

CHAPTER V



CHAPTER V

NON-FARM EMPLOYMENT PATTERN OF AGRICULTURAL LABOURERS

5.1 Inter-Regional Variation of Rural Non-Agricultural Employment in Uttar Dinajpur District of West Bengal

5.1.1 Introduction

It is well recognized fact that agriculture sector alone have not been able to generate needed employment opportunities in rural areas due to high population pressure, an ever declining land-man ratio, small and fragmented holdings, high inequalities in land distribution, increasing application of labour saving farm production technologies etc. As a long-term strategy, non-farm avenues of employment and earnings are must for rural households (Chadha, 1993). The level and growth of non-agricultural sector is associated with explanatory variables such as land productivity, crop diversification, rural inequalities pertaining to land, asset, and literacy and so on. Various studies, following an important contribution by Vaidyanathan (1986), have tried to understand the nature of emerging non-agricultural sector; that is whether it is due to 'distress diversification' or due to the emergence of a dynamic and viable 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 West Bengal, nearly seven-tenth of the population is rural and 58.6 percent mainly depend on agriculture. The growth of agricultural production in West Bengal declined over the decades because of heavy pressure of population on land, small and fragmented holdings, inadequate irrigation facilities, low input use, severity of climate etc. The annual compound growth rates of food grains in West Bengal between 1980-81 and 1989-90 was 6.46 percent, which declined to 2.52 percent between 1990-91 and 1999-00, indicating a clear reduction of about 4.00 percent. Hence, people supplement their meager income through non-farm activities. Rural non-farm sector has thus attracted attention of policymakers and academicians in recent years because

of its potential role in employment and income generation in rural areas. This section explores the factors, which affect the inter-blocks variation in the percentage of non-agricultural workers in rural areas of Uttar Dinajpur district.

5.1.2 Worker Population Ratio

The analysis of worker population ratio (WPR) or the workforce participation rate is essential to understand the changes in the size of both farm and non-farm employment in the rural economy. Table 5.1 shows the changes in the worker population ratio of West Bengal and different blocks of Uttar Dinajpur district during 1971 to 2001. It is clear from the Table 5.1 that worker population ratio in West Bengal has been near stagnant as between 1971 and 2001 although the census 1991 provides significant departure from the trend accounting for WPRs 30.61 percent as against the figure of 27.19 percent for 1971. The ratio, however, varied across gender. For rural males, the ratio increased from 48.48 percent in 1971 to 51.18 percent in 1991 but declined to 45.76 percent in 2001 and for rural females WPRs increased from 4.58 percent in 1971 to 8.74 percent in 1991 and then further rose to 9.08 percent in 2001. Thus work force participation rate of females rose continuously over time in rural West Bengal. The work force participation for rural females of Uttar Dinajpur district has also been increasing over time from 2.21 percent in 1971 to 9.43 percent in 1991 and then further rose to 11.38 percent in 2001. For rural males, the ratio has been continuously increased up to 1991 from 53.03 percent in 1971 to 55.25 percent in 1991 but it declined in 2001 to 46.35 percent. The overall 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. Development of economy generally ensures higher work force participation rate. From the macro level data, we know that the WPRs for highly developed countries are higher as compared to less developed countries. In our block level analysis during the periods of 1991 and 2001, we find that WPRs for highly developed blocks is higher as compared to moderately and least developed blocks but during the periods of 1971 and 1981 the ratio has shown no clear trend for highly, moderately and least developed blocks.

5.1.3 Sectorwise Distribution of Rural Workers

Tables 5.2 and 5.3 show the sector wise distribution of rural workforce by sex of West Bengal and Uttar Dinajpur district over the decades. 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 labourer has remained almost constant, as also of agriculture 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 in both West Bengal and Uttar Dinajpur district. Here again, the growth rate was sharp for female workers.

Within the rural non-agriculture sector, the share of tertiary sector was higher than that of the secondary sector in both West Bengal and Uttar Dinajpur district. 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-agriculture activities, manufacturing constituted major share followed by other services and trade and commerce. All these are clear from 1991 census data. As per 1991 census, the proportion of workforce engaged in manufacturing activities accounted for 10.44 percent followed by other services 6.23 percent and trade and commerce 5.98 percent in West Bengal. Similarly in Uttar Dinajpur district in 1991, the share of manufacturing activities accounted for 4.19 percent followed by trade and commerce 3.07 percent. Across the sexes, the share of females accounted for 18.75 percent in manufacturing sector as against the corresponding figure of 9.11 percent for males in West Bengal. However, in other services, the share of males was 13.95 percent followed by female share of 5.96 percent. Similarly in Uttar Dinajpur district, the share of females constituted 11.98 percent in manufacturing as against the corresponding figure of 2.95 percent for males. For males, other services constituted major share (3.56 percent) in terms of non-agriculture employment, followed by manufacturing (2.95 percent) and trade and commerce (3.07 percent).

In West Bengal non-agriculture sector increased 8.27 percentage points during 1971-1991 and 14.92 percentage points during 1991-2001. 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 the same period. Within the tertiary sector, trade and commerce recorded highest growth of 2.97 percentage points followed by transport and communication (.78 percentage points). Manufacturing the single largest non-agricultural activity recorded an increase of 4.14 percentage points during the same period. At the district level (Uttar Dinajpur), non-agricultural sector has grown 3.88 percentage points during 1971-91 and 11.36 percentage points during 1991-2001. Within non-agriculture sector, secondary sector recorded highest growth by 2.58 percentage points followed by tertiary sector (1.3 percentage points) during 1971-91. Again within tertiary sector, trade and commerce recorded highest growth of 1.46 percentage points followed by transport and communication (.64 percentage points). Other services recorded negative growth (by - .8 percentage points) during the same period. Manufacturing, single largest non-agriculture activity recorded an increase of 2.25 percentage points during the same period.

Table 5.1
Worker Population Ratio Across the Blocks of Uttar Dinajpur District and in West Bengal (In Percentage)

Blocks / District	1971			1981			1991			2001		
	Person	Male	Female									
Kaliyaganj	29.59	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	14.40	30.77	47.71	12.74
Hemtabad	29.01	52.62	3.19	30.58	53.09	6.10	33.88	55.02	11.11	29.50	47.53	10.37
Highly Developed Blocks	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	27.00	50.65	2.18	28.19	51.59	3.84	34.82	56.68	12.20	30.32	48.07	11.83
Karandighi	27.60	51.63	1.77	30.43	53.34	6.18	33.20	54.15	10.79	28.60	43.20	13.22
Chopra	29.32	54.07	1.63	30.10	54.58	3.45	31.07	54.47	5.75	27.02	44.48	8.40
Moderately Developed Blocks	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	30.10	54.95	3.45	32.38	56.17	6.86	25.62	43.85	6.23
Islampur	28.98	54.42	.68	29.05	54.38	1.88	29.01	53.01	3.28	26.95	44.52	8.40
Least Developed Blocks	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

Data Source: Census Reports 1971, 1981 1991 and 2001

Table 5.2
Sectorwise Distribution of Rural Workers by Sex in West Bengal (In Percentage)

Industry Group	1971			1981			1991			2001		
	Person	Male	Female									
I Agriculture	81.79	81.60	83.99	73.79	74.65	66.54	73.52	73.64	72.85	58.60	59.83	55.24
1.Cultivators	43.07	45.57	14.93	40.20	42.87	18.09	37.97	40.88	19.86	25.52	28.71	16.81
2.Agricultural 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
3.Live stock, Forestry, Fishing	3.73	2.76	14.55	-----	-----	-----	3.31	2.71	7.09	-----	---	-----
II Non-Agriculture Activities	18.21	18.40	16.01	26.21	25.35	33.46	26.48	26.36	27.15	41.40	40.17	44.76
4.Mining and Quarrying	1.20	1.23	.81	-----	-----	-----	.43	.47	.21	-----	-----	---
5.All Manufacturing	6.30	6.21	7.33	-----	-----	-----	10.44	9.11	18.75	-----	-----	-----
I. Household Manufacturing	2.64	2.44	4.89	3.55	3.02	7.89	4.22	3.00	11.84	7.85	4.15	17.94
ii. Non-Household Manufacturing	3.66	3.77	2.44	-----	-----	-----	6.22	6.11	6.91	---	-----	-----
6.Construction	.54	.56	.21	-----	-----	-----	1.24	1.41	.19	---	-----	-----
7.Trade and Commerce	3.01	3.17	1.24	-----	-----	-----	5.98	6.63	1.92	---	-----	-----
8.Transport and Communication	1.37	1.46	.38	-----	-----	-----	2.15	2.48	.12	---	-----	-----
9.Other Services	5.79	5.76	6.03	-----	-----	-----	6.23	13.95	5.96	---	-----	-----
10. Other Workers	-----	---	-----	22.67	22.32	25.56	-----	-----	-----	33.55	36.02	26.82

