Features of Non-farm employment in Karnataka: Evidence from three villages

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Why study non-farm employment?

There is now evidence of the growing importance of non-farm employment in rural India, particularly for male workers, and of diversification of rural employment. The rural sector in India is undergoing a transformation and the contribution of rural non-farm sector to rural income and employment is growing. As shown in Table 1, the share of non-farm sector in rural employment has risen over the last three decades. At the national level, the share of the non farm sector in rural employment almost doubled, from 18.6 per cent to 32 per cent. The rise was less steep in Karnataka, from 15.7 per cent to 24.3 per cent. Nevertheless, it is clear that one quarter of rural employment is not agricultural.

Table 1 State-wise share of non-farm sector in rural employment in percent

State	Karnataka	All-India
1983	15.7	18.6
1993-94	18.3	21.7
2004-05	19.1	27.4
2009-10	24.3	32.1

Source: Anjani Kumar, Sant Kumar, Dhiraj K. Singh and Shivjee (2011).Authors' estimates based on NSSO unit level data (38th, 50th, 61st and 66th rounds)

At the same time, there is widespread poverty and unemployment or underemployment in rural areas of the country. This was one factor in the Government of India initiating the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS).

In this paper, I examine the levels of employment, and non-agricultural employment in three villages of Karnataka, and attempt to identify the nature of diversification of non-farm employment.

Data and Methodology

The data for this paper come from the archive of the Foundation for Agrarian Studies. As part of the Project on Agrarian Relations in India (PARI), the Foundation conducted detailed census surveys in three villages of Karnataka in 2009 (for the reference year 2008-09). The three villages, described below, belonged to three agro-climatic zones. The following description is from www.fas.org.in

Alabujanahalli is in Maddur taluk, Mandya district. The village is located at a distance of 15 km from Maddur and Mandya. Our survey covered 248 households resident in the village. A significant fraction of the households are Vokkaliga, a major land owning caste, while many of the remaining households are Dalit households. This is a village belonging to the Cauvery-irrigated region of

South Karnataka. Channels leading from a system tank that is fed by canals from the Krishnarajasagar dam irrigate the village. The major crops grown are sugarcane, rice and ragi. The village is located very close to a major sugar factory of the district. The sugarcane produced in the village is procured by the sugar factory as raw material, and the factory and its owners have a substantial hold on the village economy. A large number of households practice sericulture and livestock-raising, which contribute significantly to household income.

The second village Siresandra is in Kolar taluk, Kolar district. The nearest town, Kolar, is 20 km from the village. Our survey covered 81 households resident in the village. The major caste group in this village is Vokkaliga, which is the major land-owning caste in the village. This village belongs to the semi-dry rainfed region of southeastern Karnataka. Cultivation in the village is mainly rain-fed, supplemented by irrigation by means of borewells and drip irrigation. The cropping pattern includes kharif ragi, followed by vegetables (potato, tomato, carrot, cauliflower, beetroot, radish, fodder maize and fodder grass and other vegetable, condiment and tree crops). Ragi is often intercropped with jowar, red gram, and sesamum. Sericulture and dairying are also important occupations, and contribute substantially to household incomes.

The third village Zhapur is in Gulbarga taluk, Gulbarga district. The village is located at a distance of 13 km from Gulbarga town. Our survey covered 113 households resident in the village. The majority of households are Dalit. The dominant land-owning caste is Lingayat. There are also Kuruba and Scheduled Tribe households resident in the village. This village falls in the dry rainfed region of north Karnataka. Cultivation in the village is mainly rainfed. The cropping pattern followed is that of a single mixed crop of rainfed cereals and oil seeds. Most cultivators grow red gram intercropped with maize, sesamum, bajra and green gram. They also cultivate jowar and safflower either as pure crops or as mixed crops. Bengal gram is also grown as a mixed crop with safflower. Apart from cultivation, many workers are employed as daily labourers in a stone quarry located partially on the boundaries of the village. This is a major source of non-agricultural employment for manual workers from Zhapur.

