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ABSTRACT

Rural farm wages are one of the most important tools for measuring the condition of rural people more accurately. Using secondary data, the present study makes an attempt to study both money and real trends for different agricultural operations for male and female agricultural labourers of Assam. It has been observed that there both money and real wages have been rising continuously for different agricultural operation. However, the rise in wages has gained significant momentum mainly after the implementation of MGNREGA in the recent past. The study further reveals that there has been a significant gender wage gap among unskilled rural labourers. On average female agricultural labourers are paid around 40 percent less than their male counterpart for almost all agricultural operations. The impact of MGNREGA in reducing the gender wage gap is mixed. Wage gap has increased for field labourers, sowing and weeding after MGNREGA while for reaper and harvester and other agricultural labourers it has decreased. Therefore, the study suggests that necessary steps should be taken by the policymakers in order to arrest the problem of wage inequality immediately.

Key words: Agricultural wages, Rural poverty, Trend, MGNREGA

Rural farm wages are one of the most important tools for measuring the condition of rural people more accurately. Not only that, it also has the inverse relationship with the rural poverty as well [1-2]. But the prime concern is that agricultural wages across countries and/or regions are not equal. Wage differential¹ is more or less a common phenomenon in the labour market in almost all countries [3]. However, equality of wages is essential and desirable for the reduction of poverty in any country and/or region. Poverty reduction is very closely connected with agricultural wages and employment levels rather than with non-farm employment growth [4]. Not only that, agricultural wage rates prevailing in rural areas provide a further perspective on the livelihoods of the rural population. Similarly, Deaton and Drèze [5] also pointed out agricultural wages can be viewed not only as useful proxies of poverty but can also be seen as indicators of poverty in their own right insofar that they capture the reservation wages of the rural

labour force. Besides that, land and labour are the two fundamental resources available to the rural people for income generation other than capital. So, access to land and employment for labour become basic determinants of well-being for rural households [6]. Besides these, a large number of studies have confirmed that there is a strong negative association or correlation between agricultural wages and poverty rates in general and particularly in India [7-9]. So, if policies can be devised in such a way that puts upward pressure on rural wages that may lead to a significant reduction of poverty in rural India. Therefore, analyzing the rural agricultural wages has drawn the significant attention of the policymakers.

India is predominantly an agrarian economy and agriculture continue to be the main source of employment both for men and women in rural India. Although the share of agriculture in GDP is gradually declining, still more than 50 per cent of the rural people are directly or indirectly earning their livelihood from agriculture [10].

Similarly, Assam is an agro-based rural economy where around 86 per cent of the total population still lives in rural areas in comparison to the national average where only 69 per cent of the total population lives in rural areas. Agriculture is the main occupation for the rural population [11]. It employs more than 50 per cent of the total workforce and supports more than 75 per cent of the population directly or indirectly. Agriculture and allied activities have contributed 15.08 per cent in state domestic product in 2019-20 (Economic Survey, 2020-21). According to the agricultural census 2010-11, in Assam, more than 85 per cent of the farmers belong to the marginal and small class who mainly depend on wage income [12]. Therefore, the

¹One can list several types of wage differential such as occupational wage differential, skill/unskilled wage differential, industrial/non-industrial wage differential, geographical wage differential, inter or intra plant wage differential, sex-based wage differential, again wage differential could be due caste, race, religion, age, seniority, union/non-union based wage differential and many more.

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study of rural wages, especially agricultural wages assume vital importance in the context of Assam.

MATERIALS AND METHODS

There are five estimates of wage data for rural labourers are the Agricultural Wages in India (AWI), Rural Labour Enquiries (RLE), National Sample Survey (NSS), Commission for Agriculture Cost and Prices (CACP), and finally Wage Rates in Rural India (WRR). Of these, NSS wage data and RLE wage data are from the same source, that is, the quinquennial employment and unemployment surveys conducted by the NSS. Thus, there are only four sources of wage data available. However, there is no agreement among the researchers regarding the best source, each data has certain advantages and disadvantages. Depending upon the purpose and availability different scholars have relied upon different data sources.

