MGNREGA and Changes in Rural Employment Trends, Wage Structure, and Rural-Urban Migration

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Abstract

Despite accelerating growth of the economy, the sectorial transformation of rural workforce has been slow. Furthermore, there is a lot of variation in productivity in farm and non-farm sectors. On the other hand, urban absorption of labour force into manufacturing is limited and is very slow in formal jobs, and rather, job generation, especially in the private sector, has mostly been contractual. The ever increasing rural population and labour are finding non-farm sectors as the primary source of employment since agricultural growth is slow and is constrained to absorb the increased labour. An attempt was made in the present paper to estimate the transformation in rural labour in terms of its composition and wages earned by it by analyzing field data collected from 10 villages from five districts located in the state of Andhra Pradesh.

Keywords: **rural labour, shift, pattern, wages, MGNREGA, agricultural sector, non-farm sectors**

JEL Classification: E24,J41, J42,J310, J430

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Rural labour force has been changing in India, and it has shifted towards non-farm sectors and has been migrating to urban areas to find employment, but admittedly, labour in India is predominantly agrarian, a fact which cannot be ignored in an analysis of the labour movement in India (Oomen, 2010). Despite accelerating growth of the economy, the sectorial transformation of rural workforce has been slow. Furthermore, there is a lot of variation in productivity in farm and non-farm sectors. On the other hand, urban absorption of labour force into manufacturing is limited and is very slow in formal jobs, and rather, job generation, especially in the private sector, has mostly been contractual. The ever increasing rural population and labour are finding non-farm sectors as the primary source of employment since agricultural growth is slow and is constrained to absorb the increased labour.

Trends in Rural Labour Force Participation

According to Jose (2013), wages of female labour accelerated as compared to those of male workers during 1999-2010. The important wage differentials were analyzed and then ranked. The gender based wage disparities were estimated across states. It was found that in Andhra Pradesh (A.P.), the growth rate of women's real wages was higher as compared to the growth rate of real wages of male workers, and the same is reflected in the index numbers of increase in real wages of the rural women workforce in A.P. during 1999-2010. Abraham (2013) estimated the steady feminization of the labour force during 1972-2012. The reasons estimated per se were patriarchal norms and reduction of double work burden on women. Abraham estimated, in another study (2009), the turnaround in employment growth by distress driven employment in rural India during 1999-2000. When the earners in the household declined due to fall in agricultural yield, the female work force and aged workers were

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compelled to compensate the gaps in income, and were observed to play a pivotal role in agricultural productivity. Hence, the study revealed that growth in rural employment happened due to distress driven employment..

Binswanger-Mkhize (2013) estimated that non-farm opportunities would continue to be more accessible for young and educated men than for women, thereby accelerating the feminization of agriculture. The bottling up of labour in rural areas means that farm sizes will continue to decline, agriculture will continue its trend towards feminization, and part-time farming will become the dominant farm model. Kumar and Sahu (2013) argued for skills distribution of workers in India. There is a lack of trained manpower (who possess the required skill sets) in our country. There are some imperfections across regions, gender, sectors, and locations. Appropriate skill-sets are the basic requirement for absorbing humans in job avenues, and hence, workers need to be endowed with essential skill sets and education. Singh (2013) predicted the decline in growth of labour force and employment elasticity by 2020. According to the author, there is a decline in demand for labour in agriculture. There will be a need for labour intensive techniques to accommodate the labour in the economy through small establishments and training on vocational lines.

Labour absorption in the urban economy, especially in the manufacturing sector, has been low; formal sector jobs are few and are declining in the share of employment, and labour contracts are increasingly informal. Agricultural growth has not responded to the accelerating income growth, and agricultural employment is growing slowly. It is the rural non-farm sector that has emerged as the major source of rural and economy-wide employment growth, with rural non-farm self employment and incomes growing especially fast (Binswanger-Mkhize, 2012). Thomas (2012) estimated a good improvement in real wages during 2004-2010 in India. There was an absolute decline in the number of workers engaged in agriculture and related activities. Due to distress driven employment, women workers entered into self-employment (in large numbers) in agriculture and contributed to one-third of the net increase in employment in India during the first half of the 2000s. The better educated workers were employed much after 2005 in rural construction with casual nature. The market modernization was hampered with low rate of women labour participation, and it became a staggering 2.16 crores in 2009-10.