Definitions

All households in each of the study villages were classified in to socio-economic categories. In this paper, I focus only on hired manual worker households, that is, households whose major source of income was from hired labour. Data on days of employment, a critical variable for the study of workers' lives, is available only from one large-scale NSS survey. However, data from the NSS Employment-Unemployment surveys have been criticised for the quality of information on days of employment (Dhar, 2012). In the PARI survey, for each worker, information is collected on gender-wise, season-wise, crop-wise, crop-operation-wise employment. We believe this gives a good estimate of the total days of employment available to a worker. So, results in the next section pertain mainly to days of employment of men and women workers in manual worker households.

Hired manual worker households and days of employment

Table 2 shows that the proportion of hired manual worker households in all households in the three villages. In Siresandra village, as pure manual worker households were few, I have combined them with poor peasant households. Together, they comprised 56 percent of all households in Siresandra. The share of manual workers in all households was 30 percent in Alabujanahalli. The class of hired manual workers in Zhapur constituted 46 per cent of all households; on an average, there were

around two manual workers per household in all study villages.

Table 2 Number of households and workers in hired manual worker households, study villages, Karnataka, 2009-10

Village	Households			Number of workers			
	No. of manual works households	Total no. of households	as % of all Household	Female	Male	All workers	No. of worker per household
Alabujanahalli	73	243	30	77	78	155	2.1
Siresandra	44	79	56	42	51	93	2.1
Zhapur	50	109	46	50	86	136	2.8

Source: Dhar, Das and Sivamurugan (2016). Note: In Siresandra poor peasant households included.

I now turn to the total days of employment obtained in a year for men and women workers from manual labour households.

Table 3 *Average number of days of wage employment obtained by hired manual workers, by sex, study villages in Karnataka, 2009*

Sex	Alabujanahalli	Siresandra	Zhapur
Female	127	146	151
Male	156	112	190
All workers	142	128	173

Note: In Siresandra poor peasant households included

As shown in Table 3, in Alabujanahalli, the total duration of employment for females was around four months on average whereas the duration of employment for males was around five months. For both, on average, employment per worker was around five months, which was very low.

The average was similar in Siresandra village, but females obtained more number of days of employment than males. There were more employment for female in agriculture (See Table 5b). Males received less than four months of employment in a year.

In Zhapur, levels of employment were higher. Male workers received around six months of employment on average while females received around five months.

In general, the data show low levels of employment and that underemployment was more severe among female wage workers compared to male workers.

Averages can be deceptive. Tables 4a, 4b and 4c show the distribution of workers by size class of days of employment. In Alabujanahalli, 46 percent of all workers obtained less than four months of employment. More than half of female workers received less than four months of employment and 29 percent of female workers received more than six months. Among males, 38 percent of workers obtained less than four months of employment in a year while 43 percent of male workers received more than 6 months.

In Siresandra 36 percent of all workers received two months or less employment and also 42 percent of female workers obtained more than six months. Around 51 percent of all workers received less than four months.

In Zhapur, it is interesting to see that 57 percent of male workers received more than six months of employment. As I will show later, this was on account of access to non-agricultural employment in the vicinity. The corresponding proportion was 29 percent among female workers.

Table 4a Distribution of hired manual workers, by size- class of number of days of employment, by sex, Alabujanahalli, 2009 as a percentage of all workers

Size class	Male	Female	All workers
1 to 60 days	15	28	22
61 to 120 days	23	26	24
121 to 180 days	19	17	18
Above 180 days	43	29	36
All	100	100	100

Source: Survey data

Table 4b Distribution of hired manual workers, by size- class of number of days of employment, by sex, Siresandra, 2009 as a percentage of all workers

Size-class	Male	Female	All
1 to 60 days	38	34	36
61 to 120 days	14	16	15
121 to 180 days	12	8	10
Above 180 days	36	42	39
All	100	100	100

