

# CHAPTER III

## DETERMINANTS OF EMPLOYMENT OF AGRICULTURAL LABOURERS

### 3.1 Introduction

This chapter deals with the determinants of employment of agricultural labourers in West Bengal, specially in Uttar Dinajpur Dinajpur district. Uttar Dinajpur is mainly agriculture based, therefore, the level of income of the rural labourers mainly depends on agricultural work. In recent years some changes are noticed in the agricultural sector. The labourers are not dependent solely on agriculture, but they usually do work in non-farm sector also. As we know that agricultural production depends on weather of the particular year or season, so the work participation of the agricultural workers also depends on weather. In generaly employment of the agricultural labpouers depends on various factors like:

- a) Seasonality
- b) Crop-variety
- c) Cropping intensity
- d) Weather
- e) Application of advance technology
- f) Availability of non-farm employment.

We shall discuss these factors one by one in this chapter.

#### 3.1.1 Seasonality

The employment of agricultural labourers depends on various factors among them, seasonality is very important as the agriculture is a seasonal phenomenon, which affects the demand for labour in agriculture.

Each agricultural season has two parts, peak season and slack season. During the peak season the demand for agricultural labour is high and the labourers get maximum days of employment in that period. Some researchers have tried to examine the aspects of employment of agricultural labourers in West Bengal, but no in-depth study has been made in West Bengal to examine the seasonal variation of employment in agriculture. The term 'season' includes different types of agricultural activities. The season starts with preparatory tillage and ending with harvesting,

carrying and threshing. Under each season, we have divided the agricultural activities into five categories: Preparatory tillage, ploughing, sowing, transplanting, weeding and harvesting, carrying and threshing. From our empirical evidence it is found that the female workers are not efficient in work like preparation of land, using manures in the field, ploughing etc. These are done only by male workers. But the works like weeding and transplanting are mainly done by female workers.

In West Bengal we have six seasons according to Bengali Calender, but in agriculture there are mainly four seasons, viz, *pre-kharif*, *kharif*, *Rabi* and *Boro*. In our study areas main crops are, paddy (*amon* and *Boro*), jute, wheat, millet, oilseeds, tea, pineapple and some vegetable crops like, potato, cabbage, cauliflower, tomato, radish, green chilly, brinjal, ginger etc. But paddy is the main crops in our study area and the agricultural labourers get maximum days of employment in the agricultural work like transplantation, harvesting, carrying, threshing etc.

**Table: 3.1 Classifications of Seasons of Study Area**

Duration	Season	Main crops grown
Mid-April to Mid-July,	Pre-Kharif	Jute
Mid July to Mid-Oct	Kharif	<i>Amon</i> paddy
Mid-Oct to Mid Jan	Rabi	Wheat, oilseeds, pulses
Mid-Jan to Mid April	Boro	Boro-paddy (HYV)

### 3.1.2 *Pre-Kharif*

During *pre-kharif* season, the main crop grown in the study area is jute. Some vegetable crops are also grown during this period, ranged from mid-April to mid-July. During this four seasons of a year, the employment of agricultural labourers is shown in Table 3.2. The Table shows that on an average agricultural labourer get employment for 80.36 days during *pre-kharif* period. The number of employment days available to a male agricultural labour was 115.36 days and female agricultural labour was employed for 45.37 days. The mid-May to mid-June of *pre-kharif* period was noted as peak period for the employment of agricultural labourers. Because during this period of *pre-kharif* season, agricultural activities like weeding, of jute, harvesting and carrying and threshing of *boro*-paddy is carried on. Employment availability has also been discussed on the basis of development of block in the area under study. Employment in agriculture per agricultural labourers are available for

79.67 days in the village under highly developed block and 76.77 days in the villages under moderately developed block, but it is less than the least developed block (81.50) days. The cause of high number of employment days in least developed block than the other's developed block, is because of spreading tea-garden in this area during the last few years.

### 3.1.3 *Kharif - Season*

During the *kharif* season, the main crop grown in the study area is *aman* paddy. During this period, some vegetables crops are also grown, *Kharif* season constitutes the period from mid-July to mid-October. An agricultural labourer gets employment for 21.02 days during *kharif* season. The male worker was employed for 22.05 days and female agricultural labour was employed for 20 days. In the villages under highly developed block, the male worker was employed for 21.05 days, which is higher than the moderately developed block and least developed block. The month of July-August were noted as peak period of *kharif* season and the labourers get more employment during this period. *Aman* paddy is the main crop under the study area during *kharif* season, transplantation of paddy, harvesting of jute and washing of jute is carried on in the peak period of *kharif* season.

### 3.1.4 *Rabi Season*

The crops grown in the area under study during rabi season are wheat, oilseeds and pulses. Some vegetables crops are also grown during this season. The *rabi* season includes the period from mid-October to mid-January. The availability of employment during the season is low compared to other season in the area under study (Table 3.2). An average agricultural labour got employment for an average of 33.00 days during this period. The male worker was employed for 43.67 days and female worker was employed for 21.50 days. The peak period of this season includes the months of mid-November to mid-December. The agricultural labourers get maximum days of employment during this period. The agricultural labourers get employment on an average for 36.19 days in the villages under highly developed block and 31.60 days in the villages under least developed block.

Here we can see that the days of employment for agricultural labourers under highly and moderately developed block are higher than the villages under least developed block.

