

Chapter 4

Impact of MGNREGA on Rural Labour Market: An Analysis across Districts in West Bengal

The objective of this chapter is to find out the trend of real farm wage rate after the introduction of MGNREGA and assess the impact of MGNREGA on agricultural wage rate of male and female labour. It also includes changes in those who are engaged in domestic work, or otherwise not in the labour force. For the empirical analysis, which examines changes in employment in all sectors, we use the data of census of India for West Bengal and National Sample Survey Organization's Employment-Unemployment Surveys, corresponding to the years 2004-05, 2007-08 and 2011-12. The study on the effect of wage rate is based on secondary data and covers the period 2005-06 to 2013-14. The study has covered districts of West Bengal. Districts wise wage data for agricultural labour by gender, published by the Labour Bureau, Ministry of Labour and Employment, Government of India, for various years have been used for the analysis. To study the growth in wage rate of farm labourers after the initiation of rural employment guarantee programme, all the data related to money wage were changed into real wage using the consumer price index for agricultural labourers (CPI-AL) with the base year 1986-87.

The remainder of this chapter proceeds as follows: Section 4.1 deals with the changing scenario in rural sector. Section 4.2 discusses the trend in farm wage rate in West Bengal. Section 4.3 presents the empirical results. Section 4.4 gives summing up of the chapter.

4.1 Changing Scenario in Rural Sector

The WPR of males for usual status increased by 0.7 percent in West Bengal in rural areas in 2007-08 compared to the year 2005-06. However, for females there was a decline of 5.3 percentage points in rural areas. But in case of India the share decreased by 0.1 percent and 2.1 percent for male and female respectively. The WPR for 66th Round with respect to 64th Round increased for male and female in West Bengal. For the subsequent round WPR decreased for male by 2.2 percent and increased by 2.7 percent for female in Bengal. So, if we look over the period, no change for male is observed in rural areas in India but a positive change is observed in West Bengal. The WPR for female in West Bengal increases from 64th Round. But for India it is declining over the period. So, from the above table we can see that with the percentage decadal growth for 2001-2011 in population is 17.64 and 13.93 in India and West Bengal respectively. The decadal population growth rate for male and female is 17.19 percent and 18.12 percent respectively within the period 2001-2011 in India. With the increase in population, the WPR remains more or less same for rural male population. Since the growth rate is quite high for women, the WPR for women in rural area has been decreased in India. On the other hand the WPR for rural male in West Bengal remains the same and for women the figure has been raised after 64th round. This is possible due to introduction of employment guarantee scheme like MGNREGA. With increase in demand for job due to increase in population pressure, the MGNREGA acts as panacea from all aspects.

Table 4.1.1: Percentage Distribution of Persons by Usual Status (Principal and Subsidiary) in Worker Population Ratio (WPR) in West Bengal in Rural Area

Years	Male		Female		Person	
	W. B.	India	W. B.	India	W. B.	India
2005-06 (62th) Round	58.3	54.9	19.9	31	39.7	43.3
2007-08 (64th) Round	59	54.8	14.6	28.9	37.4	42.2

		Jobs			Jobs			Jobs	
2005-06 (62th Round)	50.86	8.90	40.24	63.32	8.04	28.64	53.90	8.56	37.53
2007-08 (64th Round)	45.76	7.46	46.78	49.32	12.33	38.36	46.52	8.29	45.19
2009-10 (66th Round)	45.20	8.30	46.50	50.90	8.80	40.30	46.30	8.40	45.30
2011-12 (68th Round)	43.10	8.20	48.70	57.50	10.30	32.20	46.60	8.70	44.70
Growth rate between									
2005-06 to 2007-08	-5.14	-8.48	7.82	-11.75	23.83	15.72	-7.10	-1.62	9.73
2007-08 to 2009-10	-0.62	5.50	-0.30	1.59	-15.51	2.50	-0.24	0.67	0.12
2009-10 to 2011-12	-2.35	-0.60	2.34	6.29	8.19	-10.61	0.32	1.77	-0.66
2005-06 to 2011-12	-2.72	-1.36	3.23	-1.59	4.21	1.97	-2.40	0.26	2.96

Sources: Report of NSSO Employment and Unemployment Survey of India, 62th, 64th, 66th and 68th Round

Public work was defined as those activities which were sponsored by Government or Local Bodies. The types of works that are generally under taken through these schemes, were watershed development, drought proofing, land leveling, flood control, laying pipes or cables, sanitation, water harvesting, irrigation canal, development of orchard, road construction, building construction / repair, running crèche, etc.