Source: Survey data

Note: In Siresandra poor peasant households included

Table 4c Distribution of hired manual workers, by size- class of number of days of employment, by sex, Zhapur, 2009 as a percentage of all workers

Size class	Male	Female	All workers
1 to 60 days	15	14	15
61 to 120 days	11	31	20
121 to 180 days	17	26	20
Above 180 days	57	29	45
All	100	100	100

Source: Survey data

Availability of non agricultural employment

I now turn to the days of agricultural and non-agricultural employment (Tables 5a, 5b and 5c). In Alabujanahalli, both male and female workers are mainly employed in agriculture: more than 80 per cent of total employment was in agriculture during the survey year. This was a rice and sugarcane growing village with irrigation, and clearly agricultural activities dominate the village economy.

In Siresandra, there was a clear male-female differential in terms of the composition of employment: female workers were confined to the agricultural sector, while men found more employment in non-agricultural activities.

In Zhapur, both male and female workers received higher number of days of employment in non-agricultural than agriculture. A female worker received around 80 days of employment in non-agricultural work out of 151 days of total work. For male workers, of 190 days of wage employment, non-agricultural work provided 161 days of employment. Mining and quarrying nearby was the major source of this employment.

Table 5a Average number of days of wage employment obtained by hired manual worker in agricultural and non-agricultural sector, by sex, in Alabujanahalli Karnataka, 2009

Sex	Agriculture	Non-agricultural
Female	105	22
Male	137	18
All workers	122	20

Source: Survey data

Table 5b Average number of days of wage employment obtained by hired manual worker in agricultural and non-agricultural sector, by sex, in Siresandra Karnataka, 2009

Sex	Agriculture	Non-agricultural
Female	103	41
Male	44	69
All workers	71	57

Note: In Siresandra poor peasant households included

Table 5c Average number of days of wage employment obtained by hired manual worker in agricultural and non-agricultural sector, by sex, in Zhapur Karnataka, 2009

Sex	Agriculture	Non-agricultural
Female	71	80
Male	29	161
All workers	47	126

Nature of Non-agricultural Employment

In rural India, the non-agricultural sector is still considered the secondary occupation provider after agricultural sector. The development of non-agricultural sector in rural India has been very slow and it also lacks diversity. In villages where there was some diversity of non-agricultural employment, and where non-agricultural work was of a skilled type, the place of work was normally an urban area near the village.

Our data show that the employment opportunity for unskilled manual workers in the non-agricultural sector was limited in two villages, especially for female workers. Table 6a, 6b and 6c show the average days of non-agriculture employment for workers engaged in non-agricultural

activity. The non agricultural employment in Alabujanahalli was primarily obtained from MGNREGA. 47 female worker received on an average 21 days of employment.

In Siresandra, an important non-crop source of employment was from sericulture and MGNREGA. 14 Female received employment in sericulture and they received around two months of employment. Six male workers were engaged in construction related work and they obtained around four months of employment. Under MGNERGA scheme 18 male and 17 female received employments around one month.

In Zhapur, mining work and construction related work generated around six months of employment. Female received most of the employment in mining work. There was no employment under MGNREGA. On an average employment in Zhapur villages was more than six months.

Table 6a Average days of non-agricultural employment, by type of activity and sex, Alabujanahalli village, 2009

	Male		Female	
Type of activity	No. of workers	Employment per worker	No. of workers	Employment per worker
Construction related work	9	22	2	24
Tractor Driver	2	288	--	--
Mining sector	1	4	--	--
MGNREGA	27	11	47	21
Sericulture	4	8	15	10
Transport related works	7	58	3	14
Other works	6	42	10	13
All	45	30	60	23

Table 6b Average days of non-agricultural employment, by type of activity and sex, Siresandra village, 2009

	Male		Female	
Type of work	No of workers	Employment per worker	No of workers	Employment per worker
Construction related work	6	125	0	--
MGNREGS	17	35	18	41
Other works	4	158	3	59
Sericulture	17	31	14	58
Transport related activities	1	360	0	-
Wood cutting	7	93	0	-
All	37	95	28	62