Jatav (2012) found that much casualization of female labour took place in rural India from 2004-2010, and self-employed and regular work force declined in the same period. The casualization was high due to low level of education and less household consumption levels. Neff, Sen, and Kling (2012) estimated a sharp fall in the female workforce in rural India during 2004-10. They estimated two reasons for this shift of labour, that is, the education effect and the income effect and these factors interact with social factors. Chowdhury (2011) and Shaw (2013) revealed that the decline in employment in rural India happened during 2009-10, and it was much higher for the female workforce in the recent NSSO survey. With access to limited employment, a gloomy picture appears for rural India in work participation rate; however, an Editorial in Economic and Political Weekly, "Don't Shoot the Messenger: An Official Tirade has been Unleashed Against Official Data on Employment. But why ?" (2011) commented that the Central government is to receive the collected data, whether the employment statistics are favourable or not. The assumed trends might not be traced in the surveys, but the policy formulators are to receive the data in the right perspective.

Himanshu (2011) estimated that the long-term employment trends did not display a good relationship with increased output in the nation. There have been certain large fluctuations in employment even after 1993-94. The women workforce has increased continuously over decades, but women have to face discrimination of less payment and are suitable for only specific job offers. There is a need for policy interventions to remove these obstacles in the labour market (Srivastava & Srivastava, 2010). Despite the rapid growth of the non-farm sector, its success in drawing labour from land has been limited. There is an argument that only agricultural productivity is a relevant factor for absorbing the rural labour force. As most of the labour is drawn into non-farm sectors due to the educational levels of young cohorts, it was observed that the aged cohorts were badly affected with sluggish agricultural growth (Eswaran, Kotwal, Ramaswami, & Wadhwa, 2009).

Reddy and Kumar (2006) estimated that educational attainment has had a great positive effect on non-farm employment in rural Andhra Pradesh. It was found that there were wage differentials, types of employment,

education of workers, social groups, and gender differences. The obtaining of education upto the upper primary level led to the shift of labour from casual to self and regular employment in A.P. coupled with wage increase (44%). The self-employed in agriculture with technical education had many options to take up part time work as compared to other workers. However, the share of women as part-time workers was greater than the share of male workers.

Duvvuru and Motkuri (2013) estimated the declining trend of labour in rice cultivation in all three forms of labour, that is, family, casual, and attached labour in A.P. As compared to males, there was greater participation of women in cultivation. There was an increase in mechanization while harvesting, threshing, and winnowing per hc of cultivation in A.P. The female labour inputs per hc were found to be higher when compared to the labour inputs of males . Galab, Fenn, Jones, Raju, Wilson, and Reddy (2006) estimated the needs of the non-farm sector for the generation of many livelihood strategies which can reduce poverty. To develop the human resources in A.P., short terms vocational training is required to be given to the rural people. This step could do much to increase the skill sets of the people, and would enable them to find suitable employment opportunities outside agriculture.

Impact of MGNREGA on the Pattern and Wages of the Rural Labour Force

Reddy (2013) estimated the wage trend for major states. The study found a positive relation among the wages of ploughing, harvesting, and masonry and the average days under MGNREGA. Though there was a sluggish growth in real wages during 1995-2005; later, the real wages for peak and slack seasons displayed an increase after 2005, attaining the highest value during 2007-2010. The author argued that Tamil Nadu, Haryana, and Punjab might have crossed the Lewis Turning Point (LTP) by the year 2005. There will be a need of mechanization of agriculture and change in labour strategies at least in the labour scarce states for the agricultural sector. Kareemulla, Ramasundaram, Kumar, and Rao (2013) estimated the increase in per capita expenditure in four states – A.P., Karnataka, Maharashtra, and Rajasthan, and observed the impact of MGNREGA over farm wages in all four states. The study observed the largest increase in wages for women workers in Rajasthan than their counterparts. The scarcity of labour during the post-harvest season leads to substitution of mechanization. Where manual labour is compulsorily required, at that place, labour absorption has become complicated for cultivation coupled with leisure engagement during the post-MGNREGA period.

Zimmermann (2012) estimated that wage effects were concentrated during the main season of agriculture, which is consistent with the idea that wage pressures should be particularly strong during a time when demand for labour is relatively inelastic and MGNREGA provides a viable outside option. The empirical analysis suggested that the most important function of the scheme may be to indirectly enforce minimum wages in the private sector during the agricultural main season, but may be less successful in providing employment and income for large enough sections of the working-age population during the agricultural off-season. Korra (2011) observed that the migration from the study village (Mahabubnagar) was essentially seasonal and cyclical in nature and differed for the rural and urban emigrants and took place mainly for survival and repayment of debts, and that a large proportion of the earnings from migration were utilized for day to day expenses. Jha, Gaiha, and Shankar (2010) used field data to estimate rural labour transformation in the composition and wages in A.P. due to the impact of MGNREGA. The author found that that there was much participation in A.P. (in MGNREGA) than in Rajasthan by the weaker sections.