Table 4.1.3: Percentage distribution of person of age 15 years and above in the rural area by status of getting work in public works during last 365 days in West Bengal

Years	Male			Female			Person		
	got work	sought but did not get work	did not seek work	got work	sought but did not get work	did not seek work	got work	sought but did not get work	did not seek work
2005-06 (62th)	13.1	13.4	72.5	2.1	5.2	91.7	7.7	9.4	81.8
2011-12 (68th)	29	10.8	60.2	9.2	5.1	85.7	19.1	8	72.9

Sources: Report of NSSO Employment and Unemployment Survey of India, 62th, 64th, 66th and 68th Round

The percentage who 'sought but did not get work' was higher than the percentage who 'got work' in public works in 62th round for both males and females. However, a reverse trend was observed in the percentage of both male and female who did not seek work in the public works in 68th round. The percentage who 'sought but did not get work' was lower than the percentage who 'got work' in public works in 68th round for both males and females. The corresponding percentages in the case of persons were 8 per cent and 19.1 per cent respectively.

Recent Trends and Causes of Migration

As per the NSSO 64th round, the percentage of households under migrant category in urban areas increased by 1.7 in 2007-08 from 1.2 in 1993-94 in West Bengal. Rural to Urban migration was 20 percent of the total internal migration after rural to rural migration flow which accounted for nearly 62 per cent of the total internal migrants in 2007-08 in West Bengal. The proportion of rural to urban migration of males increased by 5 percent to 39 percent in 2007- 08 from 34 percent in 1999-2000. About 60 percent of urban male migrants and 59 percent of urban female migrants had migrated from the rural areas in 2007-08. The migration for employment related reasons of rural females had reduced from 8 percent in NSSO 49th round to about 1 percent in both 55th and 64th rounds. This can be argued that the growing job availability for the rural

females in MGNREGA and other public works in the rural areas may reduce the level of migration. In case of male migrants of rural and urban areas, the causes for migration during NSSO 49th round, 55th round and 64th round have shown some different characteristics. It had been shown that there was reduction for rural male migration due to employment and rising magnitude for urban male migrants for employment-related reasons. The proportion of employment-related reasons in total rural male migration had decreased from 48 percent estimated in NSSO 49th round (1998-99) to 30 per cent in NSS 55th round (2004-05), which further declined to 29 per cent in NSSO 64th round (2007-08). The decrease in rural to urban migration between the period 2004-05 and 2007-08 may be due to the initiation of MGNREGA, a continuous existence of good monsoons and better facility to credit. To determine the causes of rural to urban migration, a lot of micro studies carried out in various area of India have revealed that the seeking for employment is the prime cause of out-migration from villages. Lack of employment facilities in the villages, unequal allocation of land, insufficient farmland and low productiveness, livestock and other essential household assets require the need for rural people to migrate to either town or other rural area to earn livelihood.

The initiation of labour displacement technique in the farm sector has also generated surplus rural labour and declining land and labour ratio have jeopardized the livelihood of rural people and so migrants move out from less developed area to relatively developed area or to states which experience either immense government initiatives for developing administrative structures and basic services or massive public sector investment or expansion of linked tertiary activities. Mostly, the migration is seasonal or temporary in nature and migrants return to their homes either in summer for marriages of relatives or during the time of cultivating their own farm lands. According to our study that a large section of migrants come from landless

households – provided they can get the job – than landed households as these households depend mainly on the accessibility of employment during the peak agricultural seasons. The prevailing caste structure is also an important determinant for out-migration to towns and cities as most of the people now like to work outside because this is possible to them to break loose from the existing caste taboos existing in the villages. While the people belongs to higher caste do not do any unskilled casual work in their villages because of caste taboo, they do any type of work— wage work or low-paid self-employed work— at the place of migration. This is the main reason why youth from higher caste migrate. The following table has discussed the migration pattern in four districts of West Bengal from the unit level data of 64th Round. The trend of migration is more or less U-shaped as per Monthly Per Capita Expenditure.