Table 6c Absolute of days of non-agricultural employment, by type of activity and sex, Siresandra village, 2009

Type of activity	Male		Female	
	No of workers	Employment per worker	No of workers	Employment per worker
Construction related work	22	176	2	69
Driver	12	238	0	-
Mining sector	33	196	20	193
Other works	7	12	0	--
All	67	151	21	190

Child Labour

As Table 7 shows, child labour was prevalent in Zhapur. In 2009, there were 42 working children and another 39 children were neither in school nor working. Even when we revisited the village in 2014 we found cases of child labour.

Table 7 *School Attendance and Work Status among children aged 6 to 18 years, Zhapur, 2009*

Children	Not attending				Attending			
	Not working		Working		Not working		Working	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Girls	13	12.9	18	17.8	69	68.3	1	1.0
Boys	12	11.0	21	19.3	74	67.9	2	1.8
All	25	11.9	39	18.6	143	68.1	3	1.4

Source: FAS-Unicef report 2012

WAGE RATES

The non-agricultural operation was not as important in Alabujanahalli village, though the village was well connected to the urban town. The wage rate for MGNREGS workers was Rs 82 and wage rate for construction related work Rs. 100

In Siresandra, the wage for mason workers was Rs 250 while the construction worker earned Rs 150. Wage rate for sericulture was Rs. 50-60 and wage for wood cutting was Rs. 100-120.

The non-farm employment was a very important source of income for wage workers in Zhapur. The male wage workers participated in construction work and quarry fields in Zhapur. The wage rate for construction workers was Rs 100-150 and Rs 250 for masons. In the mining sector (quarry fields), wage rates for male workers was Rs 100-150, based on the task. It is important to note that the female work force also participated in the mining sector, working along with their male household members.

Table 8a *Daily wage rate for male and female in non-agricultural operation, Alabujanahalli, 2009* in rupees and number

Crop operation	Male		Female	
	Cash	Kind	Cash	Kind
MGNREGS	82		82	
Sericulture			50	1 coffee

Source: Survey data

Table 8b *Daily wage rate for male, female in non-agricultural operation, Zhapur, 2008-9* in rupees

Crop operations	Male	Female
Construction work	100-150	
Mason	250	
Mining work	100-150	50
MGNREGS	NA	NA

Source: Survey data

In Alabujanahalli, the major crops were sugarcane, paddy, and finger millet. The major operations of agriculture were not mechanised. Ploughing was still done with bullocks. The wage rate ranged from Rs 100 to 400 for ploughing with bullocks, depending on who provided the bullock. If the workers used their own bullock, then the wage rate was Rs 400, otherwise Rs +100. In Alabujanahalli, the prevailing male wage rate was Rs 100 and female wage rate was Rs 50 with cooked food. Other than ploughing, row sowing for sugarcane was a male dominated work. Operations such as weeding and transplanting/ sowing were mostly performed by female workers. Sowing operations for paddy and finger millet were completed by hired workers on piece rated contracts. The piece-rate for this operation varied from Rs 600-800 per acre. The most remunerative piece rated wage was observed for sugarcane harvesting. Female workers participated in sericulture and the daily wage for that was Rs 50 with coffee

Siresandra belongs to the semi-dry rainfed region and was known for vegetable cultivation. As it was a pre-dominantly vegetable growing area, the demand for female labour was higher than for male labour. However, the wage rate for female-specific operations was very low. Most of the operations were done on daily wage contracts. The total wage was paid in two components, cash and kind. The wage paid in kind, in most cases, consisted of cooked food. For finger millet and vegetable cultivation, daily wage rate for ploughing with bullock was reported to be Rs 100. For sowing, the male worker obtained wages between Rs 80 to Rs 100 a day along with one meal, while the female worker received Rs 50 to Rs 100 a day with one meal. For harvesting operation, the wage rate for male workers ranged from Rs 50 to Rs 100 whereas female workers received a wage between Rs 50 and Rs 100 with one meal. In Siresandra, sericulture was one of the important sources of income. For Mulberry cultivation, the male workers obtained a wage of Rs 100 per day while a female worker received a wage of Rs 60 to 80.

