved into paid work, there has not been a redistribution of household work between men and women even as this is a reflection of unequal gender relations (cited in Sayer, 2005).

The participation of women in such unpaid activities is the primary cause of invisibility of women's economic contribution. Mukherjee (1996) distinguishes between 'work' and 'employment' and points out that the term 'work' basically implies human effort which leads to production of goods and services having utility and may not necessarily help in earning income through marketability. In contrast 'employment' is normally associated with marketability, i.e. it can be traded either through barter or for money. He opines that this subtle difference between work and employment leads to conceptual ambiguities and may be the reason for inaccurate estimation of women's work (Mukherjee, 1996). The Human Development Report, 1995 (p. 97) states that since much of women's work is not valued accurately in economic terms, women are overlooked in most economic transactions notwithstanding the fact that women bear a larger proportion of the total work burden and contribute to men's paid market activities by looking after the household and children (UNDP, 1995).

The activities undertaken by women are therefore deeply influenced by the social milieu along with the perceptions regarding the type of work to be undertaken by men and women. The present chapter is intended to provide an insight into the nature and extent of women's work in the study area and to identify the gender roles in agriculture and household activities. The chapter initially delineates the socio-economic and demographic characteristics of the sampled population in the three villages along with an analysis of the labour market characteristics to have a better understanding of the nature of employment. An examination of the gender division of labour in different activities related to crop production, livestock rearing and domestic activities is also carried out to identify the gender roles in these activities in the study area. Gender differentials in time allocated to different activities in the study villages is also reported and Analysis of Variance (ANOVA) test is performed to test for any significant differences in the time spent by men and women in the different activities. Further, the gender differentials in time allocation to different activities on the basis of the farm size are also tabulated to understand the effect of size of land holding on women's and men's work. The chapter will also test some of the research hypotheses outlined in Chapter I.

## 5.2. METHODOLOGY

As outlined in Chapter I the following methodology is used in the present study. 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 focused 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 II, and Sitong Khasmahal in Kurseong. At present Darjeeling district has four sub-divisions; Darjeeling Sadar, Kurseong, Mirik, which was carved out of Kurseong sub-division on March 30<sup>th</sup> 2017, and Siliguri. Kalimpong is a separate district.

Taking 50 households from each of the three villages a sample of 150 households was selected wherein the family members participated in agricultural activities either for

commercial purposes or for subsistence. Exhaustive lists of different agricultural activities as well as activities related to animal husbandry and household activities were prepared and female respondents were interviewed and the labour inputs of the different members of the households in different activities were recorded to highlight the gender division of labour in different activities. Data regarding different socio-economic and demographic characteristics of the sample were also recorded. 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.

### **5.3. SOCIO-DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS OF THE STUDY AREA**

#### **5.3.1. Socio-demographic and Economic Characteristics vide Census, 2011**

The villages chosen for the present study are primarily agrarian in character. Table 5.1 depicts the socio-demographic and economic characteristics of the sampled villages and the occupational classification as computed from the Census 2011 data. It can be seen from the table that the percentage of males and females engaged as agricultural workers in the sampled villages is higher than the district average according to the Census 2011. In Samalbong village in Sadar sub-division 42.1 percent of male workers and 58.5 percent of female workers are engaged in agriculture which makes 48 percent of the total workers dependent on agriculture. In Git Dubling Khasmahal in Kalimpong II percentage of male and female workers engaged in agriculture is 84.8 percent and 86.8 percent respectively, making 85 percent of total workers being engaged in agriculture, which is clearly higher than the percentages in Samalbong sub-division. In Sitong Khasmahal village the percentage of male agricultural workers is 81.4 percent and the percentage of female agricultural workers is 81.1 percent giving a total of 81.3 percent of agricultural workers. The data also reveals the higher participation of women in agriculture in the sampled villages except in Kurseong sub-division where the percentage is slightly lower for women. Within the agricultural workers there is a higher percentage of cultivators in comparison to agricultural labourers although in the district as a whole, more women are participating in agriculture as agricultural labourers rather than as cultivators. The distribution of agricultural workers into self-employed or cultivators and employees or agricultural labourers provides an understanding of an important dimension of employment, i.e. the status distribution of the workforce (Unni, 1989). Higher

proportion of agricultural labourers is an indication of casualisation of the female workforce. In the hills areas the usage of exchange labour popularly known as ‘parma’ reduces the use of agricultural labourers which could be the reason behind the higher proportion of cultivators. Household industry is poorly developed in the region with a meager 2.4 percent of workers being engaged in household industry in the district. The percentages of workers in household industry are even lower in two sampled villages with the percentages being 0.7 percent and 0.3 in Samalbong and Git Dubling Khasmahal respectively and 2.4 percent in Sitong Khasmahal. Workers in Others category constitute 76.8 percent of total workers in the district with the percentages being 51.6, 14.2 and 16.3 in Samalbong, Git Dubling Khasmahal and Sitong Khasmahal respectively.

**Table 5.1: Socio-demographic and Economic Characteristics and Industrial Classification of Sampled Villages vide Census, 2011**

Level	District	Sub-District	Village	Sub-District	Village	Sub-District	Village
Name	Darjeeling	Darjeeling-Pulbazar	Samalbong	Kalimpong II	Git Dubling Khasmahal	Kurseong	Sitong Khasmahal
No. of Households	391234	27470	454	13172	661	20892	605
Population (T)	1846823	126935	2077	66830	3598	94347	3098
Population (M)	937259	63828	1035	34546	1823	47030	1626
Population (F)	909564	63107	1042	32284	1775	47317	1472
Sex Ratio	970	989	1007	935	974	1006	905
Literacy Rate (T)	79.6	80.8	81.6	79.7	82.8	81.2	81.2
Literacy Rate (F)	85.6	87.6	91.7	85.6	87.7	88.6	86.0
Literacy Rate (M)	73.3	73.9	71.7	73.4	77.7	73.8	75.9
WPR (T)	37.0	41.2	39.6	37.8	39.2	36.2	36.2
WPR (M)	51.2	49.2	52.4	51.5	52.1	46.5	49.1
WPR (F)	22.4	33.2	26.9	23.0	26.0	25.9	21.9
Cultivators % (T)	11.1	32.6	29.9	42.6	60.5	10.8	76.8
Cultivators % (M)	11.4	32.9	27.9	42.7	61.3	12.3	77.1
Cultivators % (F)	10.5	32.1	33.9	42.2	58.9	8.0	76.1
Ag Lab % (T)	9.7	11.7	17.8	19.4	24.9	5.0	4.5
Ag Lab % (M)	8.4	11.0	14.2	15.9	23.5	5.3	4.3
Ag Lab % (F)	12.6	12.7	24.6	27.6	27.9	4.4	5.0
HHI % (T)	2.4	3.6	0.7	1.1	0.3	2.7	2.4
HHI % (M)	2.2	3.4	0.4	1.1	0.3	2.7	2.0
HHI % (F)	2.9	3.9	1.4	0.8	0.2	2.6	3.4
Others % (T)	76.8	52.2	51.6	37.0	14.2	81.6	16.3
Others % (M)	78.0	52.7	57.6	40.2	14.9	79.8	16.7
Others % (F)	74.0	51.4	40.0	29.4	13.0	84.9	15.5

Source: Computed from Census of India, 2011 (Census of India website: [www.censusindia.gov.in](http://www.censusindia.gov.in))

Note: T-Total, M-Male, F-Female, WPR- Work Participation Rate, Ag Lab-Agricultural Labourers, HHI- Household Industry

### **5.3.2. Socio-demographic and Economic Characteristics vide Sample Survey**

The sample characteristics are shown in Table 5.2. Fifty households were surveyed in each of the three villages giving a sample size of 150 households. The total population surveyed in the three villages was therefore 729 comprising 372 males and 357 females. In India, the operational holdings may be divided into five categories according to the size- marginal (below 1 hectare), small (more than 1 hectare but less than 2 hectares), semi-medium (more than 2 hectare but less than 4 hectares), medium (more than 4 hectares but less than 10 hectares) and large (10 hectares and above which includes mostly institutional holdings). In hill regions there is a preponderance of marginal holdings. In Darjeeling district the distribution of operational holdings over size-class revealed that in 2010-11, 84 percent of the holdings were marginal with average size of holding being 1.5 hectares. As such the classification used by the Agricultural Census cannot be followed in the present study. For this reason and also to maintain uniformity in categorisation of land holdings in the sampled villages, all the farms were divided into three categories-less than 1 acre (small), between 1 and 2 acres (medium) and more than 1 acre (large).

In Samalbong village, the percentage of households dependent on agriculture as a primary activity is 38 percent which is an indication of agriculture being primarily for subsistence. An important factor explaining this could be the smaller size of the land holdings in Samalbong village which is only 1.4 acres. In Samalbong village 40 percent of the households had land holdings less than 1 acre and only 28 percent of households had land holdings more than 2 acres. A large proportion (68 percent) of households had unitary structure. The larger proportion of unitary families could help explain the smaller size of the land holdings in Samalbong village since land holdings get fragmented as families divide. The average monthly income in the Samalbong village is Rs. 11,347.97 with 92 percent of households in Samalbong village having monthly income up to Rs.20, 000 (Table 5.2).

In Git Dubling Khasmahal in Kalimpong II, 70 percent of the households are dependent on agriculture as a primary activity. The average land holding is 2.8 acres with 48 percent of the households having more than 2 acres of land. Only 8 percent of households own less than 1 acre of land. The average monthly income in Git Dubling Khasmahal village is Rs 22,814.83 which is higher than that in Samalbong and Sitong Khasmahal villages. In Git Dubling Khasmahal village 78 percent of households have monthly income in the range Rs. 10,000-30,000. The male, female and total literacy levels in Git Dubling Khasmahal village are also higher than that in Samalbong village. The male literacy rate in Git Dubling Khasmahal village is however, slightly lower than that in Sitong Khasmahal village.

**Table 5.2: Socio- demographic and Economic Characteristics of Sampled Villages**

Village	Samalbong	Git Dubling Khasmahal	Sitong Khasmahal
No. Of Households	50	50	50
(A)Demographic Factors			
1.Population			
Males	117	127	128
Females	113	108	136
Person	230	235	264
Sex Ratio	966	850	1063
2. Age			
Mean age of men	30.7	32.6	34.1
Mean age of women	30.7	37.0	33.8
(B) Social			
1. Family Structure			
Unitary Family (Percentage)	68.0	54.0	32.0
Joint Family (Percentage)	32.0	46.0	68.0
Average Family Size	4.6	4.7	5.28
Average no. of adults	3.7	3.7	4.56
Average no. of children (0-6)	0.9	1.0	0.66
2.Literacy			
Overall Literacy	85.7	90.6	89.9
Male Literacy	88.3	94.1	95.0
Female Literacy	83.0	86.7	85.2
3. Marital Status (Percentage)			
Married (Males)	59.1	70.7	54.7
Others (Males)	40.9	29.3	45.3
Married(Females)	62.6	71.7	52.9
Others (Females)	37.4	28.3	47.1
(C)Economic factors			
1.Primary Activity of Household Head (Percentage)			
Agriculture	38.0	70.0	44.0
Non-agriculture	62.0	30.0	56.0
2.Land Holding of Households (Percentage)			
Less than 1 acre	40.0	8.0	34.0
1-2 acres	32.0	44.0	38.0
More than 2 acres	28.0	48.0	28.0
Average land holding (acres)	1.4	2.8	1.7
3. Monthly Income of Households (Rs.) (Percentage)			
less than 10000	54.0	6.0	22.0
10001-20000	38.0	40.0	54.0
20001-30000	4.0	38.0	16.0
30001-40000	4.0	14.0	6.0
40001-50000	0.0	2.0	2.0
Average monthly Income	11347.94	22814.83	15860.72

Source: Field Survey

In Sitong Khasmahal the proportion of households dependent on agriculture as a primary activity is 44 percent. The average land holding is 1.7 acres with 72 percent of households owning land upto 2 acres. The average monthly income is Rs.15,860.72 which is higher than in Samalbong village but lower than in Git Dubling Khasmahal. It can also be seen that only 8 percent of households have income above Rs. 30,000. The male and female literacy rates in the village are 95.0 and 85.2 percent respectively.

Since land is an important source of income in the rural areas, amount of land held is an indicator of the economic status of the households which may be assessed through average monthly income of the household. It can be observed from Table 5.2 that the average monthly income in Samlbong village is Rs. 11,347.94 which is lower than the average monthly income in Sitong Khasmahal and Git Dubling Khasmahal village which have an average monthly income of Rs. 15,860.72 and Rs 22,814.83 respectively. Further, whereas only 8 percent and 24 percent of households in Samalbong village and Sitong Khasmahal village respectively have average monthly income more than Rs. 20, 000, the same in Git Dubling Khasmahal village is 54 percent. It can also be seen that while Samalbong village had predominance of small holdings i.e. less than 1 acre (40 percent), Git Dubling Khasmahal village had predominance of large holdings i.e. more than 2 acres (48 percent). On the other hand Sitong Khasmahal village has more of medium holdings i.e. 1-2 acres (38 percent). Larger size of land holdings in Git Dubling Khasmahal (2.8 acres) in contrast to Samalbong and Sitong Khasmahal villages has probably led to better socio-economic status of the sampled village in Git Dubling Khasmahal as compared to the other two villages as can be seen from higher average monthly income. The small size of the land holdings in Samalbong village could be explained by the larger proportion of unitary families in the village since land holdings get fragmented as families divide. It can be seen from the table that Samalbong village has 68 percent of households which are unitary in structure, whereas in Git Dubling Khasmahal and Sitong Khasmahal village only 54 and 32 percent of households respectively are unitary in structure.

The male, female and total literacy levels in Git Dubling Khasmahal village are also higher than that in Samalbong and Sitong Khasmahal village with the exception of male literacy rate which is slightly higher in Sitong Khasmahal village. All these reveal that the socio-economic status of the sampled village in Git Dubling Khasmahal is better than that of Samalbong village and Sitong Khasmahal village.

## 5.4. LABOUR MARKET CHARACTERISTICS OF SAMPLED VILLAGES

### 5.4.1. Labour Force Characteristics

The labour force and the workforce characteristics in the sampled villages have been analysed on the basis of the *usual activity status* into three activity statuses viz. the *usual principal activity status (ps)*, *usual subsidiary activity status (ss)* and *usual activity status considering principal and subsidiary status taken together (ps+ss)* by adopting the time criteria.

The usual activity status shows the activity status of a person during the reference period of 365 days preceding the date of survey. A person is said to be employed according to the *usual principal activity status (ps)* if that person is found to be spending a relatively long time during the 365 days before the date of survey. A person who is employed according to the *usual principal status* could have participated in some economic activity for a short time, usually not less than 30 days during the reference period, simultaneously with the activity pursued as *usual principal activity status* or separately. This is termed as the *usual subsidiary activity status (ss)* of the person. The usual principal activity and usual subsidiary economic activity of a person considered together, is known as the usual activity status of the person. Individuals are termed as workers according to the *usual status (ps+ss)*, if they are engaged in some work activity either in the principal status or in the subsidiary status. Therefore, a person engaged in some economic activity for 30 days or more during the reference period may be considered as a worker according to the *usual status (ps+ss)* even though he/she may not be regarded as a worker in the *usual principal status* (GoI, 2013, NSS 68<sup>th</sup> Round).

As shown in Table 5.3, according to the *usual principal activity status (ps)*, the work participation rate (WPR) of the sample in Samalbong village is 59 percent for males and 41.6 percent for females; 59.8 percent and 52.8 percent for males and females respectively in Git Dubling Khasmahal village and 56.3 and 47.8 percent for males and females respectively in Sitong Khasmahal village, indicating higher WPRs for males as compared to the females. According to the *usual subsidiary activity status (ss)* and the *usual status (ps+ss)* however, the WPRs increase for both males and females. In fact, the increase for females exceeds the increase for males making the WPRs for females to be greater than that for males. This indicates that most women in the sampled villages participate in the labour force in subsidiary capacity and many do not consider themselves as workers according to the *usual principal activity status*. In Samalbong village however, the WPRs for males is greater than that for females according to the *usual status (ps+ss)*.

A fact worth mentioning here is that although some women may not be actively employed according to the *usual status (ps)*, they are nevertheless an important component of the labour force since most of them are employed as family labour on family farms according to the *usual subsidiary activity status (ss)*.

**Table 5.3: Labour Force Characteristics of Sampled Households in Surveyed Villages**

Activity Status		<i>usual status (ps)</i>			<i>usual status (ss)</i>			<i>usual status (ps+ss)</i>		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
<b>Samalbong</b>										
Employed	No.	69	47	116	73	80	153	89	84	173
	WPR	59.0	41.6	50.4	62.4	70.8	66.5	76.1	74.0	75.2
Unemployed	No.	6	4	10	0	2	2	0	1	1
	Percent	5.1	3.5	4.4	0.0	1.8	0.9	0.0	0.9	0.4
Labour Force	No.	75	51	126	73	82	155	89	85	174
	LFPR	64.1	45.1	54.8	62.4	72.6	67.4	76.1	75.0	75.7
Non-Workers	No.	42	62	104	44	31	75	28	28	56
	Percent	35.9	54.9	45.2	37.6	27.4	32.6	23.9	25.0	24.4
Total		117	113	230	117	113	230	117	113	230
<b>Git Dubling Khasmahal</b>										
Employed	No.	76	57	133	81	84	165	88	88	176
	WPR	59.8	52.8	56.6	64.3	77.8	70.2	69.3	81.5	74.9
Unemployed	No.	4	5	9	1	0	1	1	0	1
	Percent	3.1	4.6	3.8	0.8	0.0	0.4	0.8	0.0	0.4
Labour Force	No.	80	62	142	82	84	166	89	88	177
	LFPR	63.0	57.4	60.4	64.6	77.8	70.6	70.1	81.5	75.3
Non-Workers	No.	47	46	93	45	24	69	38	20	58
	Percent	37.0	42.6	39.6	35.4	22.2	29.4	29.9	18.5	24.7
Total		127	108	235	127	108	235	127	108	235
<b>Sitong Khasmahal</b>										
Employed	No.	72	65	137	73	104	177	91	105	196
	WPR	56.3	47.8	51.9	57.0	76.5	67.0	71.1	77.2	74.2
Unemployed	No.	6	4	10	0	0	0	0	0	0
	Percent	4.7	2.9	3.8	0.0	0.0	0.0	0.0	0.0	0.0
Labour Force	No.	78	69	147	73	104	177	91	105	196
	LFPR	60.9	50.7	55.7	57.0	76.5	67.0	71.1	77.2	74.2
Non-Workers	No.	50	67	117	55	32	87	37	31	68
	Percent	39.1	49.3	44.3	43.0	23.5	33.0	28.9	22.8	25.8
Total		128	136	264	128	136	264	128	136	264

Source: Field Survey

Note: WPR-Work Participation Rate, LFPR-Labour Force Participation Rate.

A comparison between the WPRs for rural areas for the state as obtained from the different rounds of NSS data shown in Appendix A (Appendix 5.1.), and the WPRs obtained for the different villages under study as shown in Table 5.3 reveals that while the WPRs for the males according to the *usual status (ps)* are quite close to the state average, there is a huge difference in the WPRs for the females. In the villages under study the female WPRs were 41.6 percent, 52.8 percent and 47.8 percent respectively for Samalbong, Git Dubling Khasmahal and Sitong Khasmahal villages, while the state average was only 18.9 percent for the NSS, 68<sup>th</sup> Round, 2011-12. This clearly indicates high work participation of the women in the hill areas. The percentages increase even more when we consider the WPRs by *usual status (ps+ss)* for both males and females.

#### **5.4.2. Structure of Employment**

The employment structure according to different activity status in the three sampled villages as obtained from field survey is shown in Table 5.4, Table 5.5 and Table 5.6. In Samalbong village, 43.5 percent of the male workers are employed in agriculture in comparison to 72.3 percent of female workers according to the *usual status (ps)*. The percentage of self employed in agriculture is greater than agricultural labourers. On the basis of the *usual status (ss)* and the *usual status (ps+ss)* the percentages increase for both males and females. Table 5.4 reveals that the percentage of female workers in agriculture is greater than the percentage of male workers showing that agriculture is a feminine activity. Allied activities which include livestock rearing, sericulture and fish farming were not taken up as a primary activity in the region but as a secondary source of income with most of the workers participating in subsidiary capacity. The off farm jobs for the males are carpentry, driving vehicles, government jobs like the army or casual jobs in construction/MGNREGA as casual labour or overseer. For the women, the off farm jobs included running a shop in the precincts of the house selling household articles, teaching or casual labour in MGNREGA during the lean season in agriculture. Some women were involved in preparing and selling country liquor.

In Git Dubling Khasmahal village, the percentage of male and female workers in agriculture according to the *usual status (ps)* was 65.8 percent and 82.5 percent respectively (Table 5.5). The percentages increase for both males and females according to the *usual status (ss)* and *usual status (ps+ss)*. According to *usual status (ss)*, 90.1 and 94 percent of male and female workers respectively participate in agricultural activities. Allied activities include livestock rearing or keeping poultry which are taken up as subsidiary activities with women's involvement being greater than that of men. The off farm activities for males are teaching, driving vehicles, running a shop, government jobs or casual labour in

construction/MGNREGA. For females off farm jobs included running a shop, teaching and working in government office along with casual labour in public works like MGNREGA.

**Table 5.4: Structure of Employment by Activity status: Samalbond**

Activity Status		Male		Female		Total	
		No.	Percentage	No.	Percentage	No.	Percentage
<i>usual status (ps)</i>							
Agriculture		30	43.5	34	72.3	64	55.2
1	Self employed	19	63.3	32	94.1	51	79.7
2	Agri. Labour	11	36.7	2	5.9	13	20.3
3	Allied Activities	0	0.0	0	0.0	0	0.0
Non Agriculture		39	56.5	13	27.7	52	44.8
1	Self Employed	16	41.0	4	30.8	20	38.5
2	Regular wage/salaried	18	46.2	9	69.2	27	51.9
3	Casual	5	12.8	0	0.0	5	9.6
Total (Agriculture+ Non Agriculture)		69	100.0	47	100.0	116	100.0
<i>usual status (ss)</i>							
Agriculture		66	90.4	72	90.0	138	90.2
1	Self employed	22	33.3	27	37.5	49	35.5
2	Agri. Labour	1	1.5	0	0.0	1	0.7
3	Allied Activities	43	65.2	45	62.5	88	63.8
Non Agriculture		7	9.6	8	10.0	15	9.8
1	Self Employed	0	0.0	3	37.5	3	20.0
2	Regular wage/salaried	0	0.0	0	0.0	0	0.0
3	Casual	7	100.0	5	62.5	12	80.0
Total (Agriculture+ Non Agriculture)		73	100.0	80	100.0	153	100.0
<i>usual status (ps+ss)</i>							
Agriculture		49	55.1	71	84.5	120	69.4
1	Self employed	24	49.0	49	69.0	73	60.8
2	Agri. Labour	11	22.4	2	2.8	13	10.8
3	Allied Activities	14	28.6	20	28.2	34	28.3
Non Agriculture		40	44.9	13	15.5	53	30.6
1	Self Employed	16	40.0	4	30.8	20	37.7
2	Regular wage/salaried	18	45.0	9	69.2	27	50.9
3	Casual	6	15.0	0	0.0	6	11.3
Total (Agriculture+ Non Agriculture)		89	100.0	84	100.0	173	100.0

Source: Field Survey

**Table 5.5: Structure of Employment by Activity status: Git Dubling Khasmahal**

<b>Activity Status</b>		<b>Male</b>		<b>Female</b>		<b>Total</b>	
<i>usual status (ps)</i>		<b>No.</b>	<b>Percentage</b>	<b>No.</b>	<b>Percentage</b>	<b>No.</b>	<b>Percentage</b>
Agriculture		50	65.8	47	82.5	97	72.9
1	Self employed	42	84.0	47	100.0	89	91.8
2	Agri. Labour	8	16.0	0	0.0	8	8.2
3	Allied Activities	0	0.0	0	0.0	0	0.0
Non Agriculture		26	34.2	10	17.5	36	27.1
1	Self Employed	6	23.1	4	40.0	10	27.8
2	Regular wage/salaried	14	53.8	6	60.0	20	55.6
3	Casual	6	23.1	0	0.0	6	16.7
Total (Agriculture+ Non Agriculture)		76	100.0	57	100.0	133	100.0
<i>usual status (ss)</i>		<b>No.</b>	<b>Percentage</b>	<b>No.</b>	<b>Percentage</b>	<b>No.</b>	<b>Percentage</b>
Agriculture		73	90.1	79	94.0	152	92.1
1	Self employed	26	35.6	24	30.4	50	32.9
2	Agri. Labour	6	8.2	1	1.3	7	4.6
3	Allied Activities	41	56.2	54	68.4	95	62.5
Non Agriculture		8	9.9	5	6.0	13	7.9
1	Self Employed	4	50.0	0	0.0	4	30.8
2	Regular wage/salaried	0	0.0	0	0.0	0	0.0
3	Casual	4	50.0	5	100.0	9	69.2
Total (Agriculture+ Non Agriculture)		81	100.0	84	100.0	165	100.0
<i>usual status (ps+ss)</i>		<b>No.</b>	<b>Percentage</b>	<b>No.</b>	<b>Percentage</b>	<b>No.</b>	<b>Percentage</b>
Agriculture		62	70.5	78	88.6	140	79.5
1	Self employed	44	71.0	67	85.9	111	79.3
2	Agri. Labour	8	12.9	0	0.0	8	5.7
3	Allied Activities	10	16.1	11	14.1	21	15.0
Non Agriculture		26	29.5	10	11.4	36	20.5
1	Self Employed	6	23.1	4	40.0	10	27.8
2	Regular wage/salaried	14	53.8	6	60.0	20	55.6
3	Casual	6	23.1	0	0.0	6	16.7
Total (Agriculture+ Non Agriculture)		88	100.0	88	100.0	176	100.0

Source: Field Survey

**Table 5.6: Structure of Employment by Activity status: Sitong Khasmahal**

Activity Status		Male		Female		Total	
<i>usual status (ps)</i>		No.	Percentage	No.	Percentage	No.	Percentage
Agriculture		29	40.3	57	87.7	86	62.8
1	Self employed	28	96.6	56	98.2	84	97.7
2	Agri. Labour	1	3.4	1	1.8	2	2.3
3	Allied Activities	0	0.0	0	0.0	0	0.0
Non Agriculture		43	59.7	8	12.3	51	37.2
1	Self Employed	12	27.9	3	37.5	15	29.4
2	Regular wage/salaried	20	46.5	5	62.5	25	49.0
3	Casual	11	25.6	0	0.0	11	21.6
Total (Agriculture+ Non Agriculture)		72	100.0	65	100.0	137	100.0
<i>usual status (ss)</i>		No.	Percentage	No.	Percentage	No.	Percentage
Agriculture		63	86.3	96	92.3	159	89.8
1	Self employed	31	49.2	30	31.3	61	38.4
2	Agri. Labour	2	3.2	0	0.0	2	1.3
3	Allied Activities	30	47.6	66	68.8	96	60.4
Non Agriculture		10	13.7	8	7.7	18	10.2
1	Self Employed	0	0.0	1	12.5	1	5.6
2	Regular wage/salaried	0	0.0	0	0.0	0	0.0
3	Casual	10	100.0	7	87.5	17	94.4
Total (Agriculture+ Non Agriculture)		73	100.0	104	100.0	177	100.0
<i>usual status (ps+ss)</i>		No.	Percentage	No.	Percentage	No.	Percentage
Agriculture		49	53.8	97	92.4	146	74.5
1	Self employed	39	79.6	83	85.6	122	83.6
2	Agri. Labour	1	2.0	1	1.0	2	1.4
3	Allied Activities	9	18.4	13	13.4	22	15.1
Non Agriculture		42	46.2	8	7.6	50	25.5
1	Self Employed	12	28.6	2	25.0	14	28.0
2	Regular wage/salaried	20	47.6	6	75.0	26	52.0
3	Casual	10	23.8	0	0.0	10	20.0
Total (Agriculture+ Non Agriculture)		91	100.0	105	100.0	196	100.0

Source: Field Survey

In Sitong Khasmahal village while 40.3 percent of male workers are employed in agriculture, 87.7 percent of female women workers are engaged in agriculture according to *usual status (ps)* (Table 5.6). Among those engaged in agriculture majority are self employed i.e. cultivators and very few are agricultural labourers. The labour exchange system of 'parma' which is widespread in the area cuts down the use of hired agricultural labour considerably. Among non-agricultural activities, the majority of the workers both male and female are employed as regular wage/ salaried workers. The male non-farm workers were employed in the army, government offices, or were working in other places like Kurseong town, Delhi, Bangalore, Dubai etc. Some were engaged in carpentry, driving vehicles, teaching or petty trade such as opening a shop, tailoring etc. Women's off farm jobs included teaching, maintaining a shop, ICDS helper, government jobs etc.

Although men and women are not seen participating in allied activities which primarily include animal husbandry according to *usual status (ps)*, it can be observed from the table that 47.6 and 68.8 percent of male and female workers are engaged in such activities according to *usual status (ss)*. The Work Participation Rate in agriculture also increases according to *usual status (ss)* with the rate being 86.3 percent for males and 92.3 percent for females. Taking the *usual status (ps +ss)* it can be seen that while 53.8 percent of male workers are involved in agriculture, the corresponding figure for females is 92.4 percent which is considerably higher than that for male workers.

Children also contribute to farm activities in all the three villages. The older children in some households were involved in activities like fodder collection, feeding farm animals, marketing of milk which was taken to a nearby diary, fuel wood collection along with household activities like washing and cleaning in which older girl children were primarily involved.

#### **5.4.3. Age-Specific Work Participation Rates**

In the present section the percentage of workers in the different age groups along with the age-specific work participation rates have been calculated for all the workers according to the *usual status (ps)* (Table 5.7). The highest percentage of male workers belong to the age group 30-59 years in Samalbong while in Git Dubling Khasmahal highest percentage of male workers are in the age group 30-49 and for Sitong Khasmahal the highest percentage of male workers belong to the age group 40-49. For the females the highest percentage of workers are in the age group 30-49 in all three villages. The WPRs for the males show a steady increase with increase in age group reaching a peak in the range 30-59 years in Samalbong, 25-59 years in Git Dubling Khasmahal and 30-49 years in Sitong Khasmahal thereafter which the

WPR declines. The WPRs for females on the other hand is high for the age group 20-24 years, after which there is a decline for 25-29 year age group. The rates again pick up and reach a peak for 50-59 year age group in Samalbong. In Git Dubling Khasmahal the same pattern is followed with the highest WPR being observed in the 40-49 year age group. In Sitong Khasmahal on the other hand the data reveals a steadily increasing WPR with increase in age with the peak being reached at 40-49 years.

**Table 5.7: Percentage of Workers and Age Specific Work Participation Rates in Samalbong, Git Dubling Khasmahal and Sitong Khasmahal**

Age Group	Males		Female		Total	
	Percentage	WPR	Percentage	WPR	Percentage	WPR
<b>Samalbong</b>						
15-19	5.80	23.53	0.00	0.00	3.45	11.76
20-24	2.90	25.00	8.51	44.44	5.17	35.29
25-29	17.39	85.71	6.38	37.50	12.93	68.18
30-39	21.74	100.00	36.17	80.95	27.59	88.89
40-49	23.19	100.00	29.79	70.00	25.86	83.33
50-59	23.19	100.00	17.02	100.00	20.69	100.00
60+	5.80	57.14	2.13	12.50	4.31	33.33
Total	100.00	58.97	100.00	41.59	100.00	50.43
<b>Git Dubling Khasmahal</b>						
15-19	0.00	0.00	0.00	0.00	0.00	0.00
20-24	7.89	54.55	5.26	33.33	6.77	45.00
25-29	9.21	100.00	3.51	22.22	6.77	56.25
30-39	28.95	100.00	33.33	79.17	30.83	89.13
40-49	30.26	100.00	29.82	100.00	30.08	100.00
50-59	7.89	100.00	17.54	90.91	12.03	94.12
60+	15.79	70.59	10.53	33.33	13.53	51.43
total	100.00	59.84	100.00	52.78	100.00	56.60
<b>Sitong Khasmahal</b>						
15-19	0.00	0.00	1.54	6.67	0.73	3.13
20-24	11.11	47.06	4.62	18.75	8.03	33.33
25-29	15.28	91.67	13.85	56.25	14.60	71.43
30-39	18.06	100.00	23.08	83.33	20.44	90.32
40-49	30.56	100.00	33.85	95.65	32.12	97.78
50-59	19.44	93.33	15.38	90.91	17.52	92.31
60+	5.56	25.00	7.69	27.78	6.57	26.47
Total	100.00	56.25	100.00	47.79	100.00	51.89

Source: Field Survey

While for males high WPRs have been observed between the ages 25-59, for females high WPRs have been observed between the ages 30-59 showing a little late entry or a re-entry of women into the workforce during the middle ages. This could be explained by the fact that younger aged women, especially during the child bearing age are outside the work

force being occupied with household responsibilities and child care which reduce their WPRs. On the other hand, social norms may also restrict young women from entering the labour market to earn for their families while it may not be so for young men.

#### 5.4.4. Work Participation Rate by Level of Education

The workers according to *usual status (ps)* have also been divided according to the level of education and the percentage of workers for each level of education and the WPRs by level of education have been calculated for the three sampled villages (Table 5.8).

**Table 5.8: Percentage of Workers and Work Participation Rates by Level of Education in Samalbong, Git Dubling Khasmahal and Sitong Khasmahal**

Level of Education	Males		Female		Total	
	Percentage	WPR	Percentage	WPR	Percentage	WPR
<b>Samalbong</b>						
Illiterate	15.94	84.62	17.02	44.44	16.38	61.29
Functionally Literate	2.90	40.00	34.04	80.00	15.52	72.00
Primary	24.64	54.84	8.51	18.18	18.10	39.62
Junior High School	23.19	57.14	14.89	53.85	19.83	56.10
Secondary	23.19	80.00	14.89	35.00	19.83	57.50
Higher Secondary	5.80	44.44	10.64	41.67	7.76	42.86
Graduate and above/ Technical	4.35	60.00	0.00	0.00	2.59	50.00
Total	100.00	62.16	100.00	44.34	100.00	53.46
<b>Git Dubling Khasmahal</b>						
Illiterate	1.32	8.33	7.02	21.05	3.76	16.13
Functionally Literate	2.63	33.33	14.04	80.00	7.52	62.50
Primary	23.68	50.00	15.79	50.00	20.30	50.00
Junior High School	35.53	69.23	31.58	66.67	33.83	68.18
Secondary	10.53	100.00	21.05	63.16	15.04	74.07
Higher Secondary	11.84	81.82	7.02	40.00	9.77	61.90
Graduate and above/ Technical	14.47	73.33	3.51	40.00	9.77	65.00
Total	100.00	59.84	100.00	52.78	100.00	56.60
<b>Sitong Khasmahal</b>						
Illiterate	2.78	10.53	16.92	35.48	9.49	26.00
Functionally Literate	5.56	66.67	10.77	58.33	8.03	61.11
Primary	19.44	66.67	26.15	58.62	22.63	62.00
Junior High School	25.00	64.29	30.77	66.67	27.74	65.52
Secondary	26.39	63.33	10.77	28.00	18.98	47.27
Higher Secondary	13.89	66.67	0.00	0.00	7.30	52.63
Graduate and above/ Technical	6.94	55.56	4.62	60.00	5.84	57.14
Total	100.00	56.25	100.00	47.79	100.00	51.89

Source: Field Survey

The educational status of the workers reveals that in Samalbong, among the male workers the highest percentage have primary school education, while among the female workers the highest percentage are only functionally literate. The WPR is highest for the illiterate and those with secondary education among males whereas among females the highest WPR is for the functionally literate followed by those with junior high school education.

In Git Dubling village, the highest percentage of male and female workers has education up to junior high school level. Among the males the WPR increases with increase in level of education and reaches the highest for those with secondary education, thereafter which it declines for higher levels of education. The WPR for females is highest for the functionally literates and shows a decline at higher levels of education.

In Sitong Khasmahal the workers with secondary education makes up the highest percentage among total male workers whereas for females the highest proportion of workers have junior secondary level of education. For male workers the WPRs do not vary much across different levels of education. For females too the WPRs do not vary much but are relatively lower for illiterate workers and those with secondary level of education.

## **5.5. NATURE AND EXTENT OF WOMEN'S WORK IN THE STUDY AREA**

Crucial to family life is work, both paid and unpaid. Although time studies reveal that the total number of hours spent by women and men in paid and family work is almost the same (Berk, 1985; Pleck, 1985, cited in Thompson and Walker, 1989), women have been found to shift their time and investment between paid and family work more than men, for proper functioning of family life (Thompson and Walker, 1989). However, considering women's paid productive work and unpaid reproductive or domestic work it is found that women in rural areas work for longer hours in comparison to their male counterparts and are primarily engaged in household works and as such have fewer opportunities for participation in productive sectors especially in developing countries. In poor subsistence economies women are engaged primarily in agriculture where they are paid low wages, or in kinds or not paid at all since their work is largely for subsistence (Kafle, 2015).

The work patterns of men and women in rural areas reveal high involvement of women in agriculture, especially as unpaid labour on family farms despite significant variations across different regions and farming systems. If the work involved in raising livestock and poultry, fisheries, conservation of water, forestry and work related to common

property resources is also included, the contribution of women to agriculture would surpass that of men (Vepa, 2005). In recent times a trend towards feminisation of agriculture has also been observed in several countries including India. This phenomenon is caused by low profits in crop production and distress migration of men (Vepa, 2005; Kelkar, 2010) along with casualisation of work (Vepa, 2005) and increased needs to augment income (Kelkar, 2010) which according to Sujaya (2006)(cited in Kelkar, 2010) compels women to participate in agricultural jobs with less wages and which are casual in nature.

The occupational classification of the sampled villages clearly shows that the women are actively involved in agricultural and allied activities as well as participating in some non agricultural activities. Besides these, women also undertake domestic responsibilities of cooking, cleaning, looking after children etc. To understand the gender division of labour in agriculture and allied activities along with domestic and household activities in the sampled villages, a categorization of participation of the family labour has been done into three groups- “Males” if it is performed only by the male members, “Females” if performed only by the female members and “Joint” if there is no distinct division of labour in participation in that activity. The family labour may be participating in the different activities either in principal or subsidiary capacity. Children below the age of 15 years and those attending educational institutions, as well as older family members above the age of 65 who are not part of the labour/work force are not considered in the analysis (Rai and Mukherjee, 2018a).

#### **5.5.1. Gender Division of Labour in Crop Production**

The labour offered by women in the sampled villages is integral to agricultural production of the region. They work side by side with men performing most of the tasks in the field including ploughing, hoeing or digging in some cases. There are few tasks on the fields which are gender specific. The primary farm activities in the sampled villages are crop production and animal husbandry. Rearing of silk worms, fish farming, maintaining poultry, and horticulture are some of the allied activities that are undertaken by a few households to supplement their income. In Samalbong the principal crops grown are vegetables which include potatoes, squash, beans, peas, cabbage, ginger etc. along with black cardamom. In some of the households at a little lower altitude paddy, maize, pulses etc. are also cultivated. In Git Dubling, the principal crops are black cardamom, broom grass, red round chillies or ‘*dalle khorsani*’ along with potatoes and other seasonal vegetables. In Sitong Khasmahal, the principal crops are carrots, radish, broom grass, red round chillies or ‘*dalle khorsani*’, seasonal vegetables like squash, beans, ‘*rai saag*’ etc. Black cardamom is also cultivated in certain households (Rai and Mukherjee, 2018a).

Agricultural activities in the hill regions are labour intensive since the techniques are primitive with use of farm implements being limited to simple tools like hoe, shovel, axe, spade, hand fork, sickle etc. 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 (Rai and Mukherjee, 2018a).

A well defined division of labour in agricultural activities is not observable in the hill areas since women participate in almost all agricultural activities, even ploughing in some cases. However, the physical activities like clearing the field and ploughing are generally a man's responsibility. Family labour is essentially used in all agricultural operations. For some activities like clearing the field, ploughing, carrying manure, building embankments, harvesting etc. agricultural labour or '*khetalas*' may be employed, as a form of exchange labour as and when required. In some farms '*khetalas*' are employed in exchange for wages to supplement family labour. A '*khetala*' may be a landowner or a landless peasant working in another person's field (Subba, 1985, p. 34). An important system of labour exchange that is prevalent in the hill regions is known as '*parma*'. The word '*parma*' means a system of direct labour exchange between two households where they work in each other's land on alternate days or so (*ibid*, p. 35) thus avoiding usage of hired labour. The system of '*parma*' was found to be prevalent particularly in Samalbong and Sitong Khasmahal areas. Hired agricultural labour both male and female may be used for some activities and on daily wage basis as and when the need arises. It is generally the people from the landless category owning very minimal or no land who offer their labour in exchange for wages (Rai and Mukherjee, 2018a).

Fourteen agricultural activities have been considered and the gender division of labour in these activities in the sampled villages is shown in the Table 5.9. The table shows the participation of family labour both males and females in different activities related to crop production for 50 households each in the sampled villages. Households where only males participated in a particular activity have been recorded in the "Males" category for that activity. Similarly, households where only females participated have been recorded in the "Females" category and households where both males and females were involved in that activity were recorded in the "Joint" category. The households where that activity was performed by hired labour were not included in the analysis. The households where that particular activity was not performed were also not included in the analysis. For example, in Sitong Khasmahal village, only 8 households were involved in seed storage. The rest of the

households purchased seeds from the market. As such the remaining 42 households were not considered for the activities seed selection and seed storing (Rai and Mukherjee, 2018a).

**Table 5.9: Gender Division of Labour in Different Agricultural Activities (in Percentages)**

Area	Samalbong			Git Dubling Khasmahal			Sitong Khasmahal		
	Males	Females	Joint	Males	Females	Joint	Males	Females	Joint
Clearing Land	52.3	9.1	38.6	43.5	8.7	47.8	39.5	15.8	44.7
Seed Selection	34.0	36.0	30.0	37.0	23.9	39.1	0.0	37.5	62.5
Ploughing	54.2	0.0	45.8	65.0	0.0	35.0	42.1	15.8	42.1
Sowing	18.0	18.0	64.0	8.7	10.9	80.4	0.0	32.0	68.0
Uprooting of Seedlings	14.0	68.0	18.0	0.0	58.3	41.7	0.0	63.3	36.7
Watering	22.0	36.0	42.0	51.7	17.2	31.0	21.7	23.9	54.3
Application of Manure	53.1	2.0	44.9	53.7	7.3	39.0	14.9	31.9	53.2
Weeding	18.0	26.0	56.0	10.4	37.5	52.1	0.0	61.7	38.3
Harvesting	6.0	36.0	58.0	0.0	8.2	91.8	0.0	26.0	74.0
Sun Drying	16.0	64.0	20.0	0.0	22.4	77.6	0.0	42.9	57.1
Grading and Storing	49.0	10.2	40.8	22.4	10.2	67.3	8.0	30.0	62.0
Seed Storing	28.0	44.0	28.0	8.2	32.7	59.2	0.0	37.5	62.5
Weighing	58.0	16.0	26.0	51.1	4.4	44.4	34.0	22.0	44.0
Marketing	55.3	21.3	23.4	39.6	12.5	47.9	56.0	20.0	24.0

Source: Field Survey

Little division of labour is observed in the surveyed villages in the different activities related to crop production. In Samlabong village males predominate in clearing the land for cultivation (52.3 percent) and ploughing it (54.2 percent), application of manure/fertilizer (53.1 percent), weighing (58 percent) and marketing (55.3 percent); while females predominate in seed selection (36 percent), uprooting of seedlings/transplanting (68 percent), sun drying (64 percent) and seed storing (44 percent). The activities which are done jointly are sowing (64 percent), weeding (56 percent) and harvesting (58 percent) (Rai and Mukherjee, 2018a).

In Git Dubling Khasmahal village men outweigh women in ploughing (65.0 percent), watering (51.7 percent), application of manure (53.7percent) and weighing (51.1 percent) whereas women outweigh men only in uprooting of seedlings (58.3 percent). A relatively

higher female participation can nonetheless be seen in weeding (37.5 percent), sun drying (22.4 percent) and seed storing (32.7 percent) though these activities are carried out jointly in most of the households. Activities like sowing (80.4 percent) and harvesting (91.8 percent) and post harvest operations like grading and storing (67.3 percent), seed storing (59.2 percent) and marketing (47.9percent) are done jointly in most of the households (Rai and Mukherjee, 2018a).

In Sitong Khasmahal village men have a relatively higher participation in ploughing (42.1 percent) whereas women have a higher participation in uprooting of seedlings (63.3 percent) and weeding (61.7percent). All the other activities are performed jointly in most of the households. In most of the households in the village seed storing hence seed selection was not carried out as the seeds used were purchased from the market rather than being stored (Rai and Mukherjee, 2018a).

In all the three surveyed villages it can be observed that males are found to have higher participation principally in activities requiring more physical labour like clearing the land, ploughing and weighing of agricultural produce. Despite being a male dominated activity given that it requires physical strength, ploughing may also be performed by women in small plots by using spades or hoes where use of plough is not feasible and possible; as is evident from the joint participation in ploughing in 45.8 percent of households in Samalbong village, 35 percent in Git Dubling Khasmahal village and 42.1 percent in Sitong Khasmahal village. This is in sharp contrast to agriculture in the plains where ploughing is primarily a male activity. Men also predominate in application of manure/fertiliser since it requires some knowledge and expertise (Rai and Mukherjee, 2018a).

Higher participation of women can be seen in uprooting of seedling/transplanting in case of paddy. Uprooting of seedlings requires delicate handling which can be done better by women and could help explain the higher participation of women in this activity. A relatively higher participation of women in sun drying can also be seen in both villages which could be explained by the fact that this activity can be performed along with household work (Rai and Mukherjee, 2018a).

From the data presented in Table 5.9 it can be inferred that women work alongside men and shoulder equal responsibility in almost all activities related to crop production in the sampled villages. It can also be seen that there are certain activities in Git Dubling Khasmahal and Sitong Khasmahal villages in which “Males” category is absent which implies that in those households the particular activity is performed jointly. It is also an indication of the absence of male members in the household due to out migration or

widowhood/desertion, in which case the work is performed by the female members or by employing hired labour. It can however be seen that besides ploughing there are no other activities in which “Females” only category is absent. This implies that there are very few agricultural activities in which women are not participating (Rai and Mukherjee, 2018a).

It may be mentioned here that in certain households activities such as clearing the land for cultivation, ploughing and harvesting especially in case of big cardamom are done entirely by using hired labour. The data presented in Table 5.9 pertain only to the participation of family labour (Rai and Mukherjee, 2018a).

### **5.5.2. Gender Division of Labour in Livestock Rearing**

Rearing of farm animals particularly cows, bullocks, goats etc. is an important element of mountain farming system as farm animals provide manure, milk and draught power. Barring a few, almost all the families in the sampled villages own farm animals as they are the primary source of manure since use of chemical fertilizers in the region is minimal. Other farm animals like goats, pigs or poultry are primarily for self consumption and are used during festivals or special occasions or to be sold off to augment family income during times of distress. Sale of milk and dairy products such as ‘*paneer*’, ‘*churpi*’ (forms of cottage cheese), ‘*ghee*’ etc. are also important sources of income for most of the families in the sampled villages. Women play a very crucial role in rearing of farm animals, sometimes assisted by the children and the older members of the family.

Table 5.10 shows the differentials in participation of men and women in different activities related to rearing of farm animals (Rai and Mukherjee, 2018a).

In Samalbong village it can be seen that activities done mostly by men are cleaning shed (44 percent), collecting manure (50 percent), marketing of milk (75 percent) and purchasing of animal feed (54 percent). Other activities are performed jointly by both men and women in most houses though relatively higher participation of women are found in activities like stall feeding (30 percent) and milk extraction (26.9 percent) (Rai and Mukherjee, 2018a).

In Git Dubling Khasmahal village males are involved mostly in marketing of milk (80 percent) with all the other activities being performed jointly by both men and women. Relatively higher participation of women can be observed in stall feeding (14 percent), forage collection (20 percent), milk extraction (20 percent) and taking care of animals (32 percent) (Rai and Mukherjee, 2018a).

**Table 5.10: Gender Division of Labour in Livestock Rearing in Percentages**

Area	Samalbong			Git Dubling Khasmahal			Sitong Khasmahal		
	Male	Female	Joint	Male	Female	Joint	Male	Female	Joint
Stall Feeding	12.0	30.0	58.0	2.0	14.0	84.0	4.8	21.4	73.8
Forage Collection	24.0	22.0	54.0	16.0	20.0	64.0	12.5	32.5	55.0
Milk Extraction	23.1	26.9	50.0	22.0	20.0	58.0	48.7	15.4	35.9
Cleaning Shed	44.0	24.0	32.0	22.0	18.0	60.0	16.7	26.2	57.1
Taking care of Animals	32.0	24.0	44.0	10.0	32.0	58.0	19.0	31.0	50.0
Collecting Manure	50.0	15.9	34.1	22.0	18.0	60.0	17.1	26.8	56.1
Marketing of Milk	75.0	10.0	15.0	80.0	16.7	3.3	27.0	18.9	54.1
Purchasing Feed	54.0	16.0	30.0	32.0	26.0	42.0	21.4	19.0	59.5

Source: Field survey

In Sitong Khasmahal village most of the activities are performed jointly. Men's participation is however found to be higher in activities like milk extraction (48.7 percent), marketing of milk (27 percent) and purchasing feed (21.4 percent). In all other activities women's participation is relatively higher (Rai and Mukherjee, 2018a). It can again be inferred from the empirical evidence presented above that women share equal responsibility in case of tending of farm animals and in certain activities they are involved to a greater degree than the men folk (Rai and Mukherjee, 2018a).

### 5.5.3. Gender Division of Labour in Household Activities

Empirical evidence from several studies reveal that the responsibilities undertaken by men and women in household work and childcare are highly skewed with women bearing the greater burden. There is also a difference in the nature of men's and women's involvement in family work. Not only do women do more family work than men, but the type of work they do, when they do it, the circumstances in which they do it and how they experience family work is different from men's experiences. Within the household whereas women take up tasks which are "unrelenting, repetitive and routine", most men are engaged in tasks which are "infrequent, irregular and non-routine" (Berk, 1985 cited in Thompson and Walker, 1989). Since family work is "private, unpaid, commonplace, done by women, and mingled with love and leisure" it usually goes unnoticed and is rarely acknowledged (Daniels, 1987

cited in Thompson and Walker, 1989). Nevertheless, despite women's increased participation rates in paid work, gender segregation in household work has not reduced due to the fact that change in society regarding division of labour between men and women has been unidirectional (Choudhary and Parthasarathy, 2007) with little change in perceptions regarding women's unpaid household work (Rai and Mukherjee, 2018a).

A study on the gender differentials on participation in household activities in the sampled villages (Table 5.11) reveals extremely unequal distribution of household responsibilities. Women predominate in activities like cooking, washing and cleaning, and fetching water.