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

5.1.4 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 differences 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 5.4 presents data on the percentage of non-agricultural workers in the rural workforce at blocks level, which have been arranged in to highly developed blocks – Kaliyaganj, Raiganj, Hemtabad; moderately developed blocks – Itahar, Karandighi, Chopra and least developed blocks – Goalpukhar –I, Goalpukhar –II and Islampur. The share of non-agricultural employment in total employment is larger in highly developed blocks as compared to moderately developed and least developed blocks in 1971, 1981, and 1991. The share of non-agricultural workers in highly developed blocks 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. In the case of moderately developed and least developed blocks, 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 decades. 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 varies from 9.80 percent in Islampur block to 13.20 percent in Raiganj block. In 1991, it varies from 7.22 percent in Goalpukhar – II block to 20.09 percent in Chopra block. In 2001, 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-agricultural employment during 1971 and 1981 but Chopra block occupies the top ranks during 1991 and 2001. This share also rose significantly; in fact, it more than doubled, over the period of four decades from 8.30 percent in 1971 to 23.53 percent in 2001 in Uttar Dinajpur district. The share of non-agricultural workers in total workers increased over the decades in both West Bengal and Uttar Dinajpur

district but the share of non-agricultural workers in total workers of Uttar Dinajpur district is lower than the West Bengal level in all decades.

5.1.5 Determinants of Non-Agricultural Employment

The share of non-agricultural activities in the total labour force has been increasing over the census period. The shift of workforce from agriculture to non-agriculture sector gives rise to many questions: whether the development factors transmitted workforce from the agriculture 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. More over, there are considerable variations in the incidence of non-agricultural employment across the blocks 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 inter-regional variations in the non-agricultural employment. Such factors included both developmental and distress factors which sometimes operate in a mutually reinforcing way (Vaidyanathan, 1986). The developmental factors like agricultural modernization and commercialization, urbanization, growing literacy have tried to pull the rural households to go in search of various non-agricultural activities (Hazell and Aggblade 1991, Dev 1990, Unni 1991, 1992a, 1992b, Eapen 1995). At the same time, distress factors like poverty, unemployment / underemployment 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).

5.1.6 Development Factors

5.1.6.1 Agriculture Related

Generally development of agriculture and commercialization will encourage rural industrial activity by supplying more raw materials, creating demand for inputs and allied services, raising demand for consumption goods and generating surplus for investment. Growth of agricultural production and productivity leads to generation of

surplus, which may be invested in non-agricultural activities. At the same time, agricultural growth raises the income of the rural people, which may also increase the demand for goods and services. Both the generation of agricultural surplus and changing pattern of consumption demand could lead to an increase in demand for labour in the non-agricultural sector (Unni, 1991). In order to study the relationship between agricultural growth and percentage of non-agricultural workers, the present paper specifies some indicators of agricultural prosperity in a region: the value of agricultural output per hectare of gross cropped area as a proxy for level of agricultural productivity, the value of agricultural output per hectare of net sown area as a proxy for land productivity generating production linkage, the value of agricultural output per head of agricultural population, i. e. agricultural workers as proxy for per capita income of agricultural classes, net sown area per agricultural worker as a proxy of average farm income in the district and percentage of area under non-food grains as an index of commercialization in the agriculture.

Papola (1987) examines both direct and indirect effects of agriculture on the level, structure and growth of industries. The direct impact of rapid agricultural growth on industrial activity was by supplying more raw materials (backward linkages) and creating demand for inputs and allied services (forward linkages). The indirect impact was through raising consumption demand and generating surplus for investment. He, however, found that the direct relationship in terms of input supplying and output using linkages were limited. The relationship appeared to be more indirect as indicated earlier.

Similarly some important studies (Vaidyanthan 1986, Unni 1991, Dev 1990) observed significant positive relationship between agricultural productivity and non-agricultural employment across regions of the country and within states across districts and talukas (Singh, 1989; Jayraj, 1989; Shukla and Shukla, 1989; Basanta Partha Sarathy, 1991). But the positive relation between agricultural and non-agricultural employment does not always hold true. Papola (1987) shows that agricultural development may improve the efficiency of rural non-agricultural enterprises without necessarily increasing their number. This may reduce the need for non-agricultural workers to undertake different activities in the industries. So the relationship is quite complex.

In order to explain the roles of different factors in determining the availability of non-agricultural employment across the blocks of Uttar Dinajpur district, the

incidence of non-agricultural employment is taken from 2001 census and figures of development and distress factors also taken for the year of 2001. Agricultural development related factors like value of agricultural output per hectare of gross cropped area, value of agricultural output per hectare of net sown area, value of agricultural output per head of agricultural population, percentage of area under non-food grains and cropping intensity have varied across the blocks of Uttar Dinajpur district in 2001. Out of these factors, value of agricultural output per agricultural population has become significantly correlated with non-agricultural employment followed by net sown area per worker and cropping intensity. The estimated values of correlation co-efficient in 2001 are .9034 for the value of agriculture output per worker, .6395 for the net sown area per worker and .6035 for cropping intensity. So higher incomes of rural people, higher cropping intensity and more net sown area per worker ensures higher availability of non-agricultural employment in the blocks of Uttar Dinajpur district. From the discussion it is revealed that demand-led growth of non-agricultural employment has taken place in the blocks of Uttar Dinajpur district operating both production and consumption linkages of agriculture with non-agriculture sector.

Another important factor facilitating non-agricultural employment may be percentage of area devoted to non-food grains in relation to total cropped area. The degree of commercialization as measured by percentage of area under non-food grains crops would have a direct impact on non-agricultural activity by supplying raw materials for processing and other industrial activity and thus stimulates forward production linkages. Moreover, with the spread of commercialization, agriculture gets more specialized and volume of trade and trade related activities expanded. Across the blocks of Uttar Dinajpur district, the percentage of areas under the non-food grains is estimated to be highest in Chopra Blocks (11.03). Accordingly, the incidence of non-agricultural employment is highest in this block. So commercialization has positive relation with non-agricultural employment. The estimated value of correlation is .86, which is statistically significant.

Table 5.3
Sectorwise Distribution of Rural Workers by Sex of Uttar Dinajpur District

Industry Group	1971			1981			1991			2001		
	Persons	Males	Females									
I. 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
1. 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
2. Agricultural 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
3. Livestock, Forestry, Fishing	.58	.46	3.64	-----	-----	-----	1.01	.96	1.32	-----	-----	-----
II. Non-Agriculture	8.30	8.01	17.14	10.58	9.67	22.09	12.18	11.65	15.49	23.53	23.13	24.41
4. Mining and Quarrying	.01	.02	-----	-----	-----	-----	.01	.01	.01	-----	-----	-----
5. All Manufacturing	1.94	1.68	8.68	-----	-----	-----	4.19	2.95	11.98	-----	-----	-----
I. Household Manufacturing	.97	.77	6.32	1.81	1.00	12.10	1.60	.90	6.01	3.70	1.51	8.43
ii. Non-household Manufacturing	.97	.91	2.36	-----	-----	-----	2.59	2.05	5.97	-----	-----	-----
6. Construction	.11	.11	.09	-----	-----	-----	.44	.49	.10	-----	-----	-----
7. Trade and Commerce	1.61	1.63	1.09	-----	-----	-----	3.07	3.41	.93	-----	-----	-----
8. Transport and Communication	.42	.43	1.17	-----	-----	-----	1.06	1.23	.03	-----	-----	-----
9. Other Services	4.21	4.14	6.11	-----	-----	-----	3.41	3.56	2.44	-----	-----	-----
10. Other Workers	-----	-----	-----	8.77	8.67	9.99	-----	-----	-----	19.84	21.63	15.98

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

Table 5.4**Percentage of Rural Non-Farm Workers in the Rural Workforce Across the Blocks of Uttar Dinajpur District and West Bengal**