Table 4.1.4: Migration pattern as per MPCE Class of Birbhum, Hooghly, Howrah and 24 parganas of South

Fractile Class of MPCE	Birbhum			Hooghly			Howrah			24pgs south		
	MPCE	% of Migrated HHS	percapita land(D)	MPCE	% of Migrated HHS	percapita land(D)	MPCE	% of Migrate d HHS	percapita land(D)	MPCE	% of d HHS	percapit a land (D)
0-5%	571	42.86	0.6	981	68.75	0.88	772	70	1.02	920	72.73	2.12
5-10%	885	57.14	3.21	1381	58.82	2.66	1111	70	0.51	1293	60	4.15
10-20%	1245	58.62	7.62	1743	45.16	2.84	1432	55	8.62	1659	49.09	5.94
20-30%	1546	37.04	11.54	2084	59.38	10.73	1794	60	13.89	1967	44.64	7.07
30-40%	1789	28.57	0.67	2353	42.42	7.14	2049	55	5.52	2186	50	8.98
40-50%	2012	28.57	9.64	2568	45.16	12.53	2373	60	8.7	2471	44.64	7.66
50-60%	2265	32.14	5.29	2773	45.45	6.11	2760	40	12.44	2720	48.21	7.76
60-70%	2532	39.29	14.67	3006	45.16	15.47	3091	50	8.62	3011	39.29	8.32
70-80%	2814	25	7.36	3411	53.13	15.49	3691	65	10.42	3366	44.64	7.6

80-90%	3389	35.71	20.88	4171	62.5	13.22	4490	50	14.92	3938	44.64	20.29
90-95%	4041	42.86	26.06	5216	68.75	17.08	5245	40	23.59	5030	78.57	18.29
95-100%	5060	64.29	18.11	7787	62.5	27.18	8420	50	28.21	7710	60.71	30.37
All classes	2286	38.93	10.15	2977	52.81	10.94	2945	55	11.37	2883	50	10.11

Sources: Authors calculation form NSSO unit level data of Migration in India, 64th (2007-08) Round

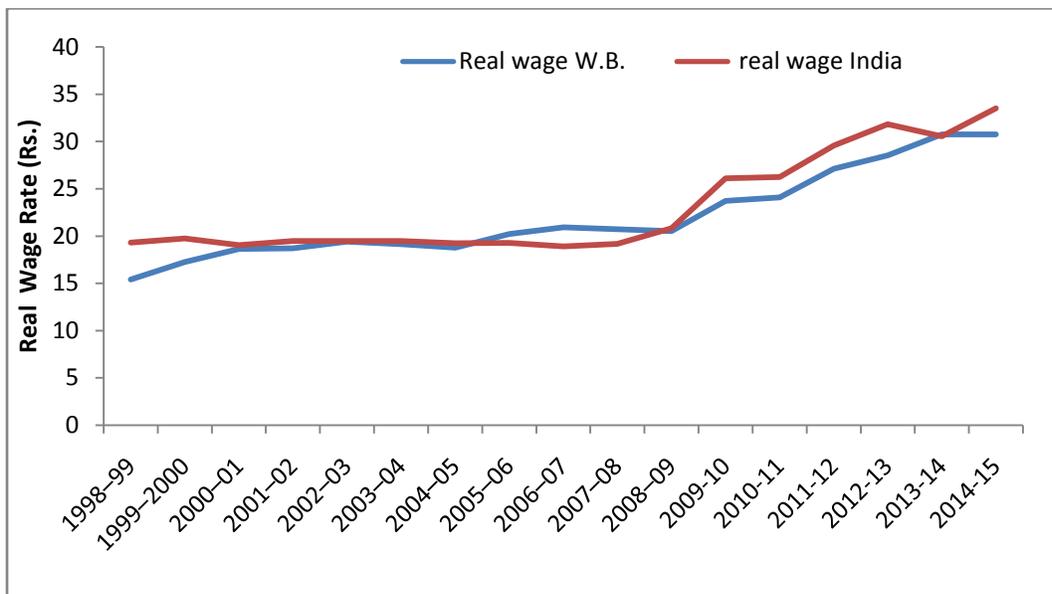
The percentage of migrated households is higher from the group of MPCE below 5 percentile and 5-10 percentile with poor percapita land holding. The percentage of households migrated from Birbhum, Hooghly, Howrah and 24 Parganas South are respectively 42.86, 68.75, 70 and 72.73 in the class of below 5 percentile MPCE. The percentage is low for Birbhum because the MPCE for the class is so low that it acts as the low income level immobility trap.