Data Sources and Methodology

This paper took the support of both primary and secondary data for conducting the analysis. The primary data were collected from 10 selected villages across selected districts in Andhra Pradesh. Five sample districts were selected based on agricultural development, and from each district, two blocks/mandals were taken keeping in view the urban proximity. Hence, the blocks that were selected were the ones that were proximate to the district headquarter and with a distance of 25 km respectively. A small village from one block/mandal and another big

village from another block/mandal were selected to find labour demand and supply conditions against the backdrop of urban proximity and agricultural practices of the concerned villages. The study further tried to capture the farm and non-farm effect over the pattern of rural labour force and also analyzed the rural-urban migration. A pre-tested schedule was used for collection of data. From each village, 25 beneficiaries and five non-beneficiaries were selected to estimate the impact of MGNREGA over pattern and wages of rural labour. To estimate the scheme's impact over wages, labour demand, and agriculture, three points of time were considered: (a) 2001, (b) 2005, and (c) 2012. The village data - regarding work participation rates - for the 2011 Census is still to be releazed, and hence, the analysis for 2011 is based on estimates calculated using the 2001 Census data.

Analysis and Results

(1) Work Participation Rates in A.P. and India : The Table 1 depicts the work participation rates and decadal change in labour. The significant fact is that the workforce participation rate (WPR) of total workers for either gender in A.P. was greater than that of India at both points of time. The rate of WPR for women had accelerated in A.P., while there was a deceleration for women in India as a whole. In case of males, an analogous can be observed for A.P. and India during the study period. The main workers (women in A.P.) nearly had 100% higher WPR at both points of time. For men and persons, the rates of the workforce for main workers display much higher ratios in A.P. as compared to the rest of India. There was a large deviation in labour participation, but this scenario does not apply to the marginal workers. Both A.P. and India reported a similar trend for men and women in case of marginal workers during 2001-2011. The decadal growth also showed significant deviations in between A.P. and India. There was a higher change in workers for India rather than A.P. It is observed that there was a huge decline

Table 1. Changes in Rural Work Force in A.P. and India: 2001 - 2011

Total/Main/Marginal workers		Andhra Pradesh		India	
	Gender	2011	2001	2011	2001
		Work Participation Rates			
Total workers	Male	58.41	58.30	53.00	52.11
	Female	44.65	43.28	30.00	30.79
	Persons	51.55	50.85	41.80	41.75
Main workers	Male	51.64	51.78	45.10	44.31
	Female	33.99	30.99	14.70	16.65
	Persons	42.83	41.47	30.40	30.87
Marginal workers	Male	6.77	6.51	6.60	7.79
	Female	10.66	12.79	11.00	14.14
	Persons	8.71	9.38	8.70	10.88
	Decadal change (%)				
Total workers	Male	1.30	14.04		
	Female	5.62	9.64		
	Persons	3.12	12.47		
Main workers	Male	0.82	5.28		
	Female	12.30	12.70		
	Persons	5.07	7.23		
Marginal workers	Male	5.08	63.89		
	Female	-11.21	6.05		
	Persons	-5.50	27.34		

Source: Census of India 2001.

Table 2. Changes in Workforce in Selected Districts of A.P. - 2001 - 2011 (%)

Total/Main/Marginal workers	Gender	Adilabad		Chittoor		Krishna		Mahabubnagar		Srikakulam	
		2011	2001	2011	2001	2011	2001	2011	2001	2011	2001
		Work Participation Rates									
Total workers	Male	56.34	55.27	58.99	59.78	60.41	60.32	56.43	57.28	57.56	57.03
	Female	50.63	46.53	42.28	41.59	41.50	37.83	42.75	50.98	42.13	41.04
	Persons	53.47	50.91	50.65	50.75	51.00	49.21	53.86	54.17	49.80	48.98
Main Workers	Male	47.79	47.98	53.04	52.89	53.88	54.64	50.86	50.29	45.56	47.00
	Female	37.89	33.26	33.51	30.13	75.72	26.84	83.44	37.00	24.84	23.13
	Persons	42.81	40.62	43.30	41.59	42.71	40.90	46.85	43.74	35.14	34.98
Marginal workers	Male	8.55	7.29	5.95	6.89	6.52	5.68	5.57	6.99	12.00	10.03
	Female	12.74	13.27	8.77	11.45	10.08	10.99	8.49	13.98	17.29	17.91
	Persons	10.66	10.28	7.36	9.15	8.29	8.30	7.01	10.44	14.66	14.00
		Decadal change (%)									
Total workers	Male	9.76		-1.59		-6.51		7.24		1.41	
	Female	18.67		2.49		3.85		10.39		2.84	
	Persons	13.83		0.07		-2.58		9.00		2.01	
Main Workers	Male	7.25		0.02		-7.93		9.63		2.59	
	Female	24.23		12.12		10.85		26.92		7.55	
	Persons	14.19		4.37		-1.84		17.44		0.79	
Marginal workers	Male	26.26		-13.92		7.13		-12.77		16.77	
	Female	4.74		-22.85		-13.25		-33.33		-3.26	
	Persons	12.38		-19.46		-6.20		-26.36		5.07	