In Samalbong village there is sharing of work between men and women in fuel wood collection with the work being done jointly in 40.4 percent households. However, in 55.3 percent households fuel wood collection is done exclusively by women. Men's role is relatively higher than women only in social participation which includes participation in social or voluntary organizations and social functions like marriage, death or some religious functions in the village. In Git Dubling Khasmahal village there is some help from the men folk as washing and cleaning is done jointly in 34 percent households. Fuel collection is shared by both men and women in 64.3 percent household in spite of women's participation being relatively high. Looking after the children and the aged (51.5 percent), participation in social functions (82 percent) and purchase of household articles (44 percent) is done jointly. In Sitong Khasmahal village participation of women is higher than that of men in almost all the activities except social participation. Almost equal participation has been observed in collection of fuel wood (Rai and Mukherjee, 2018a).

**Table 5.11: Gender Division of Labour in Household Activities in percentages**

Area	Samalbong			Git Dubling Khasmahal			Sitong Khasmahal		
	Male	Female	Joint	Male	Female	Joint	Male	Female	Joint
Cooking	0.0	94.0	6.0	0.0	84.0	16.0	0.0	80.0	20.0
Washing and Cleaning	0.0	90.0	10.0	0.0	66.0	34.0	0.0	72.0	28.0
Fetching Water	2.4	90.5	7.1	4.0	84.0	12.0	7.9	63.2	28.9
Fuel Collection	4.3	55.3	40.4	4.8	31.0	64.3	31.3	35.4	33.3
Looking after children and aged	0.0	84.2	15.8	3.0	45.5	51.5	0.0	57.8	42.2
Social Participation	30.0	22.0	48.0	8.0	10.0	82.0	16.0	12.0	72.0
Purchasing	4.0	22.0	74.0	28.0	28.0	44.0	14.0	38.0	48.0

Source: Field survey

Though there is sharing of household tasks to a certain extent in all the three villages, household responsibilities are primarily a woman's responsibility with men helping out only occasionally. Besides these activities women also participate in paid work-full time or part time when they are engaged in certain off farm activities during the lean season. Davies and Carrier (1999) mention that an individual's contribution to household work may be influenced not only by the amount of time an individual spends in paid work, but also by the time one's spouse spends in paid work (Davies and Carrier, 1999). However, Sengupta (2016) mentions that in the Indian society when a woman participates in paid work it is usually at the cost of a reduction in her leisure time and not her unpaid working time, thus leading to a dual burden of working hours for women. Shelton and John (1999) observe that men continue to spend more time in paid work and women in housework even when there is an equal distribution of total workload. Participation in paid work consequently does not reduce the unpaid labour of women except in affluent families where unpaid domestic activities may be substituted by labour saving devices or by employing paid domestic help which is not very common in the rural households (Rai and Mukherjee, 2018a).

From the above analysis of field survey data it can be inferred that though there is sharing of farm work there is very little sharing of household work between men and women with women having to bear the burden of household work disproportionately. The work burden of women in the sampled villages is definitely larger than that of men. Gender division of labour though not very prominent in agricultural and allied activities is distinctly visible in household activities (Rai and Mukherjee, 2018a).

## **5.6. GENDER DIFFERENTIALS IN TIME ALLOCATION**

In developing countries a sizeable portion of household production is for self consumption and little is offered for sale in the market. Further, domestic activities predominantly performed by women which include cooking, cleaning, care of household members etc. are also unpaid. Though contributing significantly to the welfare of the family and hence the economy, these activities escape enumeration in labour force and national income surveys which include only those activities which are offered in exchange for a price/wage. In this context, time use survey may be regarded as a very useful tool since such a type of survey tries to capture and measure women's unpaid work by providing detailed and comprehensive information on the time allocated by individuals to different activities either on a daily or weekly basis which is not possible in any other type of social survey (Hirway, 1999). Time

use data provide a deeper understanding of the daily life of women, the nature of their work and leisure time, their voice in household decision making along with the risks of collecting fuel wood, fodder, and water (Pandey, 1999, cited in Sidh and Basu, 2011) which serve as important guidelines in policy formulation for achieving gender equality (Hirway, 1999) (Rai and Mukherjee, 2018b).

To have a proper understanding of how women and men in the sampled villages spend their time, the time allocated to different activities by the men and women were collected and tabulated. A total of nine activities in which the men and women between the ages of 15-65 participated were considered. These included crop production; livestock rearing; household work which included cooking, washing and cleaning, looking after children and the elderly and purchasing of household articles; forage and fuel wood collection; fetching water; participation in social activities; participation in other income generating activities and personal time which included washing and bathing, eating, recreation, taking rest between work, religious activities etc. The recall method has been used for recording the time spent at various activities. The errors associated with the recall method are therefore an important limitation of the study (Rai and Mukherjee, 2018b).

One-way analysis of variance (ANOVA) was also used to test for significant differences in the time spent on various activities in the three sampled villages on the basis of gender. The data was analysed using the Statistical Package for Social Sciences (SPSS) version 23. Regarding the assumption of normality, the ANOVA test is found to be robust, but may not be so in the case of violation of the assumption of homogeneity of variance (Liu, 2015). However, for equal sample sizes ANOVA is found to be fairly robust in terms of the error rate even when the assumption of homogeneity of variance is violated (Field, 2013), where equal sample sizes may be defined as the larger group size not being more than 1.5 times the size of the smaller group. In the present study the group sizes i.e. the number of males and females aged 15-65 years in each of the sampled villages are almost equal (i.e. the ratio is not greater than 1.5). Therefore, assuming normality and homogeneity of variances the ANOVA technique has been used in the present analysis to determine whether any statistically significant differences exist between the time spent by men and women in the different activities in each of the three sampled villages. The results of the ANOVA have been presented in Table 5.13 (Rai and Mukherjee, 2018b).

Table 5.12 shows the average time allocated to different activities per day by men and women in the sampled villages along with the percentage of time devoted to each activity. While women on an average devote 14.99 hours in a day while performing different

activities, both productive and non-productive in Samalbong village, men devote only 12.87 hours for the same activities ( $F(1,140) = 22.471, p = 0.000$ ). In Git Dubling Khasmahal village while women expend 15.46 hours, the time expended by men is 13.34 hours every day ( $F(1,149) = 24.354, p = 0.000$ ). The corresponding figures in Sitong Khasmahal village are 14.65 hours and 13.05 hours respectively for women and men ( $F(1, 171) = 10.396, p = 0.002$ ). The ANOVA tests as shown in table 5.13 reveal significant differences in average total time spent by men and women in all the three sampled villages. This clearly shows that women bear a greater burden than men in carrying out day to day activities. From this we can accept hypothesis (1) which says that women's work burden in hill areas is higher than that of men. The results are in conformity with the findings of Bhati and Singh (1987) which has reported very long working hours for women which is the outcome of combining household and farm work. Similar views have been expressed by Sengupta (2011) regarding higher work burden of women in her study of gender differentials in work participation in rural North Bengal using time use studies (Rai and Mukherjee, 2018b).

**Table 5.12: Gender Differential in Time Allocation in the Sampled Villages**

Village	Samalbong				Git Dubling Khasmahal				Sitong Khasmahal			
	Time spent in hours (Average)		Percentage of time spent		Time spent in hours (Average)		Percentage of time spent		Time spent in hours (Average)		Percentage of time spent	
	M N= 74	F N= 68	M	F	M N= 77	F N= 74	M	F	M N= 80	F N= 93	M	F
Crop Production	2.49	3.00	19.34	19.98	3.75	3.49	28.15	22.60	3.17	3.25	24.27	22.19
Livestock Rearing	1.16	1.23	9.04	8.20	1.34	1.30	10.03	8.41	1.19	1.42	9.13	9.68
Forage Collection	0.94	0.99	7.30	6.59	1.23	1.45	9.20	9.40	0.76	1.02	5.79	6.93
Household Work	0.65	4.43	5.03	29.57	0.94	4.91	7.06	31.77	0.65	3.74	4.96	25.56
Fetching Water	0.02	0.24	0.15	1.58	0.01	0.21	0.06	1.35	0.11	0.11	0.82	0.76
Fuel Collection	0.16	0.26	1.23	1.75	0.16	0.24	1.22	1.57	0.21	0.20	1.59	1.33
Social Participation	0.07	0.04	0.54	0.28	0.08	0.05	0.63	0.32	0.05	0.03	0.42	0.23
Other Income Generating Activities	3.06	1.03	23.77	6.85	1.76	0.62	13.18	4.00	2.50	0.70	19.15	4.76
Personal Time	4.32	3.78	33.59	25.20	4.06	3.18	30.47	20.60	4.42	4.18	33.85	28.56
Total	12.87	14.99	100.00	100.00	13.34	15.46	100.00	100.00	13.05	14.65	100.00	100.00

Source: Field Survey

In terms of time spent per day, women in Samalbong and Sitong Khasmahal villages expend more time in crop production whereas in Git Dubling Khasmahal village the opposite is true. Git Dubling Khasmahal village being primarily agricultural with 70 percent of the households dependent on agriculture as a primary occupation, male involvement in agriculture in terms of time spent is marginally higher. In livestock rearing too the time allocated by women is higher than that by men in Samalbong and Sitong Khasmahal villages, whereas in Git Dubling Khasmahal village the time spent by men is slightly higher than time spent by women. However, the time spent by men and women in crop production and livestock rearing was not found to be statistically significantly different for all three villages (Table 5.13) (Rai and Mukherjee, 2018b).

Although the time devoted by women to crop production is higher than that of men in two study villages, ANOVA analysis shows statistically non significant differences in time allocation between men and women to crop production. The ANOVA analysis also shows statistically non significant differences in the time spent by men and women in livestock rearing although the time devoted to such activities is higher for women in two study villages. The study therefore partially accepts the hypothesis (2) that the labour input of women is higher than that of men in agricultural activities (Rai and Mukherjee, 2018b).

