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Agricultural Labour Shortage: An Abysmal to Agriculture in North Eastern Karnataka

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ABSTRACT

Over the years, there has been an arising worry about the farm labour accessibility which has been diminishing as a result of occupational changes, peoples attitude, Government policies and reforms, making it crucial to explore into the dynamics of the scarcity of agricultural labour and the reasons contributing to this. A study was undertaken considering the status of labour scarcity in agricultural economy with special reference to North Eastern Karnataka. A stratified sampling procedure was adopted to select the sample respondents. A total of 180 farmers were interviewed for the study. It was found that the labour demand exceeded supply for almost seven months and reached its peak during the sowing and weeding operations in both *rabi* and *kharif* seasons. According to the sample respondents, migration of labourers to the nearby villages for higher wages was the most serious problem leading to labour scarcity.

Keywords: Agricultural labour, labour shortage, supply-demand gap

Agricultural labour is a vital input in the agricultural production system in India. The phenomenon of underemployment is manifested in the daily lives as a large proportion of labour demand is met by wage labour, due to the skewed land distribution and seasonality of demand in agriculture. They usually get low wages, undertake laborious jobs and have highly irregular employment (Padhi, 2007). Agricultural labourers are at severe risk of poverty that permits routes out of agricultural labour, particularly across generations; however, agricultural labourers are not generally well placed to take advantage of them and mobility out of agricultural labour remains low (Dreze *et al*. 1992).

Even though India has the second largest man power in the world, all sectors of the economy have been affected by the scarcity of labour, and the impact being felt more in the agricultural sector. Labourers constitute a vital input in agricultural production, but they are migrating to different parts of the country for earning a better livelihood, adding to the existing imbalance between labