

# Chapter 5

## Labour Use and Its Gender Composition

As indicated in Chapter 4, cultivation of vegetable crops is more labour intensive than conventional crops. The Seasonal Labour Requirement Index (Table 5.1) shows that the cultivation of peas requires 2.51 times more labour than wheat; capsicum requires 4.23 times more labour than paddy; and cauliflower requires 5.66 times more labour than *madua* (coarse millet). Total labour requirement is highest for capsicum (6,960 hours/ha) and lowest for *madua* (869 hours/ha). Average labour intensity over the time period is highest for tomatoes (1,385 hours/ha/month) and lowest for wheat (110 hours/ha/month). Further, the distribution of labour requirements over the cultivation period is uneven and skewed. Therefore, the actual intensity of labour requirement, during the time period when important farm activities are performed is very high. The conventional division of labour under which most of the farm activities were performed by women is no longer practicable and now almost all the farm activities are performed by males and females jointly. The commercialisation of agriculture has changed both the requirement and the composition of labour. This chapter attempts to evaluate the impact of commercialisation of agriculture on total labour requirements and level of employment and its composition. The methodology used has been described below.

- i) Although the involvement of male and female labour in different agricultural activities depends on gender composition of the family together with many other social, economic, behavioural, and situational factors and it may differ from family to family, attempts have been made to make a general analysis of the composition of labour. Five experienced and educated farmers from different villages were asked to make an estimate of the involvement of male and female labour (in terms of percentages) in different activities in cultivating different crops. These estimates were averaged and on that basis

**Table: 5.1: Labour Requirement and Labour Intensity for Different Crops**

Crop Season	Crop	Total Labour Requirement (hours/ha)	Seasonal Labour Requirement Index	Period of Cultivation (months)	Average Labour Intensity (hours/month/ha)
Winter	Wheat	879	100	8	110
	Peas	1998	251	6	333
Early Summer	Paddy	1646	100	7	235
	Capsicum	6542	423	7	934
	Tomatoes	6590	421	5	1318
	Chillies	5635	345	7	805
	Madua	869	100	5	174
Late Summer	Soyabean	1165	142	5	233
	Beans	1734	228	3	578
	Cauliflower	4442	566	3	1481
	Potatoes	3147	409	4	787

**Table: 5.2: Total Labour Requirements for Different Crops and Their Gender Composition (Hours/ha)**

Crops		Total Labour Hours	Male Labour	Female Labour	Female-Male Labour Ratio
<b>A: After Commercialisation</b>					
1.	Wheat	879	395	484	1.14
2.	Peas	1998	829	1169	1.41
3.	Paddy	1646	604	1042	1.73
4.	Capsicum	6542	3378	3164	0.96
5.	Tomatoes	6590	3295	3295	1.00
6.	Chillies	5634	2272	3362	1.48
7.	<b>Madua</b>	869	253	616	2.43
8.	Soyabean	1165	460	705	1.53
9.	Beans	1734	747	987	1.32
10.	Cauliflower	4442	2290	2152	0.94
11.	Potatoes	3147	1830	1317	0.72
<b>B: Before Commercialisation (Conventional Division of Labour)</b>					
1.	Wheat	879	298	581	1.95
2.	Paddy	1646	222	1424	6.41
3.	<b>Madua</b>	869	177	692	3.91

**Table: 5.3: Macro Estimates of Employment after Commercialisation**

Crops	Area under Cultivation (ha)	Labour Required (Hours Per ha)	Total Labour Requirement (thousand hours)		
			Male	Female	Total
<b>(A) Commercial Crops</b>					
1) Peas	230.95	1998	215	246	461
2) Capsicum	190.88	6542	636	612	1248
3) Tomatoes	135.72	6590	447	447	894
4) Chillies	29.29	5634	66	99	165
5) Soyabean	87.66	1165	40	62	102
6) Beans	110.33	1734	82	109	191
7) Cauliflower	88.68	4442	203	191	394
8) Potatoes	70.33	3147	128	93	221
<b>Total (A)</b>	<b>943.78</b>	<b>-</b>	<b>1817</b>	<b>1859</b>	<b>3676</b>
<b>(B) Cereals</b>					
1) Wheat	267.49	879	106	129	235
2) Paddy	142.55	1646	86	149	235
3) <i>Madua</i>	141.50	869	36	87	123
<b>Total (B)</b>	<b>551.54</b>	<b>-</b>	<b>228</b>	<b>365</b>	<b>593</b>
<b>Grand Total</b>	<b>1495.32</b>	<b>-</b>	<b>2161</b>	<b>2390</b>	<b>4551</b>
Omission Allowance			216	239	455
Total Estimated Employment			2377	2629	5006

**Table: 5.4: Estimate of Employment without Commercialisation**

Crops	Area under Cultivation (ha)	Labour Requirement (Hours/ha)	Total Labour Requirement (thousand hours)		
			Male	Female	Total
(1) Wheat	498.44	879	149	289	438
(2) Paddy	498.44	1646	110	710	820
(3) Madua	498.44	869	88	345	433
Total	1495.32	-	347	1344	1691
Omission Allowance 10%			35	134	169
Total Estimated Employment			382	1478	1860

the total per hectare labour requirement for cultivation of different crops has been divided in male and female labour components. Table 5.2 shows the composition of male and female labour under both the new and the conventional division of labour.