Blocks / District	1971			1981			1991			2001		
	Persons	Males	Females									
Kaliyaganj	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	13.20	13.10	16.00	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	15.30	18.15	18.43	20.34	13.97
Highly Developed Blocks	9.71	9.40	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	7.50	7.15	19.94	9.24	7.86	21.82	12.35	9.29	28.78	31.93	21.81	50.30
Chopra	10.55	9.33	55.97	12.92	12.19	25.52	20.09	18.52	36.20	44.86	42.24	54.60
Moderately Developed Blocks	8.50	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	18.30	17.13	22.09
Islampur	6.36	6.26	69.21	9.80	8.73	42.88	11.95	11.44	20.75	24.32	23.68	26.43
Least Developed Blocks	6.83	6.57	34.82	10.01	8.79	35.19	10.47	9.84	18.06	20.44	19.83	23.23
Uttar Dinajpur District	8.30	8.01	17.14	10.58	9.67	22.09	12.18	11.65	15.49	23.53	23.13	24.40
West Bengal	18.21	18.40	16.01	26.21	25.35	33.46	26.48	26.36	27.15	41.40	40.17	44.76

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

Table 5.5

Correlates of Non-agricultural Employment by Blocks of Uttar Dinajpur District

Blocks	Agriculture related							
	Value of Agricultural Output Per Hactare of Net Sown Area (2001)	Value of Agricultural Output Per Hectare of Gross Cropped Area (2001)	Value of Agricultural Output Per Head of Agricultural Worker (2001)	Net Sown Area Per Agricultural Worker (ha.) (2001)	Intensity of Cropping (2001)	Percentage of Net Irrigated Area of Net sown Area (2001)	Percentage of Irrigated Area Under Ground Water of Net Sown Area	Percentage of Area Under Non-Food Grains
Kaliyaganj	39989.52	18300.02	12879.43	.32	118.52	58.61	48.06	6.24
Raiganj	58656.26	29336.47	18898.51	.32	99.94	78.35	68.83	7.44
Hemtabad	30442.08	18021.76	12939.05	.43	68.92	32.11	29.36	5.46
Itahar	41857.42	25642.13	14009.01	.33	63.24	60.05	45.87	5.79
Karandighi	56810.18	25879.28	19696.46	.35	119.52	44.72	42.38	6.07
Chopra	50215.8	22396.49	28867.13	.57	124.13	18.59	11.56	11.03
Goalpukhar – I	25014	16143.36	8365.32	.33	54.95	36.00	33.28	5.28
Goalpukhar – II	33350.9	25660.5	15813.66	.47	29.97	80.19	77.65	5.37
Islampur	40319.48	24504.59	17514.10	.43	64.54	18.61	9	7.02

Data Source: District Statistical Hand Book, 2002

Table 5.5 (Continued)

Urbanization, Infrastructure and Distress Related Factors							
Blocks	Level of Urbanisation (2001)	Percentage of Village Electrified (2001)	Lengths of Rural Roads Per '00 sq. KM of Geographical Area (2001)	Rural Population Served Per Bank Office (Commercial+Gra min) (in 000) (2001)	Rural Literacy Rate (2001)	(2002-03)	Poverty (2002-03)
Kaliyaganj	20.05	90.05	45.77	32	54.13	29.58	73.33
Raiganj	31.32	89.55	28.50	40	50.30	NA	NA
Hemtabad	Nil	71.68	31.37	30	56.72	21.96	76.67
Itahar	Nil	92.68	39.65	28	47.37	33.79	83.33
Karandighi	Nil	85.24	39.23	35	36.01	23.76	90.00
Chopra	Nil	80.51	28.69	28	43.29	NA	NA
Goalpukhar – I	17.91	68.75	48.82	31	31.60	16.89	70.00
Goalpukhar – II	Nil	72.02	46.17	32	34.11	NA	NA
Islampur	Nil	93.07	54.94	48	38.39	33.79	73.33

Data Source: District Statistical Hand Book 2002 and Data on Poverty and Unemployment data obtained from Own Field Survey, 2002-03

5.1.6.2 Rural Literacy

Rural literacy rate is another important factor outside agriculture, which influences the non-agricultural employment. A strong positive relationship between literacy rate and non-agricultural employment has been observed for Kerala (Eapen, 1994), for Gujrat (Basant, 1993), Tamil Nadu (Jayaraj, 1994) and Orissa (Samal, 1997). The level of education is expected to facilitate and enable shifts of the work force from agriculture to non-agriculture sector. In our study, we find no significant association between literacy rate and non-agricultural employment. Considering all the blocks of Uttar Dinajpur district, the literacy rate among rural people is highest in Hemtabad block (56.72 percent) followed by Kaliyagnaj block (54.13 percent) in 2001. It is negatively correlated with non-agricultural employment. The estimated value of correlation co-efficient is -.2002 but not significant. Thus level of literacy does not seem to have been associated with higher incidence of non-agricultural employment in Uttar Dinajpur district.

Table 5.6
Simple Correlation Analysis to Explain the Association with the Incidence of Rural Non-Agricultural Employment (Share of Non-Agricultural Workers in Total Workers)

	Correlation	T-Test
Value of Agricultural Output Per Hactare of Net Sown Area (2001)	.5523	1.74
Value of Agricultural Output Per Hectare of Gross Cropped Area (2001)	.1924	.51
Value of Agricultural Output Per Head of Agricultural Worker (2001)	.9034	5.42
Net Sown Area Per Agricultural Worker (ha.) (2001)	.6395	2.21
Intensity of Cropping (2001)	.6035	1.99
Percentage of Area Under Non-Food Grains	.8585	4.47
Percentage of Net Irrigated Area of Net Sown Area (2001)	-.5206	1.62
Percentage of Irrigated Area Under Ground Water of Net Sown Area	-0.5042	1.59
Urbanization	.0217	.053
Lengths of Rural Roads Per '00 sq. KM of Geographical Area (2001)	-.4095	1.19

Rural Population Served Per Bank Office (Commercial+Gramin) (in 000) (2001)	-.0615	.16
Percentage of Village Electrified (2001)	.0713	.19
Rural Literacy Rate (2001)	-.2002	.54
Unemployment (2002)	-.0200	.05
Poverty	-.4074	1.34

Data Source: Calculated from Tables 5.4 and 5.5

5.1.6.3 Urbanization and Infrastructure Facilities

Urbanization and development of infrastructure, which emanate outside agriculture, can also lead to the growth of non-agricultural activity within rural areas. The proximity to urban centres or urbanization has an important influence on the growth of non-farm employment, which has been noted by a number of studies (e. g. Unni 1991, Eapen 1995, Papola 1992). Besides urbanization, the importance of rural infrastructure in expanding non-farm sector has been highlighted in some studies (e. g., Hazell and Haggblade, 1991). Rural infrastructures include roads, rural electrification, irrigation which encourages the growth of the non-agricultural activities through fostering agricultural growth performances. Other infrastructures include marketing facilities and banks, which strengthen the foundation of agriculture and thus influence non-agricultural activity. Banks provides credit for purchasing agricultural inputs like ploughs, pump sets, sprayers and equipments which are either produced or distributed by non-agricultural enterprises and thus in the process establishes inter sectoral linkages between farm and non-farm sectors. The index of urbanization as captured by the percentages of urban population to total population varied across the blocks of the district.

The level of urbanization has been captured by the percentage of urban population to total population of the district. Out of the nine blocks of this district, only three blocks have urban areas. Raiganj block is more urbanized where persons living in urban areas accounted for 31.32 percent of total population against the figures of 20.05 percent in Kaliyaganj block and 17.91 percent in Islampur block. The association between urbanization and non-agricultural employment across the blocks of this district is positive but not significant. The estimated correlation co-efficient is .0217. In respect of infrastructure, viz lengths of roads per hundred sq. km of geographical areas, Islampur block displays the higher figure of 54.94 km per hundred

sq. km of geographical areas as compared to other blocks of this district. It is negatively correlated with non-agricultural employment but not significant. Similarly, in respect of other rural infrastructures like village electrification rate and banking services facilities, Islampur block ahead of other blocks of this district. These are positively correlated with non-agricultural employment but not significant. So the association of non-agricultural employment with urbanization and rural infrastructures has been weakened across the blocks of Uttar Dinajpur district in 2001.

5.1.6.4 Irrigation

Development of irrigation facilities in rural areas helps to increase agricultural production by increasing cropping intensity and production yield per hectare. The increase in agricultural production leads to increase in income of rural farmers. The increase in rural incomes may alter the pattern of consumption demand towards non-food items leading to the emergence of non-agricultural activities. It is observed from Table 5.5 that Goal Pukhar-II block enjoys better irrigational facilities. The percentage of area under irrigation accounts for 80.19 percent for Goal Pukhar -II block of Uttar Dinajpur district. It is positively correlated with non-agricultural employment. The estimated value of correlation co-efficient is .461081 but not significant.

5.1.6.5 Distress Factors

Another hypothesis regarding non-agricultural activities in rural areas can be termed as 'distress diversification' into unproductive or low paid non-agricultural jobs. This occurs when rural workers are not absorbed in agriculture and they spill over into non-agricultural activities. Such a spill off excess labour from the agriculture to the non-agriculture sector has been put forward as the residual sector hypothesis (Vaidyanathan, 1986). Vaidyanathan (1986) observed a strong positive relation between unemployment rate and proportion of non-agricultural workers across states and attributed this to an imbalance between demand and supply. Verma and Verma also show weak production linkages between two sectors in a labour surplus economy like India and suggest strong association between unemployment and non-agricultural employment. According to them, none of the proxies of distress factors except the current daily unemployment rate (NSS 43rd Round) shows a significant association with rural male non-farm employment. They explain that the

incidence of poverty (head-count ratio for 1987-88) is found to be negatively though insignificantly associated with non-farm employment. The negative relationship may be due to lack of demand and absence of infrastructure facilities in the region of high incidence of poverty. An increasing larger part of the rural labour force has to seek non-farm job due to casualisation and seasonal variation of employment in agriculture, which may be the cause of strong association between unemployment rate and rural male non-farm employment.

Unni (1991) used two other proxies for 'distress diversification': percentage of landless labour households and incidence of poverty of the regions, both of which were not associated with non-farm employment. The hypothesis is that distress conditions perhaps do lead to the growth of non-agricultural activity due to lack of demand for such goods in such regions. When these regions were disaggregated by the level of development it was observed that in the developed regions the percentage of landless households and non-agricultural employment was positively associated (Unni, 1998). In different districts of Kerala, Eapen (1995) uses land man ratio and percentages of marginal holding to total holdings as a proxy for push factors out of agriculture and found that both factors were positively related to non-farm employment in 1981 and 1991. She also observed that in 1981 while both demand related and distress factors were important for growth of non-agricultural employment, in 1991 only distress related factors and urbanization were important.

Regarding distress factors, none of the proxies shows a significant association with non-agricultural employment in this district. The incidence of per capita person day unemployment rate is found to be negatively though insignificantly associated with non-agricultural employment. For measuring unemployment rate, we assume 305 days out of 365 days in a year as actual days available for employment of an agricultural labourer of this district after excluding time devoted for consumption and leisure purposes. Higher unemployment implies lower availability of employment in non-agriculture sector in this district. The second phase of green revolution has been marked by falling labour absorptive capacity of agriculture, rising landlessness, falling incidence of tenancy and rising wage based production. In addition, an increasing by greater part of agricultural labourer is being hired casually, with peak demand expressly directed towards some specified crop operation. Given these situations, due to non-availability of non-agricultural employment in rural areas, the agricultural labourers and rural workers of this district remain unemployed.

The incidence of poverty in a region could also lead to distress diversification into non-agricultural activities. Poverty among agricultural labourers has been found due to low level of agricultural development which led to low demand and inhibit rather facilitate non-agricultural employment. The incidence of poverty is captured by the variable percentage of population below poverty line. We measure poverty among agricultural labourers of this district on the basis of NSS estimate of Rs. 327 per capita per month in rural areas at 1999-00 prices. The incidence of poverty among agricultural labourers varied from 70.00 percent in Goalpukhar-I block to 90.00 percent block of Uttar Dinajpur district. The incidence of poverty among agricultural labourers is found to be positively though insignificantly associated with non-agricultural employment. Poverty forces them to adopt low paid non-agricultural job in this district.

5.1.7 Overall Findings on Inter-regional Variation of Non-agricultural Employment

The role of pull and push factors in generating non-agricultural employment across the blocks of Uttar Dinajpur district has been widely discussed in our study. Pull factors relating to agricultural prosperity like value of agricultural output per head of agricultural population approximating per capita income of agricultural classes, net sown area per agricultural worker as proxy for average farm income in the district, cropping intensity and commercialization, i. e. percentage of area under non-food grains have played an important role in generating non-agricultural employment in different blocks of Uttar Dinajpur district. Increased incomes of farm workers and commercialization have resulted in a demand led growth of the non-farm sector. This has occurred through multiple linkages of agriculture with non-agricultural sector including both consumption and production linkages. Here it should be emphasized that the impact of consumption linkages on the size of non-farm employment appears to hold good more than that of production linkages. That is, the relative importance of rural well being reflected in the demand for goods and services appears to be the major determinant. The consumption linkages (rendering demand for goods and services) have operated through increase in income of farmers and are reflected in both the correlates namely, value of agricultural output per head of agricultural worker, net sown area per agricultural worker and commercialization of agriculture (AERC, Santiniketan, 2004). So rural prosperity have played important roles in

generating non-agricultural employment more through generating consumption linkages in this district. The roles of other important factors outside agriculture like urbanization and infrastructures are not significant. The factors for distress diversification like poverty and unemployment among agricultural labourers did not appear as the factors influencing the growth of non-agricultural sectors.

5.2 Occupational Diversification and Non-Farm Employment of Agricultural Labourers in West Bengal with Special Reference to Uttar Dinajpur District

5.2.1 Introduction

Agricultural labourers generally accept hiring out their labour in agriculture as their main occupation in terms of major source of income and / or major time criterion and non-agriculture work as secondary activity. They accept the second activity because of uncertainty and insufficiency of employment and income streams from the first activity. Our agricultural operations are highly seasonal and limited to certain months and cannot provide continuous year round employment. They suffer from poverty, unemployment, illiteracy and poor health. To solve the problems of poverty, unemployment and disguised unemployment created within the agrarian system, development of non-agriculture sector is essential to generate additional employment opportunities in rural areas. The present study is an attempt to understand the nature and extent of occupational diversification with level and pattern of non-farm employment of agricultural labourers of different selected villages of Uttar Dinajpur district.

5.2.2 Work Participation and Diversification of Economic Activities

The diversification of economic activities may happen by two processes: (i) by increasing the number of workers in the household engaged in different economic activities or by the participation of each member in more than one economic activity participation. Consequently, the present section analyses data on work participation ratios (WPRs), distribution of agricultural labourers according to the sources of non-agricultural activities and number of activities undertaken per worker. Given the importance of gender as a determinant of work participation, the analysis is attempted separately for males and females.

5.2.2.1 Worker Population Ratio

The WPRs for agricultural labourers has been discussed to understand the nature and extent of occupational diversification at the household level and individual level. The Table 5.7 presents the worker population ratios (WPR) of the agricultural labour households on the basis of development of blocks. The WPR for agricultural

labourer households ranged from 41.10 percent at *Dharampur* – a village under least developed blocks to 53.52 percent at *Malon* – a village under highly developed blocks. Table also reflects gender discrimination in the worker population ratio. The female WPRs are lower than the male as expected. The WPR for male agricultural labourers range from 51.32 percent at *Dharampur* – a village under least developed blocks to 64.29 percent at *Delwalpur* – a village under highly developed blocks. But in the case of female, the WPR range from 30 percent at *Dharampur* to 51.95 percent at *Tilna* – a village under moderately developed blocks. So the WPR is higher in the villages of highly developed blocks as compared to the villages of moderately developed blocks and least developed blocks.