**Table 3.2 : Average Number of Labour Days (Wage Employment of Agricultural Worker) Available Per Agricultural Labour During *Pre-Kharif, Kharif, Rabi and Boro* Across Village Under Highly, Moderately, And Least Developed Blocks of Uttar Dinajpur District**

Particulars	Villages (Jagadishpur and Kamalpur) Under Highly Developed Block			Villages (Alianagar and Dolua) Under Moderately Developed Block			Villages (Labazar and Solpara) Under Least Developed Block			All Villages/District		
	M	F	T	M	F	T	M	F	T	M	F	T
<i>Pre-Kharif</i>	111.84	47.50	79.67	100.5	53.04	76.77	114	49.00	81.50	115.36	45.37	80.36
<i>Kharif</i>	21.05	16.50	18.80	24.07	12.00	18.03	18.65	16.00	17.26	22.05	20.00	21.02
<i>Rabi</i>	46.61	25.77	36.19	38.34	22.67	30.50	47.06	16.05	31.60	43.67	21.50	33.00
<i>Boro</i>	52.59	19.00	35.72	46.54	23.00	34.57	49.19	18.00	33.50	49.77	20.00	35.00
<b>Total</b>	<b>232.09</b>	<b>108.77</b>	<b>170.33</b>	<b>207.45</b>	<b>107.71</b>	<b>157.37</b>	<b>228.9</b>	<b>99.05</b>	<b>163.26</b>	<b>230.85</b>	<b>106.87</b>	<b>169.42</b>
MEAN	58.02	27.20	42.60	51.86	27.00	39.34	57.22	24.76	40.81	57.71	26.71	42.35
S.D	33.25	12.20	22.53	29.36	15.31	22.00	20.47	18.51	23.98	34.84	10.79	22.63

Source : Field Survey.

### 3.1.5 *Boro Season*

The *boro* paddy is the main crop in the study area during this season. This season includes the period ranged from mid-January to mid-April. An average agricultural labourer get employment for 35.40 days in the *boro* season. The male workers get employed for 49.77 days and the female workers get employed for 20.00 days. The month of February was noted as the peak period for the *boro* season and the agricultural labourers got maximum days of employment during this period. The average number of days available per-agricultural labourer in the highly developed block during the *boro* season was 35.72 days that was higher than moderately developed block (34.47 days) and least developed block (33.50 days).

In the area under study, *pre-kharif* season is the busiest season of the year. The employment availability during this season is higher compared to the other season. During *pre-kharif* season, the agricultural labourers got employment 3.82 times higher than *kharif* season, 2.43 times higher than *boro* season. In the highly developed block, the employment days available to them during *pre-kharif* season was 4.23 times higher than *kharif*, 2.20 times higher than *rabi* and 2.23 times higher than *boro* season. In the moderately developed block, during *pre-kharif* season the agricultural labourers got

employment 4.14 times higher than kharif season, 2.51 higher than *rabi* season and 2.21 times higher than *boro* season.

In the village under least developed block, during pre-*kharif* period this agricultural labourers got employment 4.72 times higher than *kharif* season, 2.57 times higher than *rabi* season and 2.43 times higher than *boro* season.

### **3.1.6 Crop variety**

In the study area various crops are grown. Main crops in the study area is aman paddy and boro paddy. Other crops like, jute, *barley*, wheat, *musur*, *maskalai*, *khesari*, *til*, mustard, linseed and tea, pineapple grams etc. Moreover, some vegetables crops are also grown like, potato, tomato, cabbage, cauliflower, brinjal, ginger, termaric etc, which increases the labour demand and as a result number of employment days also increased.

### **3.1.7 Cropping Intensity**

In the study area, cropping intensity is increasing day by day. As the population as well as the number of agricultural worker is increasing and due to increase in population the demand for other essential goods is increasing it leads to multiple cropping in the same land in the same year. Higher cropping intensity demands higher labour requirements, and hence labourers are expected to be utilised to an increasing extent. (Pandya-1996). If this were realised, there would be an increase in the availability of employment in man-days per agricultural labourer.

### **3.1.8 Weather**

In the study area the crops which are grown mainly depend on weather. In the year where the weather is good (i.e. weather favourable to agriculture) the production or the yield rate in the net sown area is good. Till now agriculture in West Bengal as well as in the district of Uttar Dinajpur mainly depends on good monsoon, so the production and the agricultural work depend on it. Thus in the case of labor employment the good weather is a main factor among these factors.

### **3.1.9 Advanced Technology in Agriculture**

In our study area some advanced technology is also used in agriculture. By the term advanced technology we mean the use of high-yielding varieties of seeds

(HYVs), fertilizer, pesticides, irrigation facilities, use of agricultural implements like, tractor, power-tiller, thresher etc instead of traditional bullocks and plough and other traditional inputs. We noticed some changes in agricultural activities i.e., from traditional husbandry practices to improved practicism our study area.

A shift from traditional husbandry practices to improved practices is generally expected to increase cropping intensity. Higher the cropping intensity, higher would be the return from land that one may expect. And closer is the farming practice to 1 year, higher would be the realisation of yields, generally expected from HYVs, and hence higher would also be the return from HYVs, and hence higher would also be the return from land. If application of advanced technology (new technology) encourage higher cropping intensity and the realisation yields, usually expected from HYVs, it would enhance return of the farmers for which their ability to employ more labourers would rise. Adoption of improved technology would encourage multiple cropping thereby increasing the availability of work per agricultural labour, and new technology would give rise to multiplicity of agricultural activities, thereby enlarging the need of labour employment. The essential activities with HYV technology would increase the quantum of work. It is true that partial mechanisation may, to some extent, displace some labourers, but the displacement of labour may be more than compensated by an increase in cropping intensity and by a shifting in cropping pattern towards more labour absorbing crops brought about by certain mechanised operations. If, for example, it is found that tractor is utilised mainly for ploughing, then this type of mechanisation would be largely land augmenting and would promote timeliness in preparing through enhancing cropping intensity and through facilitating multiple cropping.

Moreover, when HYV technology increase quantum of work, family labour alone may be found inadequate to perform the entire work. Hence, labourers are to be hired, leading to increased demand for labour. In addition, larger volumes of production associated with higher yields of crops as well as with multiple cropping would enhance the incomes of the farmers from land and consequently the demand for labour would increase too.