- ii) The total labour requirement in the study area or the total employment generated by different crops and its male and female composition have been estimated by multiplying the area under cultivation with per hectare labour requirements. Total employment generated under the new crop mix has been estimated and adjusted for a 10 per cent omission allowance. The results are shown in Table 5.3.
- iii) The total employment and its gender composition under the conventional crop mix has also been estimated using the same methodology. The results have been shown in Table 5.4.

### Impact of Commercialisation on Total Direct Employment

The total direct employment generated in the study area under the new crop mix is 5006,000 hours (Table 5.3), while total direct employment under the conventional crop mix was 1,860,000 hours. Therefore, the new crop mix has increased the employment opportunities by 2.69 times. The results of the sample survey (Table 5.5) shows that 61 per cent of the total population is under the working age-group (i.e., 14-60 years), therefore, the estimated number of agricultural workers in the area is 5,655<sup>4</sup>, and per worker employment availability is 885 hours per year.

### Impact on Gender Composition of Labour

Table 5.2 shows the ratio of female and male labour required for cultivation of different crops before and after commercialisation (i.e., under conventional and new division of labour). Conventional crops, in general, (except wheat) require a very large amount of female labour in comparison to male labour. Although the involvement of female labour is still more than male labour in many commercial crops, the level of disparity is not so high. Some commercial crops, such as capsicum, cauliflower, and potatoes, involve more male labour than female labour.

<sup>4</sup> Some of them, particularly school going children in the age-group of from 14-20, may not be full-time workers but they also participate in agricultural activities after school hours

**Table: 5.5: Summary of the Findings of the Survey and Estimates on Employment and Its Gender Composition**

1.	Increase in employment due to commercialisation	
	i) Male	6.22 times
	ii) Female	1.78 times
	iii) Total	2.69 times
2.	Total available employment in agriculture in the area under study (thousand hours)	2377
	i) Male	2629
	ii) Female	5006
	iii) Total	
3.	Total population of the area (estimated on 1.4 1997)	9271
4.	Population under the effective working age-group of 14-16 years:	
	i) Percentage (based on sample survey)	61%
	ii) Total	5655
5.	Gender composition of the workers	
	i) Male-female ratio [based on sample survey]	1:0.96
	ii) Male workers (51%)	2884
	iii) Female workers (49%)	2771
6.	Annual workload of workers in agriculture (hours)	
	i) Male	824
	ii) Female	949
	iii) Average	885
7.	Total available employment under the conventional crop mix and division of labour ('000 hours)	382
	i) Male	1478
	ii) Female	1860
	iii) Total	
8.	Annual workload under the conventional crop mix and division of labour	132
	i) Male	533
	ii) Female	329
	iii) Average	665

The total male employment under the conventional crop mix and division of labour was 382,000 hours, while under the new crop mix and division of labour, it is 2,377,000 hours. Therefore, male employment in agriculture has increased 6.22 times due to commercialisation and change in division of labour.

The total female employment under the conventional crop mix and division of labour was 1,478,000 hours while, under the new crop mix and division of labour, it is 2,629,000 hours. Therefore, women's work load in agriculture has increased 1.78 times due to commercialisation. The results of the sample survey show that the ratio of male to female workers is 1:0.96, therefore the estimated number of male workers in the area under study is 2,884 and the estimated number of female workers is 2,771. The annual workload of a male worker is 824 hours, while that of a female worker is 949 hours, so a woman has to work 1.15 times more than a man on the farm.



The annual workload of agricultural activities is not very high for either male or female workers<sup>5</sup>, but the women also have to spend a considerable amount of time in animal husbandry and household activities. Fodder was an important by-product of conventional crops. Its availability has decreased considerably after commercialisation, and women now have to spend more time collecting fodder from the forest. Commercialisation has increased the workload of women not only in farm activities but also in off-farm activities. Therefore, the actual workload of women is very high.



Male and Female Workers

### Seasonal Unemployment

Although men are also involved in off-farm activities, their actual annual workload is not as high as that of women. However, we cannot confirm the presence of disguised unemployment among male workers, at least not at micro-level, because the distribution of workload over the year has been quite uneven and skewed; and during the busy agricultural season it is hardly possible to displace a worker without loss in productivity. But, during the lean period (particularly from mid-November to mid-March), the level of farm activities is very low, therefore the male workers (and to some extent female workers) remain unemployed for most of the time during this period.

5 Although it is high compared to other studies carried out in the mountain region, e.g., Saraswat and Singh (1996, 229) report the annual workload of male and female workers as 395 and 388 hours respectively in Himachal Pradesh.