Table 5.7

Worker Population Ratio Across Surveyed Villages of Uttar Dinajpur District

Villages/ District	Landless Agricultural Labourers			Marginal Farmer-Cum-Agricultural Labourers			All Categories		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Villages under Highly Developed Blocks									
<i>Delwalpur</i>	70.83	30.43	51.06	60.87	45.65	53.26	64.29	40.58	52.52
<i>Malon</i>	53.49	52.27	52.87	62.07	46.15	54.55	56.94	50.00	53.52
Villages under Moderately Developed Blocks									
<i>Nakol</i>	53.19	38.78	45.83	65.38	44.00	54.90	57.53	40.54	48.98
<i>Tilna</i>	52.94	48.65	50.70	55.26	55.00	55.13	54.17	51.95	53.02
Villages under Least Developed Blocks									
<i>Jagtagaon</i>	47.30	38.71	46.83	66.67	57.14	61.54	55.71	40.58	48.20
<i>Dharampur</i>	56.52	25.53	40.86	43.33	39.13	41.51	51.32	30.00	41.10
District	55.71	39.06	48.03	58.93	47.85	53.48	56.66	42.28	49.56

Data Source: Own Field Survey

5.2.2.2 Distribution of Agricultural labourers According to the Sources of Non-Agricultural Activities

The agricultural labourers accept non-agricultural activities as a subsidiary activity. Table 5.8 shows the number and percentage of households without and with subsidiary sources of income across the village of Uttar Dinajpur district. The percentage of agricultural labour households reporting subsidiary source of income was higher in all the villages of Uttar Dinajpur district. Only 27.40 percent agricultural labour households have no subsidiary source of income in this district. The percentage of agricultural labour households with subsidiary source of income range from 61.12 percent at *Jagtagaon* – a village under least developed blocks to

76.72 percent at *Delwalpur* – a village under highly developed blocks. So with the development of blocks the agricultural labourers have diversified their economic activities. This validates the fact that the size of pure agricultural labourers declined over the periods because of uncertainty of employment in agriculture, better work opportunity in other sector and growing consciousness among the agricultural labourers.

Table 5.8
Proportion of Agricultural Labourer without and With Subsidiary Sources of Income Across Surveyed Villages of Uttar Dinajpur District

Blocks / Villages /District	Number and Percentage of Agricultural Laboures Without Subsidiary Sources of Income			Number and Percentage of Agricultural Labourers With Subsidiary Sources of Income		
	Male	Female	Total	Male	Female	Total
Villages under Highly Developed Blocks						
<i>Delwalpur</i>	8 (10.96)	9 (12.33)	17 (23.29)	36 (49.32)	20 (27.40)	56 (76.72)
<i>Malon</i>	9 (4.84)	9 (11.84)	18 (23.68)	30 (39.47)	28 (36.84)	58 (76.31)
Villages under Moderately Developed Blocks						
<i>Nakol</i>	11 (15.28)	7 (9.72)	18 (25)	30 (41.67)	24 (33.33)	54 (75.00)
<i>Tilna</i>	11 (13.92)	12 (15.19)	23 (29.11)	29 (36.71)	27 (34.18)	56 (70.89)
Villages under Least Developed Blocks						
<i>Jagatagaon</i>	14 (20.90)	12 (17.91)	26 (38.81)	26 (38.81)	15 (22.39)	41 (61.12)
<i>Dharampur</i>	7 (11.67)	8 (13.33)	15 (25.00)	30 (50)	15 (25)	45 (75)
District	60 (14.05)	57 (13.35)	117 (27.40)	181 (42.39)	129 (30.21)	310 (72.60)

Data Source: Own Field Survey

Non-agricultural activities can include all those activities, which are undertaken outside agriculture. In this sense, rural non-agricultural activity is essentially residual category (Basant and Kumar, 1989). Rural non-agricultural activities consist of manufacturing- mainly agro-processing and the production, repair and supply of farm inputs, construction, rural crafts, trade, transport and services that cater largely to rural consumer demand. Rural non-agricultural activities have to emerge partly through the growth process and partly through conscious policy interventions. Viadyanathan (1986) shows that it is either due to ‘distress diversification’ or due to the emergence of a dynamic and viable non-agriculture sector (or relative importance of ‘push’ and ‘pull’ factors). The data presented in the Tables 5.9 and 5.10 show the various non-agricultural activities in which the agricultural labour households were engaged and accepted these activities as a subsidiary source of income. The proportion of agricultural labourers engaged in non-

agricultural activities as a subsidiary occupation or main occupation was observed to be highest at *Dharampur* (48.33) – a village under least developed blocks followed by *Delwalpur* (41.10 percent) and *Malon* (40.79percent) – villages under highly developed blocks. The participation of female agricultural labourers in non-agricultural activities is lower as compared to male agricultural labourers in all villages of this district. In this district, the proportion of agricultural labourers engaged in non-agricultural activities was 39.35 percent and the share of female agricultural labourers in the non-agricultural activities (27.47 percent) was lower than male agricultural labourers (48.15 percent). Thatching activities, mud wall construction, rural crafts like basket making, dhokra weaving, transport and trade, manufacturing industries outside the state are the main non-farm activities of the agricultural labourers of this district. Among the different non-agricultural activities, thatching activity was the principle non-agricultural activity of agricultural labourers of this district followed by manufacturing industries outside the state. Accordingly, highest proportions of agricultural labourers are engaged in thatching activities (9.60 percent) followed manufacturing industry (5.85 percent) outside the state and transport (4.92 percent). In all villages except *Dharampur*, the largest proportion of agricultural labourers accepted thatching activities as a main non-agricultural activity. The next highest rate of growth of employment is seen in construction activities. In all villages except *Dharampur*, the largest proportion of agricultural labourers accepted thatching activities as a main non-agricultural activity. The next highest rate of growth of employment is seen in construction activities. Other sectors with relatively high rate of growth of employment have been transport, storage and communications, trade and commerce, mining and quarrying. At *Dharampur*, maximum proportion of agricultural labourers engaged in manufacturing industries located outside the state followed by thatching activities. We also discuss the shares of different sectors of non-agricultural activities on the basis of development of blocks. Villages under highly developed blocks, the share of tertiary sector was 6.09 percent, which is lower than the villages under moderately developed blocks (9.11 percent) and villages under least developed blocks (10.58 percent). So the share of secondary sector is higher in the villages under highly developed blocks as compared to villages under moderately developed blocks and villages under least developed blocks.

Table 5.9
Proportion of Agricultural Labourers Engaged in Different Non-Agricultural Activities Across Surveyed Villages
Under Highly Developed Blocks and Moderately Developed Blocks of Uttar Dinajpur District

Types of Non-Agricultural Activities	Villages Under Highly Developed Blocks						Villages Under Moderately Developed Blocks					
	<i>Delwalpur</i>			<i>Malon</i>			<i>Nakol</i>			<i>Tilna</i>		
	M	F	T	M	F	T	M	F	T	M	F	T
1. Manufacturing Industry Outside the State	3 (6.67)	-	3(4.11)	7(17.07)	-----	7(9.21)	----	---	-----	2(5.13)	----	2(2.53)
2. Manufacturing Industry Within the District	1(2.22)	-----	1(1.37)	1(2.44)	1(2.86)	2(2.63)	1(2.38)	---	1(1.39)	-----	----	----
3. Rural Crafts	1(2.22)	5(17.86)	6(8.22)	1(2.44)	2(5.71)	3(3.95)	----	1(3.33)	1(1.39)	-----	4(10.00)	4(5.06)
4. Biri Binding	-----	-----	-----	-----	-----	-----	-----	2(6.67)	2(2.78)	-----	-----	---
5. Mashion	1(2.22)	1(3.57)	2(2.74)	----	-----	-----	1(2.38)	----	1(1.39)	1(2.56)	-----	1(1.27)
6. Road Construction	----	-----	-----	1(2.44)	1(2.86)	2(2.63)	1(2.38)	1(3.33)	2(2.78)	-----	-----	-----
7. Mud House Construction	4(8.89)	1(3.57)	5(6.85)	4(9.76)	2(5.71)	6(7.89)	2(4.76)	1(3.33)	3(4.17)	1(2.56)	1(2.50)	2(2.53)
8. Thatching	5(11.11)	2(7.14)	7(9.59)	6(14.63)	2(5.71)	8(10.53)	6(14.29)	3(10.0)	9(12.5)	4(10.26)	1(2.50)	5(6.33)
9. Trade	2(4.44)	2(3.57)	4(5.48)	-----	-----	-----	2(2.76)	1(3.33)	3(4.17)	2(5.13)	4(10.0)	6(7.59)
10. Transport	1(2.22)	-----	1(1.37)	-----	-----	-----	1(2.38)	-----	1(1.39)	3(7.69)	-----	3(3.80)
11. Hotel	----	----	-----	2(4.88)	-----	2(2.63)	----	----	-----	----	----	-----
12. Services	1(2.22)	-----	1(1.37)	1(2.44)	----	1(1.32)	----	-----	----	1(2.56)	-----	1(1.27)
Total	19 (42.21)	11(39.28)	30(41.10)	23(56.10)	8(22.86)	31(40.79)	14(33.33)	9(30)	23(31.95)	14(35.90)	10(25)	24(30.38)