4.2 Trend in Farm Wages in West Bengal

The estimate gives an insight into what has been happening to farm wages in West Bengal since 1998-99. During the 1998-99 to 2005-06 the nominal farm wages for male field labour increased at an average annual rate of 3.7 percent while during the 2005-06 to 2014-15, they increased about 29.6 percent per annum. In case of India the annual growth rate for the period is 3.1 percent and 32.7 percent respectively. The real picture would be derived by analyzing what is happening to real farm wages for male field labour. The data on real wage rate can be a useful instrument to control the rate at which poverty could have reduced in rural areas as rural poverty mitigation and increase in farm wages are observed to have a direct relation (Lanjouw & Murgai, 2008). Thus, the annual nominal wages of West Bengal over time are initially deflated with the West Bengal-specific consumer price index for agricultural labour (CPI-AL with base 1986-87). On analysis, an interesting trend emerges that real farm wages in India declines at an average annual rate of 0.33 percent in 1998-99 to 2005-06. But during the 2000-01 they have followed a V-shaped pattern. Overall, during the 2005-06 to 2014-15, they grew at a rate of 8.22 percent per

annum. Compared to India, the real farm wage rate in West Bengal has not been increased over the period. West Bengal has been started from the lower level and it started to converge from 2000-01. The real wage rate in West Bengal exceeds the real wage rate in India from 2004-05, the gap between them is widening over for few period and finally wage rate for male field labour in India exceeds the wage rate than West Bengal. The wage rate grew at 4.4 percent per annum during 1998-99 to 2005-06 and 5.7 percent per annum during 2005-06 to 2014-15. Over the entire period 1998-99 to 2013-14, real farm wages have grown at an average annual rate of growth of 6.2 percent.

Figure 4.2.1: Average Real Farm Wage Rate at 1986-87 Constant Prices

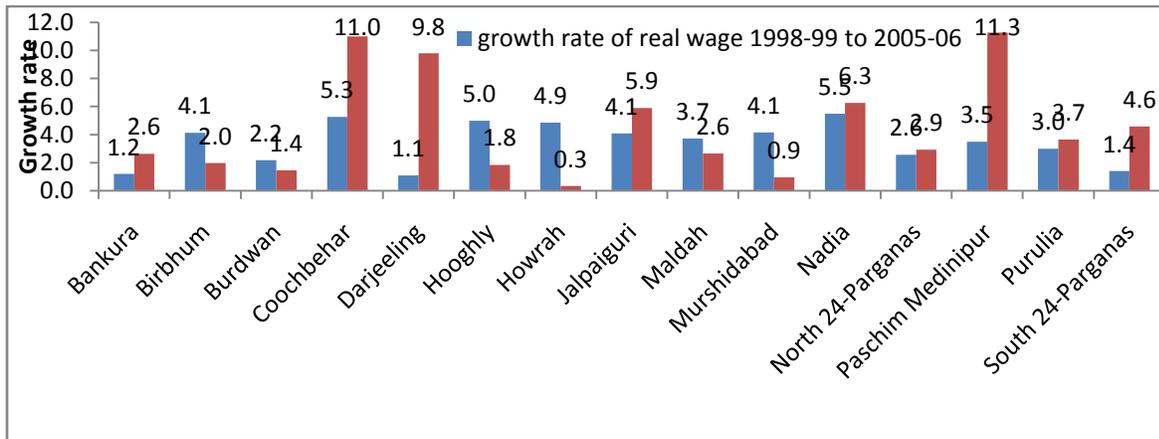


Source: Computed based on data available from Labour Bureau, Shimla

Thus, the all West Bengal trends in both nominal wages and real wages show that 2005-06 to 2014-15 were better than the 1998-99 to 2005-06 for agricultural labour. It is somewhat queer to see that there was much of a ‘noise’ from the farming community about rising farm wages in 1998-99 to 2005-06. After the introduction of MGNREGA both real and nominal wage rate in West Bengal increases with a good space.