Source: Census of India 2001

in marginal workers (women) in A.P., while there was an acceleration in marginal workers in India. Moreover, as compared to A.P., there was a 12 times increase in male marginal workers in India. However, India showed a greater decadal growth both for total and main workers. Thus, the pattern of rural workforce was dissimilar between A.P. and India in the study period.

(2) Work Participation Rates in Selected Districts in A.P. : The agriculturally backward districts, that is, Adilabad and Mahabubnagar reported contrasting results (Table 2). Adilabad district showed an increase in the WPR for total workers, while Mahabubnagar showed a decline during 2001 - 2011. The other three districts reported near stagnancy of WPR for persons and males, nevertheless, the rates for females of the three districts showed an acceleration as compared to the rates for males during 2001 -2011. This trend is completely different from the national level, which reported defeminization of labour (Abraham, 2013 ; Neff, Sen, & Kling, 2012). Usually, all the rates of WPR for the males of the 5 districts were greater than that of the females.

In all the districts, the rates of WPR were stagnant for males except in Srikakulam and this trend changed for females in Adilabad, Krishna, and Mahabubnagar districts. Mahabubnagar and Krishna districts displayed a two times increase in WPR during 2001 -2011 for female workers with 83% and 76%, respectively. Chittoor and Mahabubnagar districts reported deceleration for marginal workers during 2001- 2011, while other districts showed stagnancy in WPR for marginal workers in the study period. There was a distinct deviation between the rates of main and marginal workers in the sample districts in A.P. For main workers, a clear increasing trend appeared in these districts, and for the marginal workers, an opposite trend was observed.

(3) Decadal Growth in the Sample Districts : For the total workers, a good level of change was noticed in Adilabad and Mahabubnagar districts out of all the districts for both the genders (Table 2). The agriculturally developed district (Krishna district) showed a decline for males followed by Chittoor district. A less significant decadal change was observed in case of males and females in Srikakulam district. Agriculturally backward districts (Mahabubnagar and Adilabad) reported a growth in female workers. The other districts also demonstrated higher decadal change for (main) female workers as compared to (main) male workers. Krishna district reported a decline (-7.93) for (main) male workers, and no other district showed this trend for the same. There was a significant growth in main workers in Mahabubnagar and Adilabad districts (persons 17% and 14% respectively).

Surprisingly, Mahabubnagar district reported a distinct trend among five districts for marginal workers, and it showed a huge decline for both genders (-33% for females and -12% for males). Being a backward district, the withdrawal of marginal workers in this district might have led to the migration of workers to its nearest state capital city- Hyderabad. It supports the finding that migration from the study district is essentially seasonal and cyclical in nature, and it is meant to pay off debts and get good earnings (Korra, 2011). In case of marginal workers, a similar declining trend appeared in Chittoor (-19%) and Krishna (-6%) districts, since the urban agglomeration and urban migration could be the absorbing factors of marginal workforce in these districts.

(4) Work Participation Rates and Share of Workers in the Sample Villages : The village data from Census 2001 was collected to know the trend of work participation rates and share of workers (Table 3). There were certain deviations between small and big villages across the sample. The work participation rates for total workers were high in small villages in all sample villages except in the villages of Chittoor district.

For main workers, the big villages showed increased participation as compared to small villages of the sample. It could be because of the availability of diversified non-farm employment. The male workforce was greater in number as compared to the female workforce for all sample villages. The work participation rates of main workers were low in agriculturally developed districts (Krishna and Srikakulam). The work participation rates of marginal workers were low in small villages than in big villages. Among the sub-groups of the workforce, agricultural labour was supplied by females in all villages, and it resembled the national trend of feminization of agriculture. This trend was high in small villages as compared to big villages when compared to males. There was no existence of workforce engaged in household industries in small villages, while the big villages showed the presence of the household industry workforce at a low level, and it was found in Mahabubnagar district. The other districts showed a very low level of workforce engaged in the household industry. Other workers had a greater share in WPR in big villages, with the exception of Mahabubnagar district. The share of 'other workers' was high in Krishna district as compared to the other districts (Table 3).