Data Source: Own Field Survey

Table 5.10
Proportion of Agricultural labourers Engaged in Different Non-Agricultural Activities Across Surveyed Villages of
Least Developed Blocks and Uttar Dinajpur District

Types of Non-Agricultural Activities	Villages under Least Developed Blocks						District		
	<i>Jagatagaon</i>			<i>Dharampur</i>					
	M	F	T	M	F	T	M	F	T
1. Manufacturing Industry Outside the State	4(10.26)	-----	4(5.97)	9(23.08)	---	9(15)	25(10.20)	-----	25(5.85)
2. Manufacturing Industry Within the District	1(2.56)	-----	1(1.49)	1(2.56)	1(4.76)	2(3.33)	5(2.04)	2(1.10)	7(1.64)
3. Rural Crafts	1(2.56)	4(14.29)	5(7.46)	-----	1(4.76)	1(1.67)	3(1.22)	17(9.34)	20(4.68)
4. Biri Binding	-----	2(7.14)	2(2.99)	-----	2(9.52)	2(3.33)	-----	6(3.30)	6(1.41)
5. Mashion	1(2.56)	-----	1(1.49)	1(2.56)	1(4.76)	2(3.33)	5(2.04)	2(1.10)	7(1.64)
6. Road Construction	-----	-----	-----	-----	-----	-----	2(.82)	2(1.10)	4(.94)
7. Mud House Construction	-----	-----	-----	-----	-----	-----	11(4.49)	5(2.75)	16(3.75)
8. Thatching	7(17.95)	2(7.14)	9(13.43)	3(7.69)	----	3(5.00)	31(12.65)	10(5.49)	41(9.60)
9. Trade	1(2.56)	1(3.57)	2(2.99)	2(5.13)	2(9.52)	4(6.67)	9(3.67)	10(5.49)	19(4.45)
10. Transport	1(2.56)	-----	1(1.49)	5(12.82)	-----	5(8.33)	11(8.57)	-----	11(2.58)
11. Hotel	-----	-----	-----	-----	-----	-----	2(.82)	-----	2(.47)
12. Services	-----	-----	-----	1(2.56)	-----	1(1.67)	4(1.63)	-----	4(.94)
Total	16(41.02)	9(32.14)	25(37.31)	22(56.41)	7(33.33)	29(48.33)	108(44.08)	54(29.67)	162(37.94)

Data Source: Own Field Survey

Table 5.11
Proportion of Agricultural Labourers Work Within the Village, Outside the Village and Outside the State Across
Surveyed Villages of Uttar Dinajpur District

	Within the Village			Outside the Village			Outside the state		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Villages under Highly Developed Blocks									
<i>Dehwalpur</i>	9(20.00)	10(35.71)	19(26.03)	7(15.56)	1(3.57)	8(10.96)	3(6.67)	----	3(4.11)
<i>Malon</i>	13(31.71)	7(20.00)	20(26.32)	3(7.32)	1(2.86)	4(5.26)	7(20.00)	----	7(9.21)
Villages under Moderately developed blocks									
<i>Nakol</i>	9(21.43)	7(23.33)	16(22.22)	5(11.90)	2(6.67)	7(9.72)	----	-----
<i>Tilna</i>	7(17.95)	7(17.5)	14(17.72)	5(12.82)	3(7.5)	8(10.13)	2(5.13)	-----	2(2.53)
Villages under Least Developed Blocks									
<i>Jagatagaon</i>	10(25.64)	7(25.00)	17(25.37)	2(5.13)	2(7.14)	4(5.97)	4(10.26)	-----	4(5.97)
<i>Dharampur</i>	7(17.95)	7(33.33)	14(23.33)	6(15.38)	-----	6(10.00)	9(23.08)	-----	9(15.00)
All Villages / District	55(22.45)	45(24.73)	100(23.42)	28(11.43)	9(4.95)	37(8.67)	25(10.20)	-----	25(5.85)

Data Source: Own Field Survey

It is very important to note that all non-agricultural activities are not carried on in the rural areas. All data on agriculture and non-agricultural activities of agricultural labourers are collected on the basis of residence of respondents, and not according to the place of work or location of economic activity. The 43rd Round of the N S S, conducted during 1987-88, estimated that almost 2.5 million male workers and 151,000 female workers residing in rural areas of our country had a reported place of work in a neighbouring town or city. The larger the nearby towns, shorter the commuting distance and cheaper the cost, the larger is the likely to be the incidence of this phenomenon. In our study area, non-agricultural activities pursued by the agricultural labour households are on seasonal basis within the village or outside the village or outside the state. Out of the 427 agricultural labourers, only 162 (37.94 percent) agricultural labourers reportedly work in various non-agricultural activities as subsidiary source of income. Non-agricultural activities generated within the villages are mostly seasonal. They got non-agricultural employment during March-July from non-agricultural activities like thatching, road construction, mud well construction in the rural areas etc. Some of them also engage themselves in building construction work, agro-processing industries and as a rickshaw pullers in urban areas. Out of 37.94 percent agricultural labourers, 23.42 percent reportedly engaged themselves in non-agricultural activities within the village, 8.67 percent outside the village, i. e. in nearby towns and 5.85 percent outside the state, i. e. in Punjab, Haryana, Uttar Pradesh and Delhi. In our study area, non-agricultural activities pursued by the agricultural labour households are on seasonal basis within the village or outside the village or outside the state. Out of the 427 agricultural labourers, only 162 (37.94 percent) agricultural labourers reportedly work various non-agricultural activities as subsidiary source of income. Non-agricultural activities generated within the villages are mostly seasonal. Such seasonal migration in the urban areas or even in the outside the state is largely the result of distress factors like underemployment and compulsion to supplement the meager farm income to meet both food and non-food needs. However, the easily availability unskilled jobs on a large scale in the towns and cities and also the developed transport facilities have motivated large numbers of agricultural labourers to migrate from villages to town or even outside the state. Another reason is that agricultural labourers now prefer to engage themselves in non-agricultural activities as compared to agricultural activities. They feel that non-agricultural activities are more comfortable than agricultural activities and also

ensures higher income if they migrated in town or outside the state. They are also able to maintain cleanliness and standard of life through participation in the non-agricultural activities.

5.2.2.3 Average Number of Economic Activities Per Household and Per Worker

Table 5.6 shows average number sources of income reported by landless and marginal farmer-cum-agricultural labourer households of different selected villages of Uttar Dinajpur district. On an average, the surveyed households had 2.74 sources of income in this district. The marginal farmer-cum-agricultural labour households had 3.30 sources of income, which is higher than the sources of income of landless agricultural labour household (2.10). In the case of landless agricultural labour household, the number ranged from 1.87 at *Jagatagaon* – a village under least developed blocks to 2.33 at *Delwalpur* – a village under highly developed block. But in the case of marginal farmer-cum-agricultural labour households, the number ranged from 3.07 at *Nakol* – a village under moderately developed block to 3.83 at *Delwalpur* – a village under highly developed block. So the same village recorded the highest number of sources of income per agricultural labour household.

Occupational diversification of agricultural labour household also occurs with the participation of each member of the household in more than one economic activity. Table 5.7 shows the average number of economic activities per agricultural labourer. On an average, an agricultural labourer had 2.03 sources of income; of which landless agricultural labourer had 1.86 sources of income and marginal farmer-cum-agricultural labourer had 2.22 sources of income. Male agricultural labourers were found to participate in more economic activities as compared to female agricultural labourers. The number of economic activities per agricultural labourer was higher among landed than landless agricultural labour households. So access to land provided more possibilities for diversification to the household (Unni, 1996). The average number of activities per worker, both males and females, was higher in the relatively developed villages.