### 3.1.10 Application of Advanced Technology in Agriculture

It is usually held that the process of relative impoverishment of small peasants and the swelling of the rank of agricultural labourers are complementary to the process of capitalist and large-scale production (Krishnaji, N. 1990, p. 1037). It needs to be examined in the present context of our analysis as to how the capitalist production in agriculture and in the growing force of agricultural labour has been complementary to each other in the district of Uttar Dinajpur and West Bengal as a whole. We consider the periods for our analysis from 1960-61 to 2000-01. New agricultural technology includes use of HYV seeds, chemical fertilizer, pesticides and proper irrigation facilities etc. Table 3.3 shows the area under HYV seeds increased over the year both in Dinajpur and in West Bengal. The introduction of cultivation of HYV food crops gradually spreads in West Bengal and began to be practiced mainly well-to-do farmers and efficient and hard working farmers in the 1980's and 1990's. Under this condition, agricultural production with wage labour is best regarded as constituting a necessary but not sufficient condition of capitalist production: a condition for defining agrarian capitalism emerges only when the employment of hired labour is accompanied by accumulation, i.e., reinvestment of surpluses and expansion (Patnaik, 1983).

**Table 3.3 Area Under High Yielding Varieties (HYV) of Seeds of Principal Crops (Rice and Wheat) in West Bengal (Area in Thousand and Hectares)**

Year	Rice		Wheat	
	HYV Area	Percentage of Total Area	HYV Area	Percentage of Total Area
1975-76	1052.10	19.30	561.70	99.36
1980-81	1531.90	29.60	283.00	100.00
1990-91	3256.90	56.03	269.00	100.00
2000-01	4831.90	88.57	426.00	100.00

Source : Various Issues of Statistical Abstract, Government of West Bengal.

Previously land was cultivated on the basis of *Jotedari-adhiary* system in the district level, which was attacked after enactment of the Land Reform Act 1955. *Jotedar* turned into big landowner and started self-cultivation by using hired labour especially after Operation Barga Programme of Left Front Government. Some hard-working and efficient *jotedars* evicted the *adhiars* in order to escape the laws regarding the recording of the names of sharecroppers. They have money and capital and adopted new HYV techniques of production. New entrepreneur who adopted the HYV programmes of crop raising, evicted the traditional sharecroppers either through mutual agreement or under oppression. The above-mentioned investigation revealed that a part of this dispossessed labour force was engaged as agricultural labourers in the modernized farm of the new entrepreneur (Bandyopadhyay, N. 1977, p. 177). On the other hand, some gentlemen *jotedars* were not able to evict their *adhiars* from their land. They also started self-cultivation by using hired labour in some parts of their land. They also adopted new techniques of production to some extent but they are not able to earn profits because they are not so efficient and hard working. After few years, they were converted into small and marginal farmers. In the study areas, some descendents of *jotedars* were converted into landless agricultural labourers. On the other hand, the small and marginal farmers follow the traditional method of production due to lack of capital. The land holding size of small and marginal farmers are not viable to adopt new technique of production. There is ample evidence to suggest that small and marginal farms are mostly economically non-viable among others (Bharadaj, 1974; Vyas, 1976). The returns on such farms are so meagre that incomes earned from such farms are inadequate to meet the subsistence needs of the farmer family. They are bound to hire out their labour on the farm of others.

**Table 3.4 Yield Rate of Principal Crops (Rice and Wheat) Both in West Bengal and Uttar Dinajpur District (Kgs. Per hectare)**

District/ State	1960-61		1970-71		1980-81		1990-91		2000-01	
	Rice	Wheat	Rice	Wheat	Rice	Wheat	Rice	Wheat	Rice	Wheat
Uttar Dinapur Dakshin Dinajpur	955	-	1100	2530	1064	2445	1608	2397	2220 2218	2300 2461
West Bengal	1184	743	1239	2410	1442	1672	1795	1970	2287	2485

Source : Various Issues of Statistical Abstract, Government of West Bengal.



Table 3.4 shows that yield per hectare increased over the years both in West Bengal and Dinajpur district. The new technology is widely recognized to be land augmenting in character, i.e. it raises the yield on a given area from a given crop, while permitting also multiple-cropping of a given area. Cultivation with the help of hired labour has become more beneficial as compared to the leasing of land. As a result, the sharecroppers are also being reduced to agricultural labourers. The benefit of the adoption of modern technology has also gone mainly to the well off farmers.

## **3.2 Non-farm Employment of Agricultural Labourers**

### **3.2.1 Introduction**

We know from our practical evidence that in rural Bengal, the population as well as the number of rural workers is increasing at an increasing rate. But in rural Bengal, agriculture is the only source of their subsistence. In recent agriculture alone can't absorb maximum number of rural worker. So they have to search another source of income beyond agriculture, i.e., on non-farm employment. Thus as a long-term strategy, non-farm avenues of employment and earnings are must for rural household (Chadda, 1998). The level and growth of non-agricultural sector are land productivity, crop diversification, rural inequalities pertaining to land, asset, and literacy and so on. Vaidyanathan (1986), have tried to understand the nature of emerging of non-agricultural sector, that is whether it is due to 'distress diversification' or due to the emergence of a dynamic viable of non-agricultural sector (or relative importance of push and pull factors). It must, however, be stated that research in this area is constrained by limitation of data, conceptual ambiguities and often proxy variables are substituted for want of information on relevant categories (Basu and Kashyap, 1992).

In rural West Bengal near about 58.6 percent of rural population mainly depends on agricultural work. In West Bengal the growth of agricultural production is declining over the decades due to heavy pressure of population on land, small and fragmented holdings of land, no sufficient irrigation facilities, uncertain weather etc. The annual compound growth rate of food grains in our state between 1980-81 and 1989-90 was 6.46 percent, which declined to 2.52 percent between 1990-91 and 1999-00, showing a clear fall of about 4.00 percent. As a result rural people depends on non-farm employment for this subsistence. Thus, the policy-makers and planner

has given their attention on rural non-farm sector, of its potential role to generate income and employment.