Findings of the Field Study from the Sample Villages

The following analysis discusses about the shift in employment and wages based on the field survey, and it is tries to depict the future trend of labour pattern and wages against the existing agricultural wages in the sample villages. The analysis attempts to estimate the trend and transformation of rural labour due to the implementation of MGNREGA.

(1) Change in Occupational Structure in Sample Villages in A.P: The occupational structure and its diversification exhibits sectoral dependence of rural people and its significance for future policy formulation. As a whole, the occupational structure was diversified in the sample villages (10) during 2005 - 2012 (Table 4). The dependence on agriculture has been declining, and the rural non-farm occupations showed acceleration across the sample households. Transport and communication showed much growth as compared to other groups (from 1.08% to 2.08%), while a declining trend appeared for the households of cultivators (from 45.87% to 43.80%). Non-farm employment showed an increasing trend (please refer to Table 4 for the industry groups). The major non-farm contributing industry groups were transport & communication (1.00%) and construction (0.48%). It

Table 3. Gender Wise Work Participation & Share of Workers in Sample Villages in Selected Districts: 2001*

Population/Workers group	Gender	Adilabad		Chittoor		Krishna		Mahaboobnagar		Srikakulam	
		v1	v2	v 1	v2	v1	v2	v1	v2	v1	v2
Population	Persons	286	1816	2156	484	996	4234	719	1905	1089	2849
	Males	132	804	1094	238	513	2147	365	967	529	1258
	Females	154	1012	1062	246	483	2087	354	938	560	1231
Work participation (the figures in parentheses refer to work participation rates in % to population)											
Total workers	Persons	184(64.43)	835(45.98)	1179(54.68)	218(45.04)	455(45.68)	1840(43.46)	432(60.08)	1049(55.07)	555(50.96)	1349(47.35)
	Males	89(67.42)	416(51.74)	718(65.63)	138(57.98)	323(62.96)	1270(59.15)	230(63.01)	543(56.15)	289(54.63)	766(60.89)
	Females	95(61.68)	419(41.40)	461(43.40)	80(32.52)	132(27.32)	570(27.31)	202(57.06)	506(53.94)	266(47.50)	583(47.36)
Main workers	Persons	177(61.89)	558(30.73)	1167(54.13)	173(35.74)	454(45.58)	1332(31.46)	283(39.36)	1021(53.60)	193(17.72)	1091(38.29)
	Males	83(63.88)	311(38.68)	713(65.17)	119(50.00)	322(62.77)	1054(49.09)	195(53.43)	532(55.01)	150(28.36)	686(54.53)
	Females	94(61.03)	247(24.41)	454(42.75)	54(21.95)	132(27.33)	278(13.32)	88(24.86)	489(52.13)	43(7.68)	405(32.900)
Marginal workers	Persons	7(2.45)	277(15.25)	12(0.56)	45(9.29)	1(0.10)	508(12.00)	149(20.72)	28(1.47)	362(33.24)	258(9.06)
	Males	6(4.55)	105(13.05)	5(0.45)	19(7.98)	1(0.19)	216(10.06)	35(9.59)	11(1.14)	139(26.28)	80(6.36)
	Females	1(0.65)	172(17.00)	7(0.66)	26(10.57)	0(0.00)	292(13.99)	114(32.20)	17(1.81)	223(39.82)	178(14.46)
Group wise workers (the figures in parentheses refer to share of workers to total workers)											
Cultivators	Persons	19(10.33)	476(2)57.0)1	563(47.75	143(65.60)	110(24.18)	89(4.84)	136(31.48))	424(40.42)	203(32.97)	334(24.76)
	Males	9(10.00)	256(1)61.5)4	339(47.21	100(72.46)	106(32.82)	79(6.22)	106(46.09)	233(42.91)	96(33.22)	246(32.12)
	Females	10(10.53)	220(1)52.5)1	224(48.59)	43(53.75)	3(2.27)	10(1.75)	30(14.85)	191(37.75)	82(30.10)	88(15.09)
AgriLabour	Persons	146(79.35)	291(26.23)	392(33.25)	59(27.06)	277(60.88)	846(45.98)	88(44.91)	433(41.28)	284(51.17)	537(54.86)
	Males	64(71.91)	112(26.92)	204(49.04)	26(18.84)	153(47.37)	450(35.43)	57(24.78)	173(31.86)	124(42.91)	314(40.99)
	Females	82(86.32)	179(42.72)	188(40.78)	33(41.25)	124(93.94)	396(69.47)	137(67.82)	260(51.38)	160(60.15)	426(73.07)
Hh Industry workers	Persons	0(0.00)	24(2.87)	21(1.78)	0(0.00)	3(0.66)	37(2.01)	22(5.09)	27(2.57)	10(1.80)	4(0.30)
	Males	0(0.00)	18(4.32)	16(2.23)	0(0.00)	2(0.62)	20(1.57)	12(5.22)	16(2.95)	6(2.08)	2(0.26)
	Females	0(0.00)	6(0)1.43)	4(1.08)	0(0.00)	1(0.75)	17(2.98)	10(4.95)	11(2.17)	4(0.79)	2(0.34)
Other workers	Persons	12(10.32)	44(5.27)	203(17.22)	16(3.52)	65(14.29)	868(47.17)	80(18.52)	165(15.73)	78(14.0)	271(20.09)
	Males	16(17.98)	30(7.21)	159(22.15)	12(8.70)	61(18.89)	721(56.77)	55(23.91)	121(22.28)	63(21.80)	204(26.63)
	Females	2(1)(3.15)	14(3)10.19	41(3)10.19	4(0)5.00	4(0)3.03	147(25.79)	25(12.38)	43(8.70)	15(5.64)	67(11.49)