In the meantime, it would be interesting to see what happened in different districts with respect to real farm wages. There could be some surprises there too. The disaggregated data at the district level show that districts like Birbhum, Hooghly and Howrah have observed a wage growth higher during the 1998-99 to 2005-06 than the 2005-06 to 2014-15 (Figure 4.3.2). Paschim Medinipur is a state which has shown a high rate of growth of real farm wages in post-MGNREGA. Two districts viz., Bankura and Burdwan stand out with low growth of real farm wages throughout the entire period. It is puzzling as both states have shown high rates of overall growth, at least during the decade of 2000s and Burdwan has also registered the highest growth in agriculture (almost 10 percent per annum) during the decade of 2000s. So, seeing that its farm wages did not grow commensurately remains a mystery yet to be resolved.

Figure 4.2.2: District-wise Annual Average Growth of Real Farm Wage



Source: Computed based on data available from Labour Bureau, Shimla

Is it that there was MGNREGA for them to force at work driving the farm wages? Or is it that farming was more remunerative in post MGNREGA than in pre MGNREGA and it could easily absorb the rising real farm wages? Or any other factor at work? It would be worth pondering on some of these issues.

4.3 MGNREGA and Farm Wage Rate:

MGNREGA's major purpose was to improve the livelihood of the rural households in the country by generating at least one hundred days of employment in certain wage in a financial year to all households whose adult members are willing to do unskilled manual work. In 2012-13 number of person days created was 20.18 crores which declined to 16.96 crore person days in 2014-15 in West Bengal. The scheme has generated 28.65 crore person days in 2015-16. The total availability of funds (including opening balance) was Rs.39140.6 million and Rs. 38244.6 million respectively for the FY 2012-13 and 2013-14 respectively. As against this, an amount of Rs. 39140.61 million and Rs. 38508.7 million have been utilized which constitute 98.39 percent and 97.37 percent of the funds available for the financial year 2012-13 and 2013-14 respectively. The spending was Rs. 48478.6 million as against Rs. 53854.6 million i.e. the percentage of utilization was 90.02 percent in 2015-16. In West Bengal, with the average nominal wage paid under the scheme increasing from Rs 69.4 in FY 2006-07 to Rs 171.27 in FY 2016-17, the bargaining power of farm labour has enhanced which has helped to determine a reservation wage for farm labour in rural areas and induced the increase in private sector wages.

We can divide the public works in two categories - MGNREGA public works and public works other than MGNREGA. In the following table we have discussed the change in wage rate of two types of public works along with casual labour in private sector. The table also elucidates the facts of change in wage differential between male and female casual labour. In the rural areas, on an average, Rs. 52.44 was earned in a day by a male casual labourer whereas a female casual labourer earned Rs. 40.81 in a day – showing a difference of Rs. 11.63 in 2005-06. The wage rate for public works was same as the wage rate in casual work in private sector. There was a considerable gender differential in the wage rates (per day) for casual labour in private sector in

subsequent round. The average wage rate for casual labour, of age 15-59 years, in rural areas was Rs. 123.92 for males and Rs. 100.5 for females in 68th round.

Table 4.3.1: Average wage earnings (Rs. 0.00) per day received by casual labour of age 15-59 years engaged in MGNREGA public works, public works other than MGNREGA and casual labour in private in West Bengal

Years	Males			Female			Persons		
	MGNR EGA	Other Public Works	CL	MGNR EGA	Other Public Works	CL	MGNR EGA	Other Public Works	CL
2005-06 (62th Round)	–	52.44	52.44	–	40.81	40.81	–	50.99	50.99
2007-08 (64th Round)	68.83	68.83	68.83	55.82	55.82	55.82	67.35	67.35	67.35
2009-10 (66th Round)	76.25	88.61	87.76	100	82.61	65.94	78.09	87	85.33
2011-12 (68th Round)	126.5	124.42	123.92	130.95	133.44	100.5	127.27	124.9	120.92
Growth rate between									
2005-06 to 2007-08	–	14.57	14.57	–	16.95	16.95	–	14.93	14.93
2007-08 to 2009-10	5.25	13.46	12.92	33.85	21.65	8.69	7.68	13.66	12.56
2009-10 to 2011-12	28.78	18.50	18.83	14.43	27.09	23.43	27.66	19.83	19.04
2007-08 to 2011-12	16.42	15.95	15.84	23.76	24.34	15.82	17.25	16.70	15.76

Sources: Report of NSSO Employment and Unemployment Survey of India, 62th, 64th, 66th and 68th Round