### 3.2.2 Worker Population Ratio

To understand the changes in the size of both farm and non-farm employment in the rural economy, the worker population ratio (UPR) or the workforce participation rate is essential. Table 3.5 shows the changes in the worker population ratio of West Bengal and in different blocks of Uttar Dinajpur districts during 1971 to 2001. Table 3.5 shows that

worker population ratio in West Bengal has been near stagnant between 1971 and 2001 although the census 1991 provides significant departure from this trend accounting for workers participation ratio of 30.61 percent as against 27.19 percent for 1971. From the Table 3.5, we can notice that the ratio also varied across gender. For rural males, the ratio increased from 48.48 percent in 1971 to 51.8 percent in 1991 but declined to 45.76 percent in 2001. For rural females workers participation ratios increased from 4.58 percent in 1971 to 8.74 percent in 1991 and then further rose to 9.08 percent in 2001. Thus in respect of females workers workforce participation rate, increased continuously throughout the period in rural West Bengal. The workforce participation rate for females rural workers of Uttar Dinajpur district has also been increasing throughout the period from 2.21 percent in 1971 to 9.43 percent in 1991 and then further rose to 11.38 percent in 2001. The ratio has been continuously increased upto 1991 from 53.03 percent in 1971 to 55.25 percent in 1991 but it declined in 2001 to 46.35 percent. The worker population ratio of Uttar Dinajpur district has also been increased from 28.75 percent in 1971 to 33.19 percent in 1991 but in 2001, it marginally declined to 29.36 percent. In the block level analysis during the period 1991 and 2001, we find that worker participation rates is higher in highly developed block as compared to moderately and least developed block but during the period from 1971 and 1981 the ratio has shown no clear trend for, highly, moderately and least developed block.

Table : 3.5

## Worker Population Ratio Across the Blocks of Uttar Dinajpur District and in West Bengal (in percentage)

Blocks/Districts	1971			1981			1991			2001		
	Person	Male	Female	Person	Male	Female	Person	Male	Female	Person	Male	Female
Kalyaganj	29.39	53.81	3.13	31.37	55.22	5.76	35.43	56.71	12.45	34.01	52.08	14.85
Raiganj	28.94	52.15	3.02	29.62	51.16	6.39	35.24	54.39	14.4	30.77	47.71	12.74
Hemtabad	29.01	52.62	3.19	30.58	53.09	6.1	33.88	55.02	11.11	29.5	47.53	10.37
<b>Highly Dev. Blocks</b>	29.18	52.86	3.11	30.52	53.16	6.08	34.85	55.37	12.65	31.43	49.11	12.65
Itahar	27	50.62	2.18	28.19	51.59	3.84	34.82	56.68	12.2	30.32	48.07	11.83
Karandighi	27.6	51.63	1.77	30.43	53.34	6.18	33.2	54.15	10.79	28.6	43.2	13.22
Chopra	29.32	54.07	1.63	30.1	54.58	3.45	31.07	54.47	5.75	27.02	44.48	8.4
<b>Mod.Developed Blocks</b>	27.97	52.12	1.86	29.57	53.17	4.49	33.03	54.77	9.58	28.65	45.25	11.15
Goalpukhar-I	29.52	54.71	1.79	31.79	58.04	3.75	32.78	57.25	6.29	31.66	47.43	14.91
Goalpukhar-II	29.54	54.24	2.82	30.1	54.95	3.45	32.38	56.17	6.86	25.62	43.85	6.23
Islampur	28.98	54.42	0.68	29.05	54.38	1.88	29.01	53.01	3.28	26.95	44.52	8.4
<b>Least Dev. Blocks</b>	29.35	54.46	1.76	30.31	55.79	3.03	31.39	55.48	5.48	28.08	45.27	9.85
District	28.75	53.03	2.21	30.06	53.91	4.54	33.19	55.25	9.43	29.36	46.35	11.38
West Bengal	27.19	48.48	4.58	28.04	48.12	6.19	30.61	51.18	8.74	27.89	45.76	9.08

Source: Census Reports 1971, 1981, 1991, 2001

### 3.2.3 Growth of Non-Agricultural Workers

By non-agricultural worker, we mean a person who is engaged in different non-agricultural activities like mining and quarrying, household and non-household manufacturing processing, repairs, construction, trade and commerce, transport and other services in rural and urban areas. Though there is no major contention on the categorization of rural activities into farm and non-farm, there are significant difference in the ways researchers and policy-makers define the non-farm sector. In fact NABARD is the first agency to use the term, 'non-farm sector'. It defined the term rural non-farm sector encompassing all rural industries and services. For the purpose of our study, we define non-agricultural activities covering all those activities which are undertaken outside agriculture. Table 3.6 presents data on the percentage of non-agricultural workers in the rural workforce at block level, which have been arranged in to highly developed block, Kaliaganj, Raiganj, Hemtabad; moderately developed block – Itahar, Chopra and least developed block – Goalpukhar I, Goalpukhar-II and Islampur. The share of non-agricultural employment in employment is larger in highly developed block compared to moderately developed block and least developed block, in 1971, 1981 and 1991. The share, non-agricultural workers in highly developed block increased from 9.71 percent in 1971 to 19.07 percent in 2001. In the case of males, it increased from 9.4 percent in 1971 to 21.55 percent in 2001. In the case of females, it declined from 15.47 percent in 1971 to 13.83 percent in 2001. For moderately developed and least developed block, the share of females in non-agricultural employment shows no clear trend over the decades, but the share of males in non-agricultural employment increased over the periods. In 1971, the share of non-agricultural workers varies from 5.19 percent in Hemtabad block to 15.85 percent in Raiganj block.

In 1981, the share of non-agricultural employment varies from 9.80 percent in Islampur block to 13.20 percent in Raiganj block. In 1991, it varies from 17.02 percent in Kaliyaganj to 44.86 percent in Chopra block. Therefore, Raiganj block continue to occupy the top rank in terms of the share of rural non-farm employment during 1971 and 1981 but Chopra block occupies the top rank during 1991 and 2001. This share of non-agricultural workers in total workers

**Table : 3.6 Percentage of Rural Non-Farm Workers in the Rural Workforce Across the Blocks of Uttar Dinajpur District and West Bengal**