*Since the data at village level for 2011 was not released, it is shown for 2001 only. v1 and v2 are the sample villages from each district. Source: Census of India 2001.

Table 4. Shift in Occupational Structure in Sample Villages in A.P. : 2005 - 2012

(% hh)

S.No	Occupation	% Change	2012	2005
1	1.Cultivators	-2.07	43.80	45.87
2	2.Agricultural labour	-0.03	49.20	49.17
3	3.Household small industry	0.20	1.74	1.54
4	4.Other manufacturing/mining	0.10	1.93	1.84
5	5.Construction	0.48	0.83	0.35
6	6.Trade, commerce, and business	0.18	0.42	0.24
7	7.Transport and communication	1.00	2.08	1.08
8	8.Other services	--	--	--
9	Total		100.00	100.00

appears that the demand for agricultural labour showed a decreasing trend (-0.03%). This clearly signifies the diversification of the rural occupational structure, though the changes have been occurring slowly. The existence and increase in household industries indicates the industries' support in the generation of employment for the rural households (thereby reducing the households' dependence on agriculture as the only source of livelihood). The presence of 'other services' was not observed in the sample villages.

(2) Shift in Wage Rates in Sample Villages in A.P. : The existing wages were a guiding tool to ascertain the level of poverty in the village economy in question (Table 5). The shift in wages in between 2005 and 2012 took place in the villages for male and female workers. The increase in agricultural wages for females was higher (80%) than it was for males (60%) (Table 6). This change can be due to the impact of MGNREGA. Agricultural wages have increased across the country, and the rate of increase in the wages of females has been much higher than the increase in remuneration for their male counterparts, and the differentials in agricultural wages between males and females declined substantially.

In case of non-agricultural wages, male workers had an edge over their female counterparts, whereas females (as compared to males) received increased wages when they were employed in construction work. This change is attributed to MGNREGA scheme, which is based on the demand for labour in the villages. The wage effects were concentrated during the main agricultural season, which is consistent with the idea that wage pressures should be particularly strong during a time when demand for labour is relatively inelastic, and the scheme provides a viable outside option (Zimmermann, 2012). The other skilled work - 'Pump set boring' did not receive much hike in wages, and the wages for this job were quite low as compared to the wages of electricians and plumbers. It was observed that out of all the different occupations referred to, electricians received the highest wages in the sample villages in the selected districts of A.P. This is because electricians possess technical skills and may be armed with upper-primary or secondary education. However, an interesting observation is that these professions - electrician, plumber, and pump-set boring - did not employ female workers. This shows that these professions are still all - male bastions.

Women continue to face various forms of discrimination, including job-typing that pushes them into low-paying jobs. Higher work participation per se does not lead to better outcomes unless accompanied by higher education, and/or assets (Srivastava & Srivastava, 2010). Hence, there was a good increase in the wages given to men and women engaged in all types of occupations - either agricultural or non-agricultural - in the study villages. However, wages for women were primarily increased in the agricultural sector as compared to the non-agricultural sector. The reasons could be the preference of males for non-agricultural jobs as well as they (the men) possessing the required technical skill sets, while the same trend was not true in case of wages in the construction sector for female workers (where they received higher wages than men).