Table 5.12
Average Number of Sources of Income Per Agricultural Labour Household
Across Surveyed Villages of Uttar Dinajpur District

Villages / Blocks / District	Landless Agricultural Labourers	Marginal Farmer-cum-Agricultural Labourers	All Categories
Villages under Highly Developed Blocks			
<i>Delwalpur</i>	2.33	3.83	3.53
<i>Malon</i>	2.00	3.41	2.80
Villages under Moderately Developed Blocks			
<i>Nakol</i>	2.13	3.07	2.56
<i>Tilna</i>	2.13	2.95	2.73
Villages under Least Developed Blocks			
<i>Jagatagaon</i>	1.87	3.14	2.17
<i>Dharampur</i>	2.12	3.38	2.67
District	2.10	3.30	2.74

Data Source: Own Field Survey

Table 5.13
Average Number of Economic Activities Per Worker Across Surveyed Villages
of Uttar Dinajpur District

Villages / Blocks / District	Landless Agricultural Labourers			Marginal Farmer-cum-Agricultural Labourers			All Categories		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Villages under Highly Developed Blocks									
<i>Delwalpur</i>	1.89	1.43	1.76	2.48	2.38	2.44	2.24	2.14	2.21
<i>Malon</i>	1.92	1.86	1.89	2.35	2.31	2.33	2.10	2.03	2.07
Villages under Moderately Developed Blocks									
<i>Nakol</i>	2.04	1.88	1.98	2.21	2.15	2.19	2.12	2.00	2.07
<i>Tilna</i>	1.94	1.95	1.94	2.19	2.14	2.16	2.08	2.05	2.06
Villages under Least Developed Blocks									
<i>Jagatagaon</i>	1.77	1.71	1.75	2.25	2.00	2.13	1.82	1.75	1.71
<i>Dharampur</i>	1.88	1.75	1.84	2.23	1.88	2.09	2.00	1.81	1.93
District	1.91	1.76	1.86	2.29	2.14	2.22	2.06	1.97	2.03

Data Source: Own Field Survey

5.2.3 Factors Affecting Occupational Diversification

There are some exogenous factors, which affect the extent of occupational diversification both at the household level and individual level. These are literacy rate, density of population, land ownership and distance of village from town. Education will increase the skill of an individual worker and ensure higher returns through higher productivity levels. Higher income accruing to such better-educated workers

may reduce the need for a second activity and encourage specialization. In our study, we find from Table 5.8 that literacy rate among agricultural labourers range from 25.85 percent at *Nakol* – a village under moderately developed blocks to 43.88 percent at *Malon* – a village under highly developed blocks. The estimated value of correlation coefficient is .169079 but not significant. Literacy rate among agricultural labourers implies the ability to read and write. So it is expected that this level of education will just increase the consciousness among agricultural labourers and help them to diversify their economic activities instead of specialization in a particular work.

Another important variable is land, which is the source of diversification of economic activities among agricultural labourers. A landed agricultural labour households necessarily undertakes large number of diverse activities in the course of his operation to his own farm and hiring out his labour in other farms and non-farm activities .The percentage of landed agricultural labour households is highest at *Delwalpur* (80 percent) – a village under highly developed blocks and lowest at *Jagatagaon* (43.33 percent) – a village under least developed blocks. The estimated value of correlation coefficient is .9214 and significant. Other correlates like distance of village from nearby town, percentage of unemployment man-days and poverty among agricultural labourers are positively correlated with average number of economic activities per worker but not significant.

Table 5.14

Correlates or Variables Affecting Average Number of Activities Per Agricultural Labourer Across Surveyed Villages of Uttar Dinajpur District

Villages / Blocks / District	Percentage of Literacy Rate Among Agricultural Labourers	Percentage of Landed Agricultural Labour Households	Density of Population Per Square KM	Distance of Village From Near By Town (in KM)	Percentage of Unemployment Days Among Agricultural Labourers	Proportion of Agricultural Labour Households Living Below the Poverty Line
Villages under Highly Developed Blocks						
<i>Delwalpur</i>	39.7	80	581.28	15	29.58	73.33
<i>Malon</i>	43.88	56.67	627.2	24	21.96	76.67
Villages under Moderately Developed Blocks						
<i>Nakol</i>	25.85	46.67	675.38	17	33.79	90.00
<i>Tilna</i>	36.24	43.33	487.5	21	23.76	83.33
Villages under Least Developed Blocks						
<i>Jagatagaon</i>	36.43	23.33	568.85	13	16.89	73.33
<i>Dharampur</i>	26.03	43.33	1337.32	7	33.79	70.00

Data Source: Own Field Survey and Census Report 2001

Table 5.15

Simple Correlation Analysis to Explain the Association with Average Number of Activities Per Agricultural Labourer

Correlates or Variables	Correlation	T - Test
Literacy Rate Among Agricultural Labourers	.1691	.35
Percentage of Landed Agricultural Labourer Households	.9214	4.72*
Density of Rural Population Per Square KM	-.1672	
Distance of Village From Nearest Town (In Km)	.3683	.80
Percentage of Unemployment Man Days Per Agricultural Labourer	.5422	1.29
Proportion of Agricultural Labourers Living Below Poverty Line	.5860	1.46

Data Source: Calculated From Tables 5.13 and 5.14

* Significant at 5% level

5.2.4 Trends in Employment of Agricultural labourers

Table 5.16 shows the trend in the total number of employment days available to adult male and adult female agricultural labourer in agricultural and non-

agricultural activities and 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, the 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. In the case of non-agricultural activities, the total number of days available for both male and female agricultural labourer increased and the relative importance of wage paid employment in total employment for male agricultural labourer declined to the extent of 3 percentage points and increased for female agricultural labourer to the extent of 10 percentage points during 1974-75 to 1993-94. From the Table, it is clear that both male and female agricultural labourers spent the major proportion of their 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 exceeds the share of self-employment in some years or lower in some years.

Table 5.16
Employment Days (Annual) Available Per Agricultural Labourer in West Bengal

A. Agriculture	1974-75		1977-78		1987-88		1993-94	
	Male	Female	Male	Female	Male	Female	Male	Female
1. Wage Employment	210 (82.68)	149 (81.42)	242 (83.45)	203 (83.88)	241 (83.10)	187 (93.03)	222 (77.35)	160 (76.92)
2. Self-Employment	13 (5.12)	11 (6.01)	28 (9.65)	15 (6.20)	2 (8.28)	5 (2.49)	30(10.45)	7 (3.37)
Sub-Total	223 (87.80)	160 (87.43)	270 (93.10)	218 (90.08)	265 (91.38)	192 (95.52)	252 (87.80)	167 (80.29)
B. Non-agriculture								
1. Wage Employment	23 (9.05)	9 (4.92)	12 (4.14)	20 (8.26)	12 (4.14)	8 (3.98)	17 (5.92)	32(15.38)
2. Self-Employment	8 (3.15)	14 (7.65)	8 (2.76)	4 (1.65)	13 (4.48)	1 (.50)	18 (6.27)	9 (4.32)
Sub-Total	31 (12.20)	23 (12.57)	20 (6.90)	24 (9.90)	25 (8.62)	9 (4.48)	35 (12.19)	41 (19.71)
Total	254 (100)	183 (100)	290 (100)	242 (100)	290 (100)	201 (100)	287 (100)	208 (100)

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

5.2.5 Employment Days Available Per Agricultural Labourer in Uttar Dinajpur District

Information on non-agricultural employment undertaken by agricultural labourers in wage employment and self-employment is available across surveyed blocks of Uttar Dinajpur district. Agricultural labourers got about 30 percent of their annual employment from non-agricultural activities. Out of this, the share of self-employment is 11.43 percent and the share of hired out employment is 18.04 percent. In the case of male agricultural labourers, the share of self-employment (10.40 percent) is lower than the wage employment (20.06 percent). But in the case of female agricultural labourers, the share of self-employment is higher than the share of wage employment. Availability of employment from non-agricultural activities has also been discussed on the basis of development of blocks. In the highly developed blocks, an average agricultural labourer is employed 70.42 days in non-agricultural activities in a year, which is higher than the moderately developed blocks (60.62 days) but less than the least developed blocks (78.94 days). There are some reasons for observed variations. Firstly, developed infrastructures facilities of the least developed blocks as compared to moderately and highly developed blocks increase the participation of the rural agricultural labourers in the non-agricultural activities. Infrastructures include roads, electricity, telephone etc. Another reason is location of the blocks. The two least developed blocks are located near Siliguri town and near the two big railway stations like New Jalpaiguri and Aluabari. Generally, rural agricultural labourers of two blocks migrated to Siliguri town to work as a rickshaw puller and sometimes migrated out side the state like Punjab, Haryana and Delhi to work in the plywood industries and glass factories etc. Thirdly, most of the rural houses of two blocks were made by bamboo and naturally durability period of these houses is lower as compared to mud houses. It is necessary to repair or reconstruct these houses at every one or two-year interval. As a result, the scope of non-agricultural activities in the least developed blocks is higher as compared to moderately and highly developed blocks. On the other hand, most of the mud walls made rural houses in the highly and moderately developed blocks are more durable as compared to bamboo made houses.