Blocks/Districts	1971			1981			1991			2001		
	Person	Male	Female	Person	Male	Female	Person	Male	Female	Person	Male	Female
Kalyaganj	8.08	7.52	18.61	9.25	8.74	14.51	14.31	13.52	18.18	17.02	19.26	12.75
Raiganj	15.85	15.62	20.19	13.19	13.2	13.1	16	17.82	8.49	21.76	25.05	14.74
Hemtabad	5.19	5.06	7.62	9.87	9.35	14.86	15.75	15.3	18.15	18.43	20.34	13.97
<b>Highly Dev. Blocks</b>	9.71	9.4	15.47	10.77	10.43	14.16	15.35	15.55	14.94	19.07	21.55	13.83
Itahar	7.44	7.11	15.55	9.74	8.88	21.81	9.98	10.22	8.73	18.36	20.27	15.33
Karandighi	7.5	7.15	19.94	9.24	7.86	21.82	12.35	9.29	28.78	31.93	21.81	50.3
Chopra	10.55	9.33	55.97	12.92	12.19	25.52	20.09	18.52	36.2	44.86	42.24	54.6
<b>Mod.Developed Blocks</b>	8.5	7.86	30.49	10.63	9.64	23.05	14.14	12.68	24.57	31.72	28.11	40.08
Goalpukhar-I	7.64	7.08	26.51	10.24	7.88	49.24	12.25	10.61	28.36	18.71	18.68	21.18
Goalpukhar-II	6.49	6.38	8.75	9.98	9.77	13.44	7.22	7.47	5.06	18.3	17.13	22.09
Islampur	6.36	6.26	69.21	9.8	8.73	42.88	11.95	11.44	20.75	24.32	23.68	26.43
<b>Least Dev. Blocks</b>	6.83	6.57	34.82	10.01	8.79	35.19	10.47	9.84	18.06	20.44	19.83	23.23
U.Dinajpur District	8.3	8.01	17.14	10.58	9.67	22.09	12.18	11.65	15.49	23.53	23.13	24.4
West Bengal	18.21	18.4	16.01	26.21	25.35	33.46	26.48	26.36	27.15	41.4	40.17	44.76

Data Source: Census Reports 1971, 1981, 1991 and 2001.

increased over the decades in both West Bengal and Uttar Dinajpur districts but the share of non-agricultural workers in total workers of Uttar Dinajpur districts is lower than the West Bengal level in all decades.

### **3.2.4 Determinants of Non-Agricultural Employment**

The share of non-agricultural activities in the total work force has been increasing over the census period. The shift of workforce from agriculture to non-agriculture sector gives rise to many questions from agricultural sector to non-agriculture sector or whether it is an outcome of excessive demographic pressure coupled with growing inability of agriculture to further absorb the expanding labour force. Moreover, there are considerable variations in the incidence of non-agricultural employment across the block of Uttar Dinajpur district as observed earlier. As a researcher, we are interested to identify the factors responsible for observed variations in the share of non-agricultural employment across the blocks of this district. Scholars have identified large number of factors in the literature to explain regional variation in non-agricultural employment. Such factors included both development and distress factors which sometimes operate in a mutually reinforcing way (Vaidyanathan,1986). The development factors like agricultural modernization and commercialization, urbanisation, growing literacy have tried to pull the rural households to go in search of various non-agricultural activities (Dev, 1990, Unni 1991, 1992a, 1992b). At the same time, distress factors like poverty, unemployment/under employment due to the inability of agriculture to absorb the surplus labour have tried to push the rural households to go in search of various non-agricultural activities and thus tended to act as a sponge for the surplus labour. This has been termed as the residual sector-hypothesis and suggests a distressed – induced growth of the non-farm sector (Vaidyanathan, 1986, Dev, 1990).

### **3.3 Sector Wise Distribution of Rural Workers by Sex of Uttar Dinajpur District and West Bengal**

Uttar Dinajpur district is predominantly an agricultural district. But the agricultural activities are decreasing day by day due to expansion of the non-agricultural sector. The agricultural labourers are also want to absorb them in non-agricultural work as it is more wage oriented than agricultural work .

**Table 3.7**

**Sector wise Distribution of Rural Workers by Sex of Uttar Dinajpur District**

Industry Group	1971			1981			1991			2001		
	Person	Male	Female	Person	Male	Female	Person	Male	Female	Person	Male	Female
1. Agriculture	91.71	92.01	83.86	89.43	90.33	77.90	87.82	88.35	84.49	76.47	76.87	75.59
i. Cultivators	60.60	62.12	20.81	50.46	53.31	14.22	45.92	50.55	16.60	32.70	37.87	21.52
ii. Ag.Labourers	30.53	29.43	59.41	38.97	37.02	63.68	40.89	36.84	66.57	43.77	39.00	54.07
iii.Livestock, Forestry, Fishing.	0.58	0.46	3.64	...	...	...	1.01	0.96	1.32	...	...	...
2. Non-Agriculture Activities	8.3	8.01	17.14	10.58	9.67	22.09	12.18	11.65	15.49	23.53	23.13	24.41
i. Mining and Quarrying	0.01	0.02	...	...	...	...	0.01	0.01	0.01	...	...	...
ii. All Manufacturing	1.94	1.68	8.68	...	...	...	4.19	2.95	11.98	...	...	...
3. Household Manufacturing	0.97	0.77	6.32	1.81	1	12.1	1.6	0.9	6.01	3.7	1.51	8.43
i. Non-Household Manufacturing	0.97	0.91	2.36	...	...	...	2.59	2.05	5.97	...	...	...
4. Construction	0.11	0.11	0.09	...	...	...	0.44	0.49	0.1	...	...	...
5. Trade and Com.	1.61	1.63	1.09	...	...	...	3.07	3.41	0.93	...	...	...
6. Transport & Communication	0.42	0.43	1.17	...	...	...	1.06	1.23	2.44	...	...	...
7. Other Services	4.21	4.14	6.11	...	...	...	3.41	3.56	2.44	...	...	...
8. Other Workers	...	...	...	8.77	8.67	9.99	...	...	...	19.84	21.63	15.98