The major crops grown in Zhapur were pigeon pea, sunflower and sorghum. The wage rates for all major crop operations are shown in Tables 18 and 19. In Zhapur, daily rated contracts were the

norm for all major crop operations. All men worked on daily rated contracts and the wage rate was Rs 100 a day. The floor wage rate for the female in a daily rated worker contract was Rs 30, going up to Rs 50. All wage rates were monetised in Zhapur, except for harvesting of sorghum. The harvesting of sorghum was either paid in cash or in kind, i.e., fixed amount of sorghum. In Zhapur, cooked food was not provided with a cash wage. Piece-rated operations were not prevalent in Zhapur. Crop operations like sowing and weeding were female-labour dominated operations.

Table 9a *Daily wage rate for male and female by crop operation, Alabujanahalli, 2008-9* in rupees and number

Crop name	Crop operations	Male		Female	
		Cash	Kind	Cash	Kind
Sugarcane	Land preparation*	100-150	3 meal+ coffee		
	Sowing	100-120	3 meal+ coffee	50-60	1 coffee
	Weeding	100-120	3 meal+ coffee	50-60	1 coffee
Paddy	Land preparation*	100-150	3 meal+ coffee		
	Weeding	100-120	3 meal+ coffee	50-80	1 coffee
	Harvesting and post harvesting	100-120	3 meal+ coffee	50-80	1 coffee
Finger Millet	Land preparation*	100-150	3 meal+ coffee		
	Weeding	100-120	3 meal+ coffee	50-60	1 coffee
	Harvesting and post harvesting	100-120	3 meal+ coffee	50-60	1 coffee

* Rs 400 with bullock

Source: Survey data

Table 9b *Daily wage rate for male, female by crop operation, Siresandra, 2009* in rupees and number

Crop name	Crop operations	Male		Female	
		Cash	Kind	Cash	Kind
Vegetables	Ploughing*	100	-		
	Sowing	80-100	1 meal	50-80	1 meal
	Weeding	50	1 meal	50-80	1 meal
	Harvesting	50-100	1 meal	50-80	1 meal
Finger millet	Ploughing*	100	-		
	Sowing	80-100	1 meal	50	1 meal
	Weeding	50	1 meal	50-80	1 meal
	Harvesting	70-100	1 meal	50-80	1 meal
Mulberry	Harvesting	100	1 meal	50-60	1 meal

Source: Survey data

Table 9c *Daily wage rate for male and female by crop operation, Zhapur, 2008-9* in rupees and kilogram

Crop name	Crop operations	Male		Female	
		Cash	Kind	Cash	Kind
Pigeon pea and intercrop	Land preparation	100		--	
	Sowing	100		30-50	
	Weeding	100		30-50	
	Harvesting and post harvesting	100		50	
Sorghum	Land preparation	100		--	
	Sowing	100		40-50	
	Weeding	100		30-50	
	Harvesting and post harvesting	100	*4.5 kg Sorghum	50	*3.75-5 kg Sorghum
Sunflower	Land preparation	100		--	
	Sowing	100		40-50	
	Weeding	--		30-50	
	Harvesting and post harvesting	100		50	
Pearl millet	Land preparation	100		--	
	Sowing	100		40-50	
	Weeding	100		30-50	
	Harvesting and post harvesting	100		40-50	

Source: Survey data

INCIDENCE OF POVERTY AMONG MANUAL WORKER HOUSEHOLDS

In this section, to understand the economic wellbeing of the manual worker household, we have identified the minimum level of income in terms of India's official expenditure poverty line (Tendulkar poverty line of 2008-09), international poverty line of $1.5 PPP and $2 PPP. Table 10 presents the proportion of manual worker households in the three villages whose annual incomes are below the three poverty lines (Dhar, 2016). These households are income-poor and vulnerable.