Analytical framework

Agricultural wages in India (AWI) data are mainly used to estimate the money wages for male and female field labour¹. It provides data for several agricultural operations like ploughing, sowing, weeding, reaping and harvesting; along with this data for other agricultural labour and herdsmen is also reported. AWI reports data at the district level, where a representative village from each district is selected for which, monthly data is reported. Simple arithmetic average of 12 months data represents the district's average and simple arithmetic average all districts data give the state average for a year. To calculate the real wage trends money wages shall be deflated by Consumer Price Index for Agricultural Labour (CPI-AL):

$$\text{Real Wage} = \frac{\text{Money Wage}}{\text{CPI} - \text{AL}} \times 100$$

Table 1 Money wages trends of male-female field labour for Assam and India

Year	Assam_F	India_F	Wage gap	Year	Assam_M	India_M	Wage gap
2010-11	95.15	115.02	19.87 (17.28)	2010-11	117.94	147.91	29.97(20.26)
2011-12	113.54	135.67	22.13(16.31)	2011-12	142.34	180.70	38.36(21.23)
2012-13	138.23	164.57	26.34(16.01)	2012-13	177.38	213.71	36.33(17.00)
2013-14	166.04	178.82	12.78(07.15)	2013-14	208.99	229.12	20.13(08.79)
2014-15	190.00	204.00	14.00(06.86)	2014-15	242.00	268.00	26.00(09.70)
2015-16	200.00	218.00	18.00(08.26)	2015-16	245.00	281.00	36.00(12.81)
2016-17	227.00	230.00	03.00 (01.30)	2016-17	275.00	295.00	20.00(06.77)
2017-18	229.00	244.00	15.00(06.14)	2017-18	278.00	315.00	37.00(11.74)
2018-19	232.00	262.00	30.00(11.45)	2018-19	288.00	330.00	42.00(12.72)
2019-20	252.00	278.00	26.00(09.35)	2019-20	318.00	348.00	30.00(08.62)

Source: Agricultural Wages in India, Various Issues

*Figures in the brackets show a percentage gap

Similarly, in Assam female field labour has consistently received or been paid lower wages than the national average. In 2010-11 a female field labour in Assam received only Rs 95.15 for performing different agricultural operations in comparison to the national average 115.02. Agricultural wages in Assam for female field labour have more than doubled in 2015-16 to Rs 200 and further increased to Rs 252 in 2019-20. The gap between Assam and the national average is gradually declining. In 2010-11 female field labour was paid around 20 per cent less than the national average [14-16]. However, this gap has reduced significantly in 2019-20 to just around 9 per cent.

Gender wage differential has been calculated as:

$$\text{Gender Wage Gap} = \left(1 - \frac{\text{Female Wage}}{\text{Male Wage}}\right) \times 100$$

Coefficient of variation shall be calculated in order to study the degree of wage differential before and after the introduction of MNREGA.

$$CV = \frac{\sigma}{\mu} \times 100$$

RESULTS AND DISCUSSION

Comparative study of male-female field labourers wage of state and national average

Assam is one of the low wages paid states in India barring a few exceptions. Both male and female field labour have been paid or received less than their national counterparts for all operations. It is evident from (Table 1) that male field labour in India has got Rs 147.91 for performing different agricultural operations in the field. While doing the same work in Assam male field labour has received only Rs 117.94 i.e., around 30 Rs less than his national counterpart. Although Assam is one of the low wage states, wages are growing at a faster pace. Wages of male field labour in Assam has more than doubled in 2015-16 i.e., increased to Rs 245 while for similar operations national wage is Rs 281. Similarly, the wage for male field labour in Assam has gone up to rupees 318 in 2019-20 whereas for the same work his national counterpart has received rupees 348 [13]. The money wage gap for male field labourers between Assam and India in 2010-11 was around rupees 30 which remain more or less the same in 2019-20.