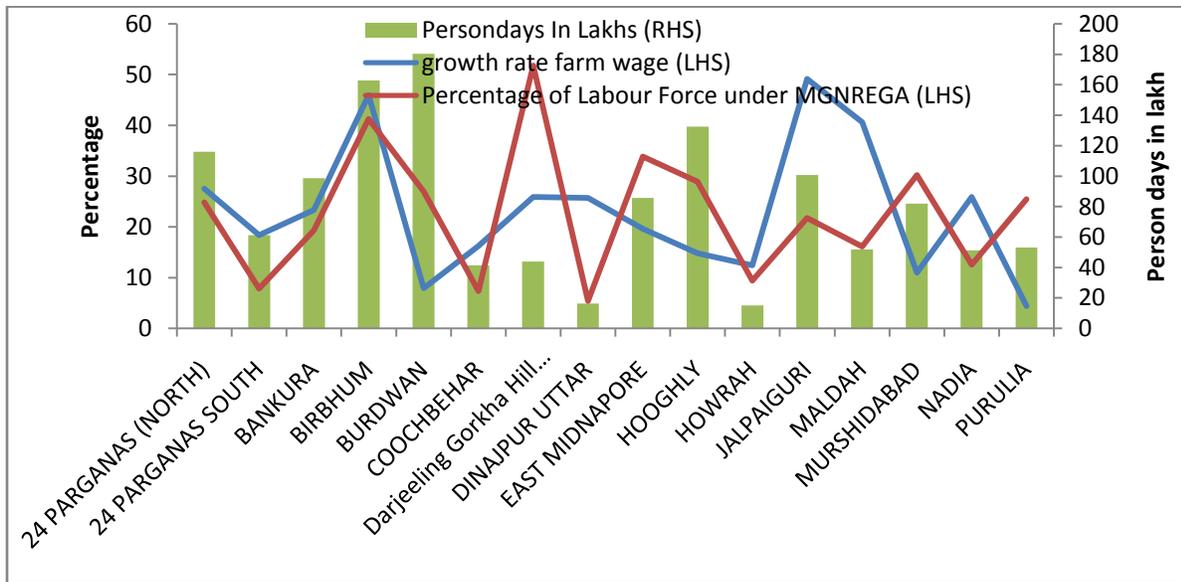
The wage rate for casual labour in other than public works was considerably lower than that for the casual labour in public works. The wage rate, for workers of age 15-59 years, working as casual labour in public works other than MGNREGA public works was Rs. 88.68 and for MGNREGA public works, was Rs. 76.25 in 66th round for rural male in rural areas. Conversely, the wage rates, for female workers of age 15-59 years, involved as casual labour in public works other than MGNREGA public works was Rs. 87 and for MGNREGA public works, was Rs. 78.09 in the rural in the same period. No male-female inequality in the wage rates for casual labours in MGNREGA public works prevailed and the inequality was more or less insignificant in case of casual labour in other than MGNREGA public works. However, substantial male-female inequalities in wage rate prevailed among the casual labours in other type of works. But the growth rate of wage rate for casual labour for rural female both in MGNREGA and public works other than MGNREGA are 23.76 and 24.34 as against of male labour with growth rate 16.42 and 15.95 over the period 2007-08 to 2011-12. So MGNREGA wage rate has the effect to increase female wage rate in private work and reduce the male-female wage gap.

A number of present researches agree with the concept of an increase in real wages of casual labourer owing to MGNREGA, with estimates ranging from 4 percent to 8 percent (Imbert and Papp 2012, Azam 2012, Berg et al 2012). NSSO data also point out that the introduction of MGNREGA has affected in a significant structural break in rise of rural wage. Between 1998-99 and 2005-06, pre-MGNREGA, nominal wages in the rural economy increased at an average annual rate of 3.7 per cent. Post-MGNREGA, average wage increases almost ten times to 30 per cent between 2005-06 and 2013-14. There are, however, studies which argue that rise in casual wage rates cannot be wholly attributed to MGNREGA (Dutta et al, 2012). Mukherjee & Sinha

(2011) have conceived a microeconomic model that establishes that the fact of a guarantee of employment at a given wage through the MGNREGA would initiate contestability in the rural labour market. On the other hand, in the presence of MGNREGA programme the large farmers in rural areas may now need to increase wage of workers they hire in order to make sure the required supply of labour.