Table 10 *Proportion of manual worker households below poverty line, by different poverty line in study villages*

Village	Tendulkar Poverty line (6718.75)	USD 1.5 PPP (Rs.7051.8)	USD 2 PPP (9402.4)
Alabujanahalli	19.2	20.5	39.7
Siresandra	15.4	15.4	38.5
Zhapur	27.5	29.4	51

Source: Survey data

Incidence of poverty among manual worker household was highest in Zhapur, with 27.5 per cent of all hired manual worker households were below the Tendulkar poverty line and 51 per cent of household below USD 2 PPP. In Siresandra, 15.4 per cent of the households were below the Tendulkar poverty line and 38.5 per cent of manual worker households were below USD 2 PPP. In comparison to the three villages, incidence of poverty was low in Alabujanahalli and Siresandra. The implication of such high incidence of poverty among manual worker households, mostly landless, is that they have to work even more number of days of employment in physically demanding manual work in order to get higher incomes. It is to be noted that with more reasonable poverty line the probability of impoverishment of manual worker households increases and the additional number of days of work required will be much higher.

Below, we give a calculation of the additional days of employment needed, at current wages, to attain the poverty line level of household income. To get a decent income of two dollars a day,

Table 11 shows that the average number of days of employment obtained at the household level in the study villages was not sufficient for manual worker households to earn the official poverty-line level of income in all but one of the villages. This, of course, assumes that the households did not have any other source of income, a simplification made for the present exercise. All the villages, individual workers from each manual worker household would have to work many more days in order to reach the poverty-line level of income. The additional number of days ranged from 168 days in Alabujanahalli to as many as 256 days in Zhapur. The total number of days of employment that would provide a hired manual worker household with a minimum income, at the prevailing wage rates, was as high as 256 days in Zhapur (where the average number of workers per household was 2.8) .Whether it is physically feasible for a worker to work at manual labour for as many as 300 days in a year is, of course, a separate question.

Table 11 *Additional number of days of employment per household required to attain the different poverty measures, study villages, 2009–10* (at 2014 prices)

Village	Average no of days of employment obtained	Average earnings from wage employment (in Rs)	Additional no of days of employment required to reach poverty line according to Tendulkar Committee (Rs 63660)	Additional no of days of employment required to reach poverty line according to US $1.5 PPP (Rs 66815)	Additional no of days of employment required to reach poverty line according to US $ 2 PPP (Rs 89087)
Alabujanahalli	295	58715	27	45	168
Siresandra	309	52473	77	98	251
Zhapur	341	47949	98	118	256

CONCULDING REMARKS

The outcome is severe underemployment among manual workers, especially female workers. A large section of workers received only three to four months of employment in a year. MGNREGA was devised to address the crisis of rural unemployment by generating 100 days of employment per household. However, the in the three villages studies, MGNREGA failed to create enough employment to address rural unemployment. In Alabujanahalli, crop production generated 53,824 labour days in 2008-09 where as MGNREGA created only 1313 labour days during the same period. The labour days generated under MGNREGA were only 2.4 per cent of the labour days generated in the process of crop production. In Siresandra, the labour days generated under MGNREGA was only 12.5 per cent of labour days generated in agricultural production. We thus argue that the MGNREGA played a not-so-significant part in the rural production process and invariably failed to offset the effect of loss of employment in agricultural production. These data suggest that the poverty of the class of hired manual workers cannot be eradicated through state-sponsored programmes such as MGNREGA. Eradication of poverty requires creation of employment opportunities in the rural production process and large-scale and long-term rural development programmes.

Low levels of employment (varies by gender and village). Share of agriculture varies by village and gender. Total days of non-agricultural employment also varies by village and for men and women. It is observed that apart from location-specific non-agricultural work (like sericulture in Siresandra and mining in Zhapur), other non-agricultural activities are neither very skilled nor high-paying. No work under MGNREGA took place in Zhapur, a drought prone village.

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