Table 5. Changes in Wage Rates for Occupations in Sample Villages in A.P. - 2005 - 2012

(Avg. ₹)

Activity		Reference period (2012)				Before NREGA (2005)	
		Male	% change over 2005	Female	% change over 2005	Male	Female
Prevailing agricultural wages		150	59.57	93.5	79.81	94	52
Prevailing non-agricultural wages		125	69.44	64	64.10	72	39
Construction		155	21.09	106	53.62	128	69
Mining	--	--	--	--	--	--	
Other skilled work	Electrician	231	46.20	--	--	158	--
	Plumber	195	37.32	--	--	142	--
	Pump-set boring	120	41.18	--	--	85	--

(3) Prevailing Labour Charges for Agricultural Operations: This section examines the impact of the scheme over the charges of agricultural operations in the sample villages (Table 6). Two periods were considered - (a) 2005 - 2012, and (b) 2001- 2005. The the comparison was made between the two periods to know the variations in per acre agricultural operation charges.

It was observed that there was a continued increase in labour charges for different agricultural operations in the sample villages. Out of all the charges, the charges for cane-cutting were the highest followed by the charges for threshing of paddy during the study period from 2001-2012. Other higher charges were incurred for paddy weeding, transplanting, and harvesting of paddy. It was reported that the changes in charges were higher during 2005 - 2012 for all agricultural operations except for weeding (55%) than in 2001-05.The empirical analysis suggests that the most important function of the scheme may be to indirectly enforce minimum wages in the rural areas even when the scheme may not be valid (Zimmermann, 2012).

The labour demand and supply conditions totally changed due to the effect of the scheme in rural areas in A.P., and finally, crop holiday was declared in Konaseema (in 2012) (some parts of East Godavari district) and in Khammam district in A.P. The shift in cost of cultivation occurred because of MGNREGA scheme. There was a

Table 6. Average Prevailing Labour Wages for Agricultural Operations in Sample Villages: 2001-2012 in A.P.

(₹ /acre)

S.No	Activity	Wages during MGNREGA			Wages before MGNREGA		
		Reference year 2012	% change over 2005	% change over 2001	Reference year2005	% change over 2001	Reference year 2001
1	Ploughing	870	52.63	109.64	570	37.35	415
2	Leveling	625	71.23	155.10	365	48.98	245
3	Weeding	1690	55.05	141.43	1090	55.71	700
4	Paddy Transplanting	1525	46.51	93.53	1075	26.70	788
5	Harvesting of Paddy	1260	58.49	111.76	795	33.61	595
6	Harvesting of Grams	675	64.63	92.86	410	17.14	350
7	Harvesting of Ragi	170	41.67	161.54	120	84.61	65
8	Harvesting of Maize	750	30.43	76.47	575	35.29	425
9	Cane-Cutting	2250	24.31	73.75	1810	39.77	1295
10	Threshing of paddy	1940	22.68	116.75	1500	67.60	895
11	Winnowing of paddy	595	52.56	147.92	390	62.50	240

sea change in per acre charges of agricultural operations in technical or non-technical wages in the study area. Certainly, these changes in wage patterns and labour demand conditions will be compensated through mechanization of agriculture. As a result, new jobs may be created through mechanization, and it will also lead to the generation of good wages for the skilled agricultural labour based on the demand of some technical skills and minimum education levels (that will be required to operate the agricultural equipment).

(4) Pattern of Labour and Wages - Perception of the Respondents : The patterns of availability of labour and wages given to the agricultural workforce in the sample villages during 2011- 12 (this section reveals the opinions of the participants regarding MGNREGA scheme) are presented in the Table 7.

There was a shortage of agricultural wage labour at some point during 2011-12, as expressed by 70% of the participants, and the same trend was observed during MGNREGA implementation. The increase in cost of production in agriculture by 20% due to increase in wages given to the agricultural labour was reported by 20% of the participants ; 20% of the respondents revealed that this cost increased by 20% - 50% due to scarcity of agricultural labour; 10% of the participants felt that there was a 100 % increase in the cost of production of agricultural products due to increased wages charged by agricultural labour.

After implementation of MGNREGA, 'some workers came back from the towns to the village to work,' was reported by 60% of the participants, and the remaining participants indicated the migration of labourers to towns. The wage differential became a major factor for migration of labour from villages to towns. Even after MGNREGA was implemented, there was migration of the workforce to towns, as expressed positively by 50% of the participants ; 20% of the respondents reported that no migration happened to towns, and the remaining 30% participants were unable to comment on this aspect ; 70% of the participants were not sure regarding migration of the workforce because of wages even after MGNREGA was implemented. However, 80% of the participants

Table 7. Perception of the Workers over Changing Labour Patterns and Wages in Sample Villages in 2011-12

(% of hh)