Districts, primarily Birbhum, Darjeeling, East Medinipur and Jalpaiguri, which have a higher proportion of labour force engaged under MGNREGA, have experienced a higher growth in farm wages as is evident from Figure 4.4.1. These districts with relatively better farming activity, where the programme has provided a lot in terms of its coverage, may have a comparatively higher pressure on labour availability in farming activity and the level of farm wage.

Figure 4.3.1: MGNREGA & Growth in Real Farm Wages (2010-11 to 2011-12)



Source: Ministry of Rural Development (MoRD), Labour Bureau

Note: Estimates of rural labour force are derived for the years of 2010-11 from census 2011

Thus, there is evidence that MGNREGA has led to rise in the wages for unskilled labour. The MGNREGA is demand driven. So, increase in MGNREGA works mean the demand for work under MGNREGA increases which signify existence of unemployment in that area. The unemployment rate suppressed the wage rate. Now when MGNREGA coverage is expanded as for the demand, the increased labour demand reduces the level of unemployment and real wage is augmented. The empirical results for male and female labour which support our above statement are given.

While analysing the growth rate of real wages among male and female wage labours in agriculture, we also intended to determine the factors that are liable to raise the rate wage, specifically after the initiation of rural employment guarantee programme. For this, CI (Composite Index) was selected which is defined as the product of intensity and coverage of MGNREGA. The data has been taken from the MGNREGA website, Government of India. Intensity is defined as the average number of days of employment provided to each household that participated in the scheme in a reference period. The value of intensity ranges from 0 to 100, where 100 indicates that on an average each household participated got 100 days of employment in the reference period. Coverage is defined as ratio of number of households that got employment through MGNREGA and the total number of rural households in the district. It is defined as:

$CI = \left(\frac{P}{H} \right) * A$ where P denotes number of household participated and H denotes total rural households in the district.

In order to find the effect of real wages by gender and operations across the districts after the introduction of rural employment scheme panel regression for districts has been attempted by regressing real wage rate (WR) for the period of 2007-08 and 2010-11 to 2014-15.

Panel data regression model can be defined as:

$$\ln(MFLRW)_{it} = \alpha_0 + \alpha_1(FGP)_{it} + \alpha_2(CI)_{it} + \alpha_3(NRW)_{it} + \varepsilon_{it} \dots (1)$$

$$(FFLRW)_{it} = \alpha_0 + \alpha_1(FGP)_{it} + \alpha_2(CI)_{it} + \alpha_3(NRW)_{it} + \varepsilon_{it} \dots (2)$$

The dependent variable used in equation (1) refers to real wage rate of male field labour (MFLRW) during post-MGNREGA period and in equation (2) refers to the real wage rate of female field labour (FFLRW) during post- MGNREGA period. The independent variables are food grain productivity (FGP), composite index (CI) and MGNREGA notified real wage rate (NRW). We also consider ε_{it} as the error term distributed normally with mean 0 and variance 1.

Table 4.3.2: Correlation Matrix of the selective variables of this model

MALE	FGP	CI	NRW	FEMALE	FGP	CI	NRW
FGP	1			FGP	1		
CI	0.213	1		CI	0.206	1	
NRW	0.023	0.331	1	NRW	0.013	0.273	1

Correlation is significant at the 0.01 level (2 tailed)

In order to get preliminary understanding of the nature of the relationship between dependent and independent variables we calculate the correlation matrix of all the variables that is presented in table 4.3.2. It can be seen that CI and NRW are significantly (at 1 percent level) and positively related with FGP both for male and female. NRW is also positively and significantly (at 1 percent level) associated with CI both for male and female. All the values of correlation coefficient are less than 0.331 for all the variables and we can consider that the variables are free from autocorrelation.

Table 4.3.3: Regression Result of Real Wage Rate of Male Field Labour

MFLRW	Fixed Effect Model			Random Effect Model		
	Coefficient	t statistic	Prob. value	Coefficient	z statistic	Prob. value
_cons	-11.9886	-1.17	0.247	-14.849	-1.42	0.154

FGP	0.001145	0.81	0.42	0.000893	0.66	0.507
CI	0.317477	2.74	0.008	0.202981	1.86	0.062
NRW	1.33109	3.06	0.003	1.542077	3.51	0.000
	Number of obs = 72 R-sq with in=0.3737 R-sq between =0.1425 R-sq overall = 0.0684 F(3,57) = 11.34 (0.0000)			Number of obs = 72 R-sq with in = 0.3636 R-sq between = 0.1372 R-sq overall = 0.1009 Wald chi2(3) = 28.23(0.000)		