**Table 5.13: Results of Analysis of Variance for Time Spent by Men and Women in the Sampled Villages**

Activity	Samalbong		Git Dubling Khasmahal		Sitong Khasmahal	
	F-statistic	sig.	F-statistic	sig.	F-statistic	sig.
Crop Production	1.890	0.171	1.023	0.313	0.077	0.782
Livestock Rearing	0.198	0.657	0.161	0.689	2.611	0.108
Forage Collection	0.142	0.707	3.621	0.059	5.548	0.020
Household Work	394.396	0.000	650.344	0.000	328.472	0.000
Fetching Water	52.264	0.000	45.683	0.000	0.029	0.866
Fuel Collection	11.512	0.001	8.280	0.005	0.192	0.662
Social Participation	20.830	0.000	39.305	0.000	20.896	0.000
Other Income Generating Activities	44.400	0.000	22.538	0.000	59.748	0.000
Personal Time	14.091	0.000	26.220	0.000	2.441	0.120
Total Time	22.471	0.000	24.354	0.000	10.396	0.002

In other activities like forage collection, household work which includes cooking, cleaning etc., collection of fuel wood and water women spent more time than men in Samalbong and Git Dubling Khasmahal villages. Statistically significant differences in the time spent by men and women were found in collection of fuel wood and water, and household work in both the villages as can be seen from the results of the ANOVA. In Sitong Khasmahal village the time devoted to fetching water was equivalent for men and women and the time devoted to collection of fuel wood was slightly lower for women, while the time devoted to forage collection and household work were found to be greater for women. Activities such as collection of fuel wood, water, forage etc. adds to women's labour as they need to travel long distances especially in recent times due to depletion of forest and water resources. ANOVA tests reveal statistically significant differences in the time spent by men and women for forage collection and household work (Table 5.13). From this we can accept the hypothesis (3) that the labour input of women is higher than that of men in domestic activities (Rai and Mukherjee, 2018b).

In other activities i.e. social participation, other income generating activities and personal time the time devoted by men is higher than the time devoted by women in all the villages and found to be statistically significant except for personal time in Sitong Khasmahal village which was not statistically significant. However no statistically significant differences were observed in the total average time devoted by women to various activities in a day ( $F(2, 232) = 1.514, p=0.222$ ) in the three study villages implying a similar pattern of work load of women across all three villages (Rai and Mukherjee, 2018b).

The distribution of total time devoted to different activities each day reveals that maximum time i.e. 29.57 percent in Samalbong village and 31.77 percent in Git Dubling Khasmahal village were spent by women in household activities, followed by personal time. In Sitong Khasmahal village women were found to be devoting maximum time to personal activities (28.56 percent) followed by household work (25.56 percent). Crop production and livestock raising were the other two activities in which women spent a considerable proportion of their time. In Samalbong village crop production accounted for 19.98 percent while livestock rearing accounted for 8.20 percent of women's time. In Git Dubling Khasmahal village crop production and livestock rearing accounted for 22.60 percent and 8.41 percent respectively of women's time. In Sitong Khasmahal village women devoted 22.19 and 9.68 percent of their daily time to crop production and livestock rearing respectively. While 6.85 percent of women's time in Samalbong village was devoted to other income generating activities, only 4 percent in Git Dubling Khasmahal village and 4.76

percent in Sitong Khasmahal village of women's time was devoted to such activities. Smaller landholdings in Samalbong village may have caused women to look for options outside agriculture to supplement family income during the lean season. In Git Dubling Khasmahal and Sitong Khasmahal villages however, larger landholdings mean that women find some work or the other on the family farm itself reducing women's involvement in paid work outside agriculture. It may be recalled that the average land holding in Samalbong is 1.4 acres as compared to 2.8 acres in Git Dubling village and 1.7 acres in Sitong Khasmahal village (Rai and Mukherjee, 2018b).

For the men on the other hand, the table reveals maximum time expended on personal activities. In Samalbong 33.59 percent of total time is devoted to personal and leisure activities, followed by 23.77 percent in other income generating activities, 19.34 percent in crop production, and 9.04 in livestock rearing. In Git Dubling Khasmahal 30.47 percent of men's total time is spent in personal and leisure activities followed by 28.15 percent in crop production, 13.18 percent in other income generating activities and 10.03 percent in livestock rearing. Similarly in Sitong Khasmahal men spend maximum time in personal and leisure activities i.e. 33.85 percent followed by 24.27 percent in crop production, 19.15 percent in other income generating activities and 9.13 percent in livestock rearing. Participation in household activities constitutes a relatively smaller proportion of men's daily time allocation. Men in Samalbong village spend relatively greater proportion of their time in remunerative jobs outside agriculture in comparison to the men in Git Dubling Khasmahal and Sitong Khasmahal villages who spend more time in agricultural activities. Size of the land holding which restricts opportunities for employment in agriculture could again be cited as a possible cause of this phenomenon (Rai and Mukherjee, 2018b).

It can be seen that although men and women both shoulder almost identical responsibilities in the different spheres related to crop production and livestock rearing including collection of fodder, they nevertheless bear a disproportionate burden of domestic activities along with collection of water and fuel wood. The time commitments of women to tasks such as those mentioned above leave little time for them to participate in other income generating activities or fulfill social commitments. It also means that women have little time for leisure activities (Rai and Mukherjee, 2018b).

The observations of the study are in conformity with findings reiterated in literature that women's activities are confined to the vicinity of the household i.e. the private while men's activities extend outside the household, more specifically the market.

## **5.7. GENDER DIFFERENTIALS IN TIME ALLOCATION BY SIZE CLASS**

In agricultural families in rural areas land is an important asset and an important determinant of the socio-economic status of the households. Besides determining social status and political power in the village, the quantum of land also “structures relationships both within and outside the household” (Agarwal, 1994, p.2). The size of the land holding is also an important determinant of women’s labour force participation in the rural areas. There are several micro studies that have established a negative correlation between landlessness and female participation rates (Nayyar, 1987). Nayyar argues that in rural India, women belonging to landless families or having marginal and small farms show higher participation to fulfill their family needs since landlessness is often equated with poverty. Families who are landless also show higher dependence on non-agricultural activities, with the dependence declining in case of families with larger land holdings (Awasthi, 2012, p.198) (Rai and Mukherjee, 2018b).

Within the agricultural sector, there are several studies which point to a positive correlation between women’s participation in agriculture and size of the holdings. In technologically most advanced and considered the ‘richest regions’ of Haryana, there is an increasing involvement of family females with agriculture as the operated holding increases in size with the females from 5-10 acre holdings putting in a lower percentage of work than those from 10 to 15 acres or 15 acres and above. In the lowest acreage group i.e. 0 - 2.5 in the richest region of Haryana, the agricultural wages are much more remunerative and women’s labour becomes surplus in their own uneconomic holding, so the contribution of family females remains nil (Chowdhry, 1993). 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 argument put forward for this is that on larger land holdings the female workers need to put in more time in crop production activities, and due to larger size of holdings can also afford to keep more cattle which further increases their time utilization in livestock raising activities (Thakur, 1991) (Rai and Mukherjee, 2018b).

On the other hand certain studies have observed low participation in agriculture for women belonging to large farms, mainly due to higher socio economic status which prevents women from carrying out agricultural work (Usharani, Vyas and Jodha, 1993; Sadangi, Mishra, Patel, 1996; Rekha, 2012). Usharani, Vyas and Jodha’s (1993) study in semi-arid

regions of Rajasthan shows that there was a negative relation between the days of female labour use and the size of the holdings (barring medium size farms) which implies that women from well-to-do families showed relatively less participation in agriculture. Their participation rate ranged from 53.17 percent on large farms to 64.11 percent on marginal farms. Rekha's (2012) study regarding women's involvement in dry land and irrigated agriculture in Davangere district of Karnataka also concluded that while landless women bore a heavier burden of workload working as hired labourers throughout the year, women from small farms undertook more workload in agriculture and women from large farms had low participation in agricultural activities due to their high economic status.

The positive relation between size of land and women's participation in agriculture may be considered to be an important characteristic of hill agriculture. The average size of the landholding in hill areas is generally found to be less than that in the plains. Moreover, even in case of relatively larger land holdings all of it may not be fit for cultivation due to steepness of the land or unfavourable aspect. Since use of hired labour is not very common in the hill areas and most of the work is done by family labour, the positive relation between women's increased participation and the size of the land holding may hold as women put in more intensive labour in large land holdings. In the plains, the relatively large land holdings require labour inputs from hired workers since it would not be possible to carry out cultivation only with family labour which may reduce women's participation in agriculture with increase in size of land.

Since the size of the land holding has an important effect on the labour inputs in rural areas, the gender differentials in time allocation to different activities can be studied on the basis of the farm size. As mentioned earlier, all the farms in the sampled villages were divided into three categories-less than 1 acre (small), between 1 and 2 acres (medium) and more than 1 acre (large). While Samalbong village had predominance of small holdings i.e. less than 1 acre (40 percent), Git Dubling Khasmahal village had predominance of large holdings i.e. more than 2 acres (48 percent). On the other hand Sitong Khasmahal village has more of the second category of holdings i.e. 1-2 acres (38 percent). Table 5.14 shows the gender differentials in time allocation to different activities in the three villages for different size class of holdings.

An analysis of variance and a *post hoc test* (where the ANOVA test revealed a statistically significant *F*-statistic or *Brown – Forsythe – statistic*<sup>1</sup>) was carried out to test for significant differences in the time spent by women in the different activities in the sampled villages according to the size of holdings. In the present study with increase in size

of the holdings an increase in time spent by women on crop production has been observed in the sampled villages. Statistically significant differences in crop production on the basis of size class of land holding was observed only in Git Dubling Khasmahal village (*Brown-Forsythe-statistic* = 58.927,  $p=0.001$ ). Games Howell *post hoc*<sup>2</sup> test was conducted due to difference in sample size and heterogeneity of variances to see which of the groups were statistically significantly different. The test revealed statistically significant difference between all three pairs of holdings: small and medium holding (Games Howell  $p = 0.010$ ); small and large (Games Howell  $p = 0.000$ ) and medium and large (Games Howell  $p = 0.047$ ). In Samalbong and Sitong Khasmahal village the differences were not statistically significant (Rai and Mukherjee, 2018b).

In Samalbong village statistically significant differences were not observed in any other activity. In Git Dubling Khasmahal village, besides crop production statistically significant difference was observed in livestock rearing (*F*-statistic = 4.311,  $p=0.017$ ) between medium and large holdings (Games Howell  $p = 0.014$ ) and for total time per day (*F*-statistic = 7.951,  $p=0.001$ ) between medium and large holdings (Games Howell  $p = 0.001$ ). In Sitong Khasmahal village statistically significant difference was observed in forage collection (*Brown-Forsythe-statistic* = 81.926,  $p=0.011$ ) with significant difference between small and large holdings (Games Howell  $p = 0.011$ ); fuel collection (*Brown-Forsythe-statistic* = 88.986,  $p=0.036$ ) with significant difference between small and large holdings (Games Howell  $p = 0.026$ ) (Rai and Mukherjee, 2018b). Detailed tables of ANOVA and *post hoc* test have been shown in Appendix A.