S.No	Description	Yes	No	Not sure
1	Shortage of agricultural wage labour at some point during last year.	70	30	--
2	MGNREGA and shortage of agricultural labour.	70	30	--
3	MGNREGA and labour who migrated earlier to town are coming back to work in the villages.	60	20	20
4	More labour is migrating from the villages as wage rates in the towns are higher than wage rates under MGNREGA or other activities in the village.	50	20	30
5	Some labour has come back to work in MGNREGA, but others are moving to the town because of wage differentials.	10	20	70
6	Change in labour migration due to MGNREGA activities.	10	20	70
7	MGNREGA and increase in wages of casual labour.	80	10	10
8	MGNREGA and decrease in wages of casual labour.	10		90
9	MGNREGA and wages of casual labour remained unchanged.	--	--	--
10	The trend of people living in villages and going to work outside daily has increased.	40	60	--
11	The trend of people living in villages and going to work outside for a longer period has increased.	40	60	--
12	Has living standard improved in your village since the introduction of MGNREGA ?	100	--	--
13	After MGNREGA, have you witnessed increase in household consumption in villages ?	100	--	--
14	After MGNREGA, have you witnessed that more children are now going to school ?	90	10	--
15	After MGNREGA, have you witnessed change in trend of attached labour in agriculture ?	100	--	--
16	After MGNREGA, has the villagers' awareness (about government schemes) increased ?	100	--	--

reported that there was an increase in wages given to the casual labour after MGNREGA was implemented. No one reported that there was no change in wages after the scheme came into force.

The daily commutation of workers from villages to towns had increased, as reported by 40 % of the participants. All the participants (100 %) unanimously agreed upon the increase in their standard of living. They further said that there was a clear enhancement in daily consumption in villages. The children of the participants were in a position to join schools as compared to their previous situation. There was much turnaround in attached labour in the villages, as reported by 100 % of the participants, and the awareness about government schemes had definitely increased.

Conclusion and Policy Implications

The present study has revealed that the dependence of the rural labour on agriculture has declined, and the rural non-farm occupations had increased across the sample households. Transport and communication showed much growth as compared to the other groups, while a declining trend appeared for the households of cultivators. Non-farm employment increased in the sample villages. The demand for agricultural labour showed a decreasing trend (-0.03%).

Wages rose for male and female workers engaged in employment in villages during 2005 - 2012. The increase in agricultural wages for females was higher (80 %) than that of males (60%), and the differentials in agricultural wages between males and females declined substantially. For non-agricultural wages, male workers had an edge over their female counterparts in getting good wages ; whereas females received a good increase in wages in construction work. Out of all the different occupations referred to; electricians received the highest wages in the sample villages. There was a continued acceleration in labour charges for different agricultural operations in the study area during 2005-2012.

The labour demand and supply conditions have changed entirely due to the impact of MGNREGA in rural A.P. There was a shortage of agricultural wage labour in 2011- 12, and the same trend was observed during MGNREGA implementation. The wage differential has become a major factor for migration of labour from villages to towns. The beneficiaries said that there was a clear enhancement in their standard of living, and that their children had enrolled in schools. The supply of labour to agriculture is constrained and led to an increase in wages. There is 100% shortage of agricultural labour during July, August, November, and December months. The casualization of labour in agriculture has become a routine practice (instead of hiring contractual labour for a year/season). Wage payments in agriculture have become regularized and the practice of attached labour has reduced, which provides free flow of labour to the market without impediments.

To continue the present trend for wages, it would be a pre-requisite to transfer the women labour force into the non-farm sectors, which will sustain the present increased wages. Simultaneously, farming is to be mechanized to nullify the negative wage impact on cost of cultivation. It will certainly lead to equilibrium in the labour market without any protests from either sector in the rural economy. To strengthen and extend the scope of the non-farm sector for women workers, it would be very much appropriate, and the need of the hour is to transfer the labour intensive production of the corporate sector to villages either on a contact basis or on a piecemeal basis. It will be beneficial to both the employers and the workers. The necessary 'on the job and off the job' skill sets could be given to female labourers at the work sites. Within a short span, the rural non-farm sector has opened new portals to generate regular income for rural households.

Limitations of the Study and Scope for Further Research

The present study was confined to a few sample villages in A.P., and the composition of the workforce was analyzed based on the 2001 census data. The latest census data for composition of the workers, which is not available now, may be much useful to draw some luminous inferences across A.P. Of course, there is a possibility of further temporal and spatial research to formulate macro level policies for agricultural labour against the

backdrop of MGNREGA by considering : (a) a large sample size of respondents, and (b) 2011 census data for different industry groups.

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