**Data Source : Census Reports 1971, 1981, 1991 and 2001.**



From the Table 3.7, we can see that the agricultural labourers engagement in agriculture is increasing over the census decades whereas the engagement in non-agriculture is also increasing over the census years. We also noticed from the Table (3.7) that overall engagement in agriculture is decreasing. Here we may say that the numbers of agricultural workers is increasing, the cause may be the population growth and seasonality of non-farm employment. In 1971, the numbers of workers engaged in agriculture was 91.71, in 1981 it was 89.43, in 1991 it was 87.82 and in 2001 it was 76.47. In the case of cultivator, in 1971, the number of workers engagement in cultivation was 60.60, 1981 it was 50.46, in 1991 it was 45.92 and in 2001 it was, 32.70. So the number of cultivator is decreasing, the cause may be the use of bullock and plough has become out of date and time consuming, whereas use of tractor, power tiller is time saving and profitable. From the Table (3.7) we see that the number of agricultural labourers is not decreasing on the contrary it is increasing over the census decades. In 1971, the number of agricultural labourers, engaged in agricultural work was 30.53, in 1981 it was 38.97, in 1991 it was 40.89, in 2001 it was 43.77. So, the participation of agricultural labourers is increasing over the decay in agricultural work. In the case of non-agriculture, it also shows the increasing trends of engagement of rural workers. In 1971, the number of rural workers engaged in non-agriculture was 8.30, but in 1981, 1991 and 2001 it was 10.58, 12.18 and 23.53 respectively. But in the other sector like, mining and quarrying, manufacturing, construction, trade and commerce, transport and communication – other works not shown any clear trend in rural workers engagement.

Sector wise distribution of rural work force by sex in West Bengal shows the different picture than the district level in case of agriculture. It is important to note that the share of agriculture in rural employment declined during the period 1971 – 2001, the rate of decline being sharp between 1991-01, both in West Bengal and Uttar Dinajpur district. It was primarily on account of cultivator category; the proportion of agricultural labourers has remained almost constant as also of agricultural related activities in West Bengal but in Uttar Dinajpur district, the proportion of agricultural labourers has increased as also of agriculture related activities. Across males and females, it was quite sharp for

the latter. At the same time, the proportion of non- agriculture sector in the rural employment has increased both in West Bengal and Uttar Dinajpur district. Here again, the growth rate was sharp for female workers.

**Table 3.8: Sector wise Distribution of Rural Workers by Sex in West Bengal (in Percentage)**

Industry Group	1971			1981			1991			2001		
	Person	Male	Female	Person	Male	Female	Person	Male	Female	Person	Male	Female
1. Agriculture	81.79	81.6	83.99	73.79	74.65	66.54	73.52	73.64	72.85	58.6	59.83	55.24
i. Cultivators	43.07	45.57	14.93	40.2	42.87	18.09	37.97	40.88	19.86	25.52	28.71	16.81
ii. Ag.Labourers	34.99	33.26	54.51	33.58	31.79	48.44	32.24	30.04	45.89	33.08	31.12	38.43
iii.Livestock, Forestry, Fishing.	3.73	2.76	14.55	...	...	...	3.31	2.71	7.09	...	...	...
2. Non-Agriculture Activities	18.21	18.4	16.01	26.21	25.35	33.46	26.48	26.36	27.15	41.4	40.17	44.76
i. Mining and Quarrying	1.2	1.23	0.81	...	...	...	0.43	0.47	0.21	...	...	...
ii. All Manufacturing	6.3	6.21	7.33	...	...	...	10.44	9.11	18.75	...	...	...
3. Household Manufacturing	2.64	2.44	4.89	3.55	3.02	7.89	4.22	3	11.84	7.85	4.15	17.94
i. Non-Household Manufacturing	3.66	3.77	2.44	...	...	...	6.22	6.11	6.91	...	...	...
4. Construction	0.54	0.56	0.21	...	...	...	1.24	1.41	0.19	...	...	...
5. Trade and Com.	3.01	3.17	1.24	...	...	...	5.98	6.63	1.92	...	...	...
6. Transport & Communication	1.37	1.46	0.38	...	...	...	2.15	2.48	0.12	...	...	...
7. Other Services	5.79	5.76	6.03	...	...	...	6.23	13.95	5.96	...	...	...
8. Other Workers	...	...	...	22.67	22.32	25.56	...	...	...	33.55	36.02	26.82

Data Source: Census Reports 1971, 1981, 1991 and 2001.

Within the rural non-agriculture ( Table 3.7 and Table 3.8 ) sector, the share of tertiary sector was higher than that of the secondary sector both in Uttar Dinajpur district and in West Bengal. Manufacturing household and non-household accounts for larger share in the secondary sector. In the tertiary sector, other services constituted major share followed by trade and commerce.

Among the non-agricultural activities manufacturing constituted large share followed by other services, trade and commerce. All these are clear from 1991 census data. The proportion of rural workers engaged in manufacturing activities accounted for 10.44 percent in 1991 census, followed by other services 6.23 percent and trade and commerce 5.98 percent in West Bengal. The share of female rural workers accounted for 18.75 percent in manufacturing sector against the corresponding figure of 9.11 percent for males in West Bengal. In the case of other services, the share of males was 13.95 percent for females it was 5.96 percent.

Non-agriculture sector in West Bengal increased to 8.27 percentage points during 1971-1991 and 14.92 percentage points during 1991-2001. From the Table 3.8, we can say that the tertiary sector which accounted for the major non-agriculture sector recorded an increase of 4.19 percentage points during 1971-1991 and secondary sector increased by 4.07 percentage points during 1971-1991. During same period, within the tertiary sector, trade and commerce recorded highest growth of 2.97 percentage points followed by transport and communication (0.78 percentage points). Manufacturing the single largest non-agricultural activity recorded an increase of 4.14 percentage points during 1971-1991.