Table 5.17

Employment Days (Annual) Available Per Agricultural Labourers in Surveyed Villages (*Delwalpur* and *Malon*) under Highly Developed Blocks (*Kaliyaganj* and *Hemtabad*) of Uttar Dinajpur District

Nature of Employment	Males	Females	Total
1. Non-Agricultural Employment			
a. Self-employment	22.69 (8.82)	32.19 (14.67)	27.93 (11.30)
b. Hired out Employment	49.63 (19.28)	20.54 (9.36)	42.49 (17.19)
Sub-total	72.32 (28.09)	52.73 (24.03)	70.42 (28.50)
2. Agricultural Employment	185.05 (71.90)	166.68 (75.97)	176.70 (71.50)
Total	257.37 (100)	219.41 (100)	247.12 (100)

Data Source: Own Field Survey

Table 5.18

Employment Days (Annual) Available Per Agricultural Labourers in Surveyed Villages (*Tilna* and *Nakol*) under Moderately Developed Blocks (*Itahar* and *Karandighi*) of Uttar Dinajpur District

Nature of Employment	Males	Females	Total
1. Non-Agricultural Employment			
a. Self-Employment	18.24 (7.50)	22.90 (11.90)	20.57 (9.17)
b. Hired out Employment	51.73 (21.27)	16.69 (8.67)	40.05 (17.86)
Sub-total	69.97 (28.77)	39.59 (20.57)	60.62 (27.04)
2. Agricultural Employment	173.22 (71.23)	152.84 (79.43)	163.60 (72.96)
Total	243.19 (100)	192.43 (100)	224.22

Data Source: Own Field Survey

Table: 5.19**Employment Days (Annual) Available Per Agricultural Labourers in Surveyed Villages (*Jagatagaon and Dharampur*) under Least Developed Blocks (*Islampur and Goalpukhar –I*) of Uttar Dinajpur District**

Nature of Employment	Male	Female	Total
1. Non-Agricultural Employment			
a. Self-Employment	36.56 (13.40)	29.83 (14.15)	33 (13.55)
b. Hired out Employment	54 (19.79)	30.28 (14.36)	45.94 (18.86)
Sub-total	90.56 (33.19)	60.11 (28.51)	78.94 (32.41)
Agricultural Employment	182.31 (66.81)	150.71 (71.49)	164.64 (67.59)
Total	272.87 (100)	210.82 (100)	243.58

Data Source: Own Field Survey**Table 5.20****Employment Days (Annual) Available Per Agricultural Labourers in All Surveyed Villages / Blocks of Uttar Dinajpur District**

Nature of Employment	Male	Female	Total
1. Non-Agricultural Employment			
a. Self-Employment	27.06 (10.40)	27.87 (13.37)	27.49 (11.43)
b. Hired out Employment	52.20 (20.06)	23.39 (11.22)	43.40 (18.04)
Sub-total	79.26 (30.46)	51.26 (24.60)	70.89 (29.46)
Agricultural Employment	180.98 (69.54)	157.15 (75.40)	169.71 (70.54)
Total	260.24 (100)	208.41 (100)	240.60 (100)

Data Source: Own Field Survey

From the above Table, we find that the majority of agricultural labourers were under-employed since an average agricultural labourer got annual employment of 240.60 days, which is less than full employment (305 days). Among the agricultural labourers, male agricultural labourers were employed 260.24 days, which is (24.87 percent) higher than the female employment. The unemployment rate among female

worker is lower in the highly developed blocks as compared to the moderately and least developed blocks.

5.2.6 Overall Findings on Occupational Diversifications and Non-Farm Employment

Agricultural labourers now participated in more than one economic activity in order to meet their minimum basic needs. They participated not only in agricultural activities but also in allied activities to agriculture and non-agricultural activities. Due to low availability of non-agricultural activities in rural areas of the district under study, they lived in their villages, but sometimes they commuted to their nearby towns through bicycles or by bus to perform non-agricultural activities. Some times, they migrated to the nearby towns for few months to work as rickshaw pullers or for other works. Recently there is some tendency among them to migrate outside the state like Punjab, Haryana and Delhi for few months to work as a day labourers in various manufacturing industries as it ensures higher return to them. To stop such seasonal migration of agricultural labourers in the nearby town or even outside the state, development of non-agricultural sector in rural areas of the district is essential by setting up of agro-processing industries, agricultural machinery repairing industries and other handicrafts industries. In this respect, it may be suggested that the government should implement the 'PURA' model of development in rural areas as prescribed by Dr.A P J Abdul Kalam, ex-honourable President of India, which will ensure all urban facilities to the rural people and will stop such seasonal migration in the urban areas.

5.3 Summary

Non-farm sector has now played important roles in providing employment and income generation in rural areas. The share of non-agricultural workers in total workers increased over the decades both in West Bengal and Uttar Dinajpur district. In this district, the share also rose significantly; in fact, it more than doubled, over the period of four decades from 8.30 percent in 1971 to 23.53 percent in 2001. There are considerable variations in the incidence of non-agricultural employment across the blocks of Uttar Dinajpur district. 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 been identified large

number of factors in the literature to explain inter regional variations in the non-agricultural employment. Such factors included both developmental and distress factors which sometimes operate in a mutually reinforcing way. In order to study the relationship between agricultural growth and percentage of non-agricultural workers, the present study specifies some indicators of agricultural prosperity in a region: the value of agricultural output per hectare of gross cropped area as a proxy for level of agricultural productivity, the value of agricultural output per hectare of net sown area as a proxy for land productivity generating production linkage, the value of agricultural output per head of agricultural population i. e. agricultural workers as proxy for per capita income of agricultural classes, net sown area per agricultural worker as a proxy of average farm income in the district and percentage of area under non-food grains as an index of commercialization in the agriculture. Out of these factors, value of agricultural output per agricultural population has become stronger significant positive relation with non-agricultural employment followed by net sown area per worker and cropping intensity. Another important factor facilitating non-agricultural employment may be percentage of area devoted to non-food grains in relation to total cropped area e. g. commercialization. Commercialization has positive relation with non-agricultural employment. The estimated value of correlation is .86, which is statistically significant. In our study area, we find no significant association between literacy rate and non-agricultural employment. The association of non-agricultural employment with urbanization and rural infrastructures has been weakened across the blocks of the district. Regarding distress factors, none of the proxies shows a significant association with non-agricultural employment in this district.

The nature and extent of occupational diversification with level and pattern of non-farm employment of agricultural labourers has also been discussed at the district level. The diversification of economic activities may be happened by two processes: (i) by increasing the number of workers in the household engaged in different economic activities or by the participation of each member in more than one economic activity. In the study area, with the development of blocks the agricultural labourers have diversified their economic activities. This validates the fact that the size of pure agricultural labourers declined over the periods because of uncertainty of employment in agriculture, better work opportunity in other sector and growing consciousness among the agricultural labourers.

Rural non-agricultural activities have to emerge partly through the growth process and partly through conscious policy interventions. Viadyanathan (1986) shows that it is either due to 'distress diversification' or due to the emergence of a dynamic and viable non-agriculture sector (or relative importance of 'push' and 'pull' factors). The data presented in the tables 5.9 and 5.10 shows the various non-agricultural activities in which the agricultural labour households were engaged and accepted these activities as a subsidiary source of income. In our study area, non-agricultural activities pursued by the agricultural labour households are seasonal basis within the village or outside the village or outside the state.

The seasonal migration in the urban areas or even in the outside the state is largely the result of distress factors like under employment and compulsion to supplement the meager farm income to meet both food and non-food needs. However, the easily availability unskilled jobs on a large scale in the towns and cities and also the developed transport facilities have motivated large numbers of agricultural labourers to migrate from villages to town or even outside the state.

There are some exogenous factors, which affect the extent of occupational diversification at both the household level and individual level. These are literacy rate, density of population, land ownership and distance of village from town. Out of these factors, land ownership is positively correlated with occupational diversification and significant. Other correlates like distance of village from nearby town, percentage of unemployment man-days and poverty among agricultural labourers are positively correlated but not significant.