Money wages trends in male-female field labourers in Assam

Wages of field labour has been calculated taking the simple arithmetic average of agricultural operations like sowing, weeding, reaping and harvesting². Money wages of both male and female field labourers are rising consistently since 1982-83 at a slower pace. Although wages are growing both for male and female labourers, the same has increased at a very faster rate for male labourers than female labourers. There exists a significant wage gap between male and female field labourers. In 1982-83 female labour was paid almost 2 rupees less than male field labour in absolute terms. Similarly, on

¹Field labour is defined as the simple arithmetic average of wages for five agricultural operations such as ploughing, sowing, weeding, reaping and harvesting. It is very important for making state level comparisons.

²Ministry of agriculture defines field labour as a simple arithmetic average of four agricultural operations viz, ploughing, sowing, weeding, reaping and harvesting. But we have excluded ploughing for meaningful comparison between male and female labourers because for ploughing for female labourers are almost nonexistent because ploughing is predominantly a male activity.

average female field labour is paid around 13 rupees less than its male counterpart for performing the activity. The study of wages of field labour is very important for comparative study of wages among states because states like Andhra Pradesh, Jharkhand, Karnataka and Maharashtra do not report data

operation wise rather than only field labourers wages along with herdsmen and other agricultural labour [17-18]. However, for Assam disaggregated data for different operations are reported which give a better idea about agricultural wages. This is done in the following sections.

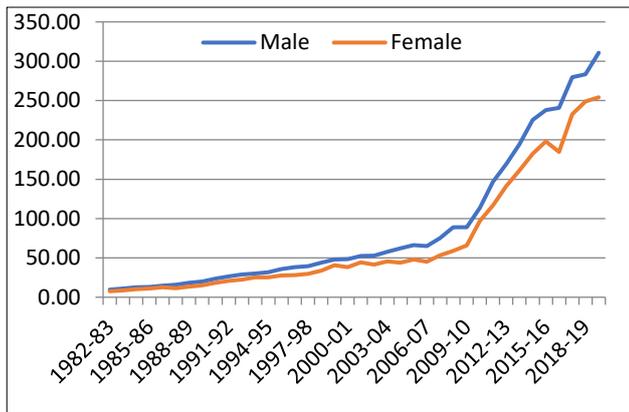


Fig 1 Wages of male-female field labourers

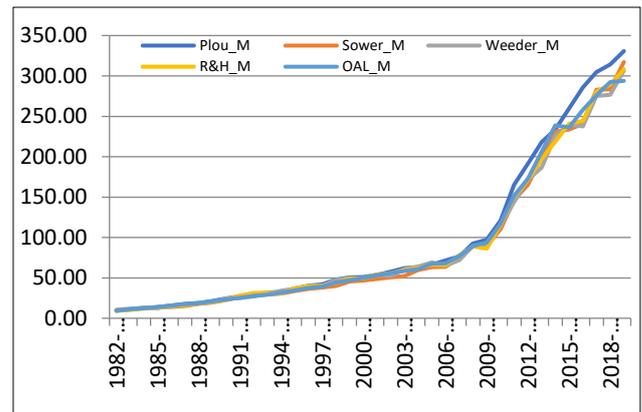


Fig 2 Operation wise money wages for male agricultural labour in Assam

Money wage trends for male-female labourers for different agricultural operations

(Fig 3) clearly shows that the money wages of male agricultural labour for ploughing, sowing, weeding, reaping and harvesting and other agricultural labours have been rising consistently since 1982-83. Money wages remained very low for all agricultural operations till 2004-05 which is below 50

rupees. However, in the recent past mainly after 2005-06 agricultural wages for different operations have increased at a much faster rate than before which is visible from the figure below. Money wages which were around only rupees 50 till 2003-04 suddenly rose significantly. The unprecedented rise of agricultural wages could be attributed to the implementation of M/NREGA [19-20].