### **3.4 Trends in Employment of Agricultural Labourers in Agriculture and in Non-Agriculture**

Table 3.9, shows that the trend in the total number of employment days available to adult male and adult female agricultural labourer in agricultural and in non-agricultural activities and also the changing importance of different sources of employment like wage paid employment and self-employment in West Bengal since 1974-75. In the case of agricultural activities, total number of employment days available to an adult male and female agricultural labourer

declined and the share of wage paid employment in total employment for both male and female agricultural labourer declined to the extent of around 5 percentage points or even less. For non-agricultural employment we can see from the Table 3.9 that in case of male agricultural labour it was 23 days, for female labourers it was 9 days in 1974-75. And in 1977-78 employment days available for male agricultural labourers was 12, for female it was 20 days. In 1987-88, it was 12 days for male, followed by 8 days for female. In the year 1993-94, the employment days available for male and female agricultural labourers was 17 and 32 respectively. From the Table 3.9, it is clear that availability of employment days is higher in wage employment than in self-employment for the agriculture for both male and female agricultural labourers spent the major portion of their work-time on wage paid agricultural employment; the share of self-employment in agriculture is very marginal. In the case of non-agricultural activities the share of wage employment in total employment exceed the share of self-employment in 1974-75, for male agricultural labourers but it is less for female agricultural labourers. In 1977-78 for both the case of male and female agricultural labourers wage employment is higher than the share of self-employment. But in 1987-88, the share of wage employment is less than self employment for both male and female agricultural labourers. For the year 1993-94, the share of self-employment for male agricultural labourers exceeds wage employment but in the case of female agricultural labourers share of wage employment exceeds self-employment.

**Table 3.9 : Employment - Days (Annual) Available Per Agricultural Labourers in West Bengal**

	1974-75		1977-78		1987-88		1993-94		1999-00		2004-05
<b>A. Agriculture</b>	M	F	M	F	M	F	M	F	M	F	M
a. Wage Employment	210 (82.68)	149 (81.42)	242 (83.45)	203 (83.88)	241 (83.10)	187 (93.63)	222 (77.35)	160 (76.92)	231 (83.69)	212 (92.57)	305 (89.44)
b. Self employ- ment	13 (5.12)	11 (6.81)	28 (9.65)	15 (6.20)	2 (8.28)	5 (2.49)	30 (10.45)	7 (3.37)	30 (1.08)	14 (3.13)	3 (0.87)
Sub-total	223 (87.86)	160 (87.43)	270 (93.10)	218 (90.08)	265 (91.38)	192 (95.52)	252 (89.80)	167 (80.29)	261 (94.56)	22 (98.68)	308 (90.30)
<b>B. Non-agriculture</b>											
a. Wage employment	23 (9.65)	9 (4.92)	12 (4.14)	20 (8.26)	12 (4.14)	8 (3.98)	17 (5.92)	32 (15.38)	4 (1.45)	3 (1.31)	11(9.22)
b. Self-employment	8 (3.15)	14 (7.65)	8 (2.76)	4 (1.65)	13 (4.48)	1 (0.50)	18 (6.27)	9 (4.32)	11 (3.98)	-	20(5.86)
Sub-total	31 (12.20)	23 (12.57)	20 (6.91)	24 (9.90)	25 (8.62)	9 (4.18)	35 (12.19)	41 (19.71)	15 (5.43)	-	20(5.86)
<b>Total</b>	<b>254 (100)</b>	<b>183 (100)</b>	<b>290 (100)</b>	<b>242 (100)</b>	<b>290 (100)</b>	<b>201 (100)</b>	<b>207 (100)</b>	<b>258 (100)</b>	<b>276 (100)</b>	<b>229 (100)</b>	<b>341 (100)</b>

Source : Rural Labour Enquiry Reports on Employment and Unemployment : 1974-75, 1977-78, 1987-88, 1993-94, 1999-00, 2004-05.

In 2004-05, wage employment in agriculture is higher than in 1999-2000 figure. But in the case of self-employment the figure is reverse. That in the employment days available for male percentage points in 2004-05 is more than that in 1999-2000, but it is not true for female agricultural labourers. In non-agriculture both wage employment and self-employment is higher in 2004-05 than in 1999-2000 for male agricultural labour but it is not true for female agricultural labourers.

### 3.4.1 Employment Days Available Per Agricultural Labourers in Uttar Dinajpur District

It may be seen that the agricultural labourers besides being mainly employed in agricultural occupations were also marginally engaged in non-agricultural pursuits. The details of wage-paid employment of man and woman agricultural labourers belonging to rural labour households in respect of agriculture and non-agricultural employment are depicted in the following tables.

**Table 3.10 : Employment Days (Annual) Available Per Agricultural Labourers in Surveyed Villages (Jagadishpur and Kamalpur) Under Highly Developed Blocks (Raiganj and Hemtabad)**

I. Nature of Employment	Male	Female	Person
<b>Non-Agriculture</b>			
a. Self-Employment	10.12(3.93)	18.08(12.03)	14.15(6.89)
b. Hired-Out Employment	15.08(5.86)	22.72(15.19)	18.90(9.29)
<b>Sub total</b>	<b>25.20(9.79)</b>	<b>40.80(27.27)</b>	<b>33.05(16.24)</b>
2. Agricultural Employment	232.09(90.20)	108.77(72.72)	170.38(83.70)
<b>Total :</b>	<b>257.29(100)</b>	<b>149.57(100)</b>	<b>203.43(100)</b>

Source : Field Survey.

Agricultural labourers got about 20 percent of annual employment from non-agricultural employment (Table 3.13). Out of this, the share of self-employment is 7.89 percent and share of hired out employment is 12.02 percent. In the case of male agricultural labourers, the share of self-employment (4.42 percent) is less than hired out employment (11.87 percent). In the case of female

agricultural labourers, the share of self-employment is (14.15 percent) is higher than hired out employment (12.45 percent).

**Table 3.11 : Employment Days (Annual) Available Per Agricultural Labourers in Surveyed Villages (Alianagar and Dolua) Under Moderately Developed Blocks (Karandhighi and Chopra) of Uttar Dinajpur District**

1. Nature of Employment	Male	Female	Person
<b>Non-Agriculture</b>			
a. Self-Employment	15.00(5.98)	20.34(14.21)	17.61(8.98)
b. Hired-Out Employment	38.00(15.17)	15.95(11.14)	26.97(13.70)
<b>Sub total</b>	<b>43.45(17.38)</b>	<b>35.09(24.73)</b>	<b>39.42(20.23)</b>
2. Agricultural Employment	207.45(82.83)	107.71(75.26)	157.37(79.97)
<b>Total :</b>	<b>250.45(100)</b>	<b>143.00(100)</b>	<b>196.77(100)</b>

Source : Field Survey.