Source: Field survey & authors own calculation

In order to select the appropriate model, the restricted F-test, the Breusch and Pagan Lagrange Multiplier test and the Housman test are carried out. It is found that for the estimation of Real Wage Rate of Male Field Labour (MFLRW) both Fixed Effect Model and Random Effect Model are statistically significant. Statistically significance of Housman test [Wald chi2 (3) = 8.20(0.0420)] suggests for choice of the FEM over REM. Hence, the regression results of the FEM are used for statistical inference and further analysis of the individual coefficients.

Composite Index (CI) and notified real wage rate of MGNREGA (NRW) are positively and significantly related with real wage rate of male field labour for agricultural labourers during post-MGNREGA period. Here food grain productivity (FGP) is positively related to real wage rate of male field labour for agricultural labourers which are statistically insignificant. From the panel data estimation, it is observed that a 10 percent raise in CI and NRW, leads to 3.1 percent and 13.3 percent raise in farm wage rate respectively.

Table 4.3.4: Regression Result of Real Wage Rate of Female Field Labour

	Fixed Effect Model			Random Effect Model		
FFLRW	Coefficient	t statistic	Prob. value	Coefficient	z statistic	Prob. value

_cons	-15.20819	-1.33	0.188	-17.0243	-1.53	0.127
FGP	.0008085	0.52	0.609	.0006018	0.43	0.669
CI	.2661151	2.06	0.044	.1899177	1.68	0.093
NRW	1.36116	2.81	0.007	1.502191	3.19	0.001
	Number of obs = 72 R-sq within=0.2942 R-sq between =0.0032 R-sq overall = 0.1411 F(3,57) = 7.92 (0.0002)			Number of obs = 72 R-sq within = 0.2900 R-sq between = 0.0032 R-sq overall = 0.1572 Wald chi2(3) = 22.39 (0.0001)		

Source: Field survey & authors own calculation

In order to select the appropriate model, the restricted F-test, the Breusch and Pagan Lagrange Multiplier test and the Housman test are carried out. It is found that for the estimation of Real Wage Rate of Female Field Labour (WRFFL) both Fixed Effect Model and Random Effect Model are statistically significant. Statistically insignificance of Housman test [Wald chi2 (3) = 1.54 (0.6737)] suggests for choice of the REM over FEM. Hence, the regression results of the REM are used for statistical inference and further analysis of the individual coefficients.

Again Composite Index (CI) and notified real wage rate of MGNREGA (NRW) are positively and significantly related with real wage rate of female field labour for agricultural labourers during post-MGNREGA period. Here food grain productivity (FGP) is positively related to real wage rate of female field labour for agricultural labourers which are statistically insignificant. From the panel data estimation, it is found that a 10 percent increase in CI and NRW, leads to 1.89 percent and 15.02 percent increase in farm wage rate respectively. The research of different researcher and available data have confirmed that the initiation of rural employment programme has generated additional employment for the labourers and therefore, it is expected to have a positive effect on the growth rate of wages in any given area.

The increase in wage rate for male labour is greater than female labour with respect to composite index. Composite index consider the coverage and intensity of the programme. This indicates that the male labours are absorbed more than female labour. Not only that, the agricultural activity is performed by male labour mainly. So composite index induces more wage increase in male labour. On the other hand, female labour gets much lower wage than the subsistence level. So the notified wage of MGNREGA stimulates as reservation wage for female labour more than that of male counterpart.

4.4 Summing up

The WPR for rural male in West Bengal remains the same and for women the figure has been raised after 64th round. The share of self-employment among males and female has decreased during 2005-06 and 2009-10, while the share of casual labour has increased. The rural male migration had declined during 1998-99 to 2004-05 which further decreased to 2007-08. The growth rate of wage rate for casual labour for rural female both in MGNREGA and public works other than MGNREGA over male labour has reduced the male-female wage gap.

Composite Index (CI) and notified real wage rate of MGNREGA (NRW) are positively and significantly related with real wage rate of both male field labour and female field labour for agricultural labourers during post-MGNREGA period. The increase in wage rate for male labour is greater than female labour with respect to composite index and this indicates that MGNREGA has relatively much impact on male labour than on female labour.