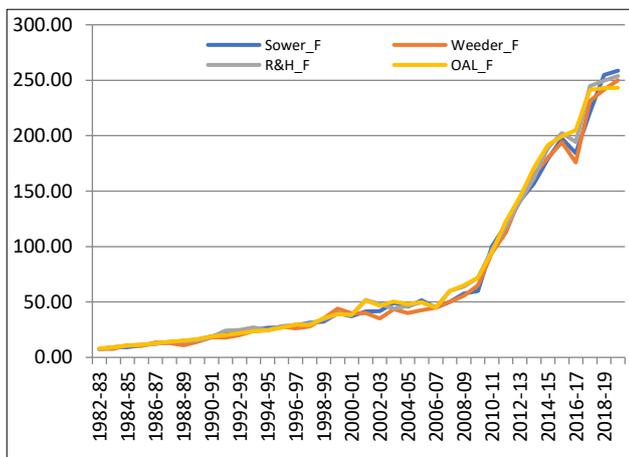


Fig 3 Operation wise money wages for female agricultural labour in Assam

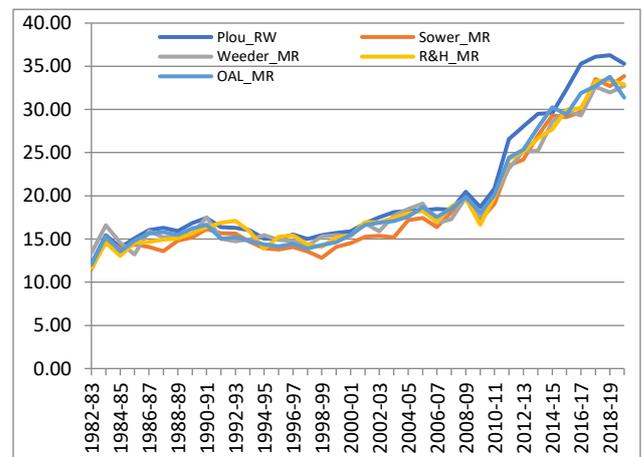


Fig 4 Operation wise real wages for male agricultural labour in Assam

(Fig 4) shows the money wages of female field labour for different agricultural operations like sowing, weeding, reaping and harvesting and other agricultural labour. Money wages for different operations are like mirror images of one another. Like money wages for male field labour, female wages also remained very low till very recently. Female labour wages have risen at a very faster rate after the implementation of MGNREGA.

increasing consistently since 1982-83 real wages do not reveal so. It means prices rose faster than wages. Real wages have remained almost stagnant around rupees 15 from 1982-83 to 2003-04. After that real wages started rising, but in the year 2009-10 it slightly dipped again and it been continuously rising since then. Real wages of female agricultural labourers reveal almost the same kind of picture as the real wages of male agricultural labourers but are erratic. Barring a few exceptional years for weeding and other agricultural labour where real wages dropped significantly in the year 1987-88 and increased to rupees 16 for the year 2001-02 respectively. And almost for the entire period, real wages remain stagnant around in the range rupees 10 to 15 up to 2008-09. Real wages have increased at a greater pace for female agricultural labourers for different operations only after 2010-11 after that it is consistently rising. This rise may be attributed to the implementation of M/NREGA which increased the demand for rural labourers [21].

Real wage trends for male-female labourers for different agricultural operations

As we know money wages do not reflect the accurate picture because it does not take into account changes in prices. Therefore, to get correct we should look into real wages rather than money wages. Figure 5 reveals the scenario of real wages of male agricultural labourers for different agricultural operations. It is evident that although the money wages are

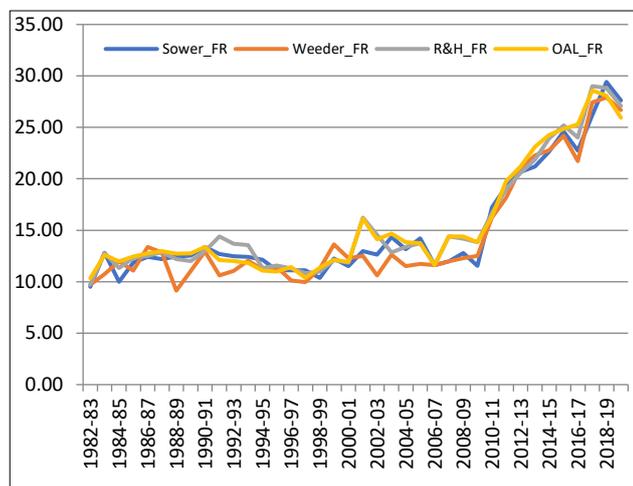


Fig 5 Operation wise real wages for male agricultural labour in Assam

Gender disparity in agricultural wages

Money and real wage trends of both male and female agricultural labourers reveal the same type of trends. Even though both male and female agricultural labourers experiencing the same trends but still there is a significant wage gap between male and female labourers for almost all operations. Female wages for ploughman are either not available or not reported because ploughing is a male dominant