Availability of employment from non-agricultural activities has also been discussed on the basis of development of block. In the highly developed block (Table 3.10) an average agricultural labourer is employed for 33.05 days in non-agricultural activities annually, which is less than the moderately developed block (39.42 days) (Table 3.11) as well as least developed block (48.62 days) (Table 3.12). The variation in employment of agricultural labourers in non-agricultural sectors is due some reasons. The first one is, the location. The two block, namely, least developed and moderately developed are located at the border of the Darjeeling district. Tea plantation spread over these two blocks with a tremendous speed within a few years. For this reason some labourers are also engaged in the tea factory which are established in a good number in these block. Other reason is the participation of the rural agricultural labourers of these two villages in the non-agricultural activities. Another reason is that among two block (moderately and least developed block) one is located near Siliguri town and other one is located near Islampur sub-divisional town. So, usually the rural agricultural labourers of these two block migrated to Siliguri and Islampur to work as rickshaw puller and sometimes migrated outside the state like Punjab, Delhi, Kerala, Maharashtra to be engaged in like, construction work, factory work and also in some hotel work .



**Table 3.12 : Employment Days (Annual) Available Per Agricultural Labourers in Surveyed Villages. (Lalbazer and Solpara) Under Least Developed Blocks (Islampur and Goalpukar-I) of Uttar Dinajpur District**

1. Nature of Employment	Male	Female	Person
a. Self-Employment	6.72(5.96)	15.12(10.47)	15.92(7.48)
b. Hired-Out Employment	35.28(12.56)	30.13(20.88)	32.70(15.38)
<b>Sub total</b>	<b>52.00(18.51)</b>	<b>45.25(31.35)</b>	<b>48.62(22.86)</b>
2. Agricultural Employment	228.40(81.48)	99.05(68.64)	163.26(76.79)
<b>Total :</b>	<b>280.90(100)</b>	<b>144.30(100)</b>	<b>212.60(100)</b>

Source : Field Survey.

Among all others non – farm work they engaged most of the time in *kuchha* house reparing or construction work because most of the rural houses of two block were made by bamboo, so the durability of these houses is shorter as compared to mud houses. It is necessary to repair or re-construct these houses at every one or two years. So the scope of non-agricultural activities in the least developed block is higher than the moderately and highly developed block. On the other hand, most of the houses made of materials other than bamboo like mud and others are more durable compared to bamboo made houses.

**Table 3.13 : Employment Days (Annual) Available Per Agricultural Labourers in All Surveyed Villages/Blocks of Uttat Dinajpur District**

Nature of Employment	Male	Female	Person
<b>1. Non. Agriculture</b>			
a. Self-Employment	12.19(4.42)	20.61(14.15)	16.74(7.89)
b. Hired-Out Employment	32.74(11.87)	18.14(12.45)	25.49(12.02)
<b>Sub total</b>	<b>44.90(16.28)</b>	<b>38.75(26.60)</b>	<b>42.53(20.06)</b>
<b>2. Agricultural Employment</b>	230.85(83.71)	106.87(73.38)	169.47(79.93)
<b>Total :</b>	<b>275.75(100)</b>	<b>145.62(100)</b>	<b>269.00(100)</b>

Source : Field Survey.

From the above Tables (Table no. 3.10, 3.11, 3.12 and 3.13), we can see that the majority of agricultural labourers were under employed since on an average

From the above Tables (Table no. 3.10, 3.11, 3.12 and 3.13), we can see that the majority of agricultural labourers were under employed since on an average agricultural labourers got annual employment of 212.00 days which is less than the full employment (305) days. Among the agricultural labourers, the males labourers were employed for 273.75 days, was higher than the females employment (145.62 days). The unemployment rate among female workers is less compared to the moderately developed block (107.71 days) and least developed block (99.05) days.

### 3.5 Summary

The number of agricultural labourers has been increasing over the years in Uttar Dinajpur district but in the case of West Bengal, the figure remained nearly stable. The proportion of agricultural labourers to total workers is very high in West Bengal as well as in Uttar Dinajpur district. The number of farm employment days available to per agricultural labourers in Uttar Dinajpur is very low. They get employment in agriculture about six to seven months in a year even after modernization of agriculture. The employment in agriculture is seasonal. The agricultural labourers get maximum days of employment during *pre-Kharif* and *boro* seasons. But in other seasons the employment in agriculture is very poor. We observed that the availability of agricultural employment is higher in highly developed block than the moderately and least developed block. Seasonal fluctuation in agriculture is also high in highly developed block than the other block. The main features about employment in agriculture are the abundance of labour, the excessive use of family labour, the declining average size of agricultural holdings is decreasing and seasonality of demand for agricultural labour due to seasonal nature of agricultural operations. Non-farm sector now plays important role in providing employment and income generation in rural areas. The share of non-agricultural worker in total workers increased over the decades both in West Bengal and in Uttar Dinajpur district. In this district, the share of non-agricultural work rose more than to fold, over the period of four decades from 8.30 percent in 1971 to 23.33 percent in 2001. There are considerable variations in the incidence of non-agricultural employment across the block of Uttar Dinajpur district. As researchers, we are interested to identify the factors responsible for observed variations in the share

of non-agricultural employment across the block of this district. Agricultural labourers now participated in more than one economic activity in order to meet their minimum basic needs. The agricultural labourers participated not only in agricultural sector but also in other sectors like various non-agricultural activities and allied activities. They lived in villages, but sometimes they commuted to their nearby towns on bicycle or by bus to perform non-agricultural activities, as the availability of non-farm employment is low in the rural areas of the district under study. The agricultural labourers of the rural areas also migrated to nearby towns to work as a rickshaw puller or as a van puller and they also engaged them in various construction works, like house building, road repairing, casual labour in hotel, in shops etc. In recent years we also observe that a good number of agricultural labourers are migrating to outside states like, Punjab, Maharashtra, Kerala, Delhi to do various non-farm work as a casual day labour in various manufacturing industries as well as in various construction work to ensure higher return. Such seasonal- migration can be reduced by developing non-agricultural sector in the rural areas where it is possible by setting up of various agro-processing industries, various agro-based small industries and other handicraft industries. But it can't be fulfilled till the concerned authorities and also the people are being conscious.