In terms of time spent in other income generating activities which may include petty trade, regular wage/ salaried job or casual or part time work outside family farms it can be seen that the amount of time spent in such activities is higher for smaller farms in Sitong Khasmahal and Git Dubling Khasmahal but is not so in Samalbong village. In rural areas the size of the land holding is taken as a proxy for the economic status of the household since households with larger landholdings may be more affluent than the ones with smaller landholdings. This would then imply that households with smaller land holdings would be more involved in off-farm activities since land cannot provide adequate income. This is plausible in rural areas where land is a primary asset and people from landless families are compelled to search for livelihoods outside agriculture, irrespective of the level of income or wages (Awasthi, 2012, p. 198) (Rai and Mukherjee, 2018b).

**Table 5.14: Gender Differential in Time Allocation in the Sampled Villages by Size Class**

<b>Samalbong</b>						
<b>Size Class</b>	<b>Less than 1 Acre</b>		<b>1-2 Acres</b>		<b>More than 2 Acres</b>	
<b>Activity</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
Crop Production	2.20	2.36	2.78	3.07	2.57	3.98
Livestock Rearing	1.00	0.98	1.24	1.39	1.30	1.42
Forage Collection	0.89	0.89	1.00	1.00	0.94	1.14
Household Work	0.71	4.53	0.54	4.46	0.67	4.22
Fetching Water	0.00	0.24	0.00	0.23	0.06	0.24
Fuel Collection	0.18	0.26	0.14	0.31	0.14	0.20
Social Participation	0.07	0.04	0.07	0.05	0.07	0.03
Other Income Generating Activities	2.77	0.95	3.26	0.88	3.23	1.37
Personal Time	4.37	3.89	4.19	3.93	4.39	3.36
Total	12.20	14.15	13.23	15.32	13.37	15.96
<b>Git Dubling Khasmahal</b>						
Crop Production	3.16	2.18	3.06	3.08	5.33	3.99
Livestock Rearing	0.98	1.39	1.23	1.04	1.72	1.52
Forage Collection	1.04	0.84	1.08	1.40	1.58	1.58
Household Work	0.68	4.98	0.90	4.82	1.16	4.96
Fetching Water	0.00	0.36	0.01	0.18	0.01	0.19
Fuel Collection	0.21	0.39	0.12	0.27	0.21	0.21
Social Participation	0.05	0.07	0.09	0.05	0.09	0.05
Other Income Generating Activities	1.85	0.59	1.97	0.50	1.32	0.65
Personal Time	4.04	3.16	4.31	3.31	3.63	3.10
Total	12.01	13.96	12.78	14.64	15.05	16.23
<b>Sitong Khasmahal</b>						
Crop Production	2.61	2.95	2.97	3.15	3.77	3.56
Livestock Rearing	1.01	1.01	1.20	1.54	1.32	1.56
Forage Collection	0.75	0.73	0.80	0.92	0.72	1.31
Household Work	0.70	4.00	0.65	3.89	0.60	3.42
Fetching Water	0.08	0.14	0.12	0.11	0.11	0.10
Fuel Collection	0.19	0.27	0.25	0.18	0.18	0.16
Social Participation	0.06	0.03	0.05	0.03	0.06	0.04
Other Income Generating Activities	2.86	1.13	2.37	0.46	2.34	0.66
Personal Time	4.40	3.93	4.48	4.27	4.37	4.26
Total	12.66	14.19	12.78	14.55	13.58	15.06

Source: Field Survey

The empirical evidence presented above is inconclusive regarding increased participation in non-agriculture for smaller sized holdings as the results do not hold uniformly for all the three villages under study. Besides, women with larger land holdings may also take up other income generating activities along with agricultural activities during the lean season to augment family income. The effect of size of land holding on women's participation in agriculture and livestock rearing is also inconclusive as positive relation between them has been observed only in one study village i.e. Git Dubling Khasmahal. For a better understanding of these issues further investigation on these aspects will be taken up in the later chapters through econometric analysis.

## 5.8. CONCLUSION

The present chapter provides an analysis of the nature and extent of women's work in the study area. The socio-economic and demographic account of the villages as revealed by the Census 2011 data highlights the agrarian character of the villages which is evident from the high proportion of agricultural workers, both men and women. Within the agricultural sector a higher proportion of cultivators in comparison to agricultural labourers have been observed which implies less usage of agricultural labour in the hill regions. The socio-economic and demographic characteristics of the field survey data for the three villages shows that among the three villages, Git Dubling Khasmahal village in Kalimpong has a higher proportion of households with agriculture as a primary activity (70 percent) followed by Sitong Khasmahal village in Kurseong (56 percent) and Samalbong village in Darjeeling Sadar (38 percent). The average size of land holding and the average monthly income of the households in Git Dubling Khasmahal village in Kalimpong are also higher than that of the other two villages.

Analysis of the work participation rates (WPRs) in the three villages according to the *usual principal activity status (ps)* reveals higher WPRs for males as compared to the females. However, when the WPRs are calculated according to the *usual subsidiary activity status (ss)* and the *usual status (ps+ss)* they increase for both males and females with the increase for females exceeding the increase for males making the WPRs for females to be greater than that for males. This indicates that most women in the sampled villages participate in the labour force in subsidiary capacity and many do not consider themselves as workers according to the *usual principal activity status*. The structure of employment in the villages shows a higher proportion of women being involved in the agricultural sector in all three villages. Allied activities which include livestock rearing, keeping poultry, rearing of silk worms, fish farming etc. were not taken up as a primary activity in the region but as a

secondary source of household income with most of the workers participating in subsidiary capacity. The off farm jobs for the males included carpentry, driving vehicles, government jobs like the army, teaching or casual jobs in construction/MGNREGA as casual labour or overseer etc. For the women, the off farm jobs included teaching, government jobs, ICDS helper, petty trade like opening a shop in the precincts of the house selling household articles, tailoring, selling country liquor or casual labour in MGNREGA during the lean season in agriculture.

From the analysis presented in the current chapter the important and the indispensable role of women in rural households in the economy of the Darjeeling hill areas can be properly understood. The significant contribution of women to agricultural activities which include crop production and livestock rearing is obvious through high work participation of women in such activities. Besides, women also undertake a multitude of unpaid household activities along with participation in paid work in farm and off farm activities either on full time or part time basis which further enhances women's contribution to the well being of their families.

Analysis of gender division of labour in different activities related to crop production and livestock rearing reveal the active involvement of women in almost all activities. There are few tasks which are gender specific and women partake in almost all activities related to crop production as family labour including ploughing or hoeing in some cases which is generally considered a man's work. As regards household work, there is very little sharing of such activities by men with the bulk of such work being performed primarily by women which points to the gendered nature of household work.

The study of gender differentials in time allocation also corroborates the above findings. Women's total contributions in terms of time allocated to different activities are larger than that of men in all three villages with women expending the bulk of their time in domestic activities vis-a-vis men who expend more time on personal activities. ANOVA tests reveal significant differences in average total time spent by men and women per day in all the three sampled villages. Therefore, hypothesis (1) which states that women's work burdens in the hill regions are higher than that of men can be accepted in the present study.

In terms of time spent per day, women in Samalbong and Sitong Khasmahal villages expend more time in crop production and livestock rearing whereas in Git Dubling Khasmahal village the opposite is true. The empirical study also reveals higher work participation rates for women in agriculture as compared to men in the three villages. Analysis of variance (ANOVA) tests however reveal statistically non significant results for the time spent by men and women in crop production and livestock rearing in all the three

villages. The study therefore partially accepts the hypothesis (2) that the labour input of women is higher than that of men in agricultural activities.

Among the several productive and non-productive activities that women perform household work which includes cooking, cleaning, washing, caring for children and elderly etc. is fundamental for sustenance of the family. The findings of the present study reinforce the fact widely prevalent in literature on women's work that women bear a disproportionate load of domestic work. The total time devoted by women to such activities is clearly much greater than that of men in all three villages with ANOVA test showing statistically significant results. The study therefore accepts the hypothesis that the labour input of women is higher than that of men in domestic work. The low participation of men in household activities is a reflection of societal norms which consider work within the household or the private space as feminine. Davies and Carrier (1999) observes that "gender division of labour within households are not manifestations of household needs, but a reflection and reinforcement of the much broader organisation of society around assumptions of gender which rationalises the gendered nature of domestic work as 'natural' and therefore 'inevitable' " (Davies and Carrier, 1999).

Since land in rural areas is a primary asset as it determines social status along with economic and political power, women's participation in rural areas may be determined by the amount of land owned by a household. However, the empirical evidence presented in the study does not provide conclusive results regarding increased participation of women in agriculture with increase in size of holdings and increased participation in non-agriculture for smaller sized holdings as the results do not hold uniformly for all the three villages under study. Further investigation on these aspects will be taken up in the later chapters through econometric analysis.

The present chapter, therefore highlights the crucial role of women in the rural hill economy. It can be concluded from the results presented above, that women in the hill regions have high involvement in agriculture and domestic activities, and they spend a major proportion of their time in domestic activities. Collection of resources for household maintenance further adds to their work burden due to depletion of forests, drying up of streams etc. as a consequence of climate change. Rural development policies therefore need to recognise and evaluate women's contributions in a suitable manner and focus on integrating their needs and problems in the development agenda for improving their status in society.

## Notes

1. Although ANOVA is fairly robust in terms of the error rate regarding violations of the assumption of homogeneity of variance for equal sample sizes, this is not so for unequal sample sizes. The assumption of homogeneity of variances can be tested using Levene's test, which tests the null hypothesis that the group variances are the same. A significant Levene's test ( $p$  value less than 0.05) implies violation of this assumption. In this case the *Brown-Forsythe F* or the *Welch's F* is calculated which have been found to be robust when homogeneity of variance assumption has been violated (Field, 2013). In the ANOVA tests conducted to test for differences in time spent by women according to size class in the three villages, the sample sizes are unequal. Hence Levene's test is conducted to check for homogeneity of variances. In instances where this assumption is violated, the *Brown-Forsythe F* has been considered instead of the  $F$ -statistic.
2. If ANOVA is conducted for more than two groups, then a significant  $F$ -statistic tells us that the means of the groups are different from each other, but does not provide any information as regards which groups are different from each other. To know which groups are different from each other a *post hoc* test is conducted which consists of pairwise comparisons of all the different combinations of the treatment groups. There are several *post hoc* tests. In this analysis the Games-Howell *post hoc* test has been chosen as it can be used in situations when population variances are different and is also accurate when sample sizes are unequal (Field, 2013).

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