activity. Therefore, the wage gap for male-ploughman could not be calculated. A female sower on average has received around 19 per cent less than their male counterpart during the study period. Similarly, a female weeder on average has been paid around 27 per cent less than a male weeder. In the same way, a male reaper and harvester have got around 20 per cent more than his female counterpart. Similarly, a female other agricultural labourer has been paid around 19 per cent less for performing the same activities than her male counterpart. Several studies have examined the impact of MGNREGA on the agricultural wage gap because it makes provision for equal wages for equal work. To study the impact of MGNREGA on agricultural wages we have estimated coefficient of variation (CV) for two time periods 1996-97-2005-06 to 2006-07-2015-16 i.e., 10 years before and after implementation of MNREGA for different agricultural operations like sowing, weeding, reaping and harvesting, other agricultural labourers and field labourers. The results show that gender disparity for sowing as captured by a CV which was 29.33 during 1996-97 to 2005-06 have increased to 38.75 during 2006-07 to 2015-16. Similarly, the CV for weeding increased from 28.51 to 34.39 in the post MGNREGA period. On the other hand, the disparity has decreased for reaping and harvesting from 33.13 to 28.38 and 35.98 to 26.33 for other agricultural labourers after the implementation of MGNREGA. Similarly, for field labourers, it has increased from 21.42 to 30.52 during the period 2006-07 to 2015-16 [22-23].

Table 2 Mean, standard deviation and coefficient of variation before and after M/NREGA

Period	Sower			Period	Weeder		
	Mean	SD	CV		Mean	SD	CV
1996-97 -2005-06	17.19	5.04	29.33	1996-97 -2005-06	28.32	8.07	28.51
2006-07-2015-16	23.33	9.04	38.75	2006-07-2015-16	23.65	8.13	34.39

Period	Reaper and harvester			Period	Other Agri Labour		
	Mean	SD	CV		Mean	SD	CV
1996-97 -2005-06	21.17	7.02	33.13	1996-97 -2005-06	18.81	6.77	35.98
2006-07-2015-16	20.32	5.77	28.38	2006-07-2015-16	21.37	5.63	26.33

Field Labour			
Period	Mean	SD	CV
1996-97 -2005-06	22.38	4.79	21.42
2006-07-2015-16	22.47	6.86	30.52

CONCLUSION

Agricultural labourers or workers are the most deprived sections of rural India. They do not possess any special skill either. And finding no other jobs they mainly depend on agriculture for their livelihood. Therefore, agricultural wages occupy a dominant position in their total income. Not only that, agricultural wages also have a negative relation with rural poverty. So, designing appropriate policies regarding agricultural wages is very crucial for the government and policymakers. Using the time-series data from Agricultural Wages in India we have found that both male and female field labourers in Assam are paid less than the national average. Money wages for field labourers are increasing but

there is a disparity between male and female labourers. On average, female field labour is paid around 40 per cent less than her male counterpart. In comparison to the money wage real wages remain more or less stagnant for a long and it is in the recent past, mainly after the implementation of National Rural Employment Guarantee Act (MGNREGA) real wages have increased significantly. Operation wise study also reveals the same picture. The impact of MGNREGA in reducing the gender wage gap is mixed. The gender wage gap in Assam has increased for field labourers, sowers and weeders after MGNREGA while for reaper and harvester and other agricultural labourers it has decreased. So, the study suggests that immediate policies should be taken to reduce the gender wage differential in Assam by the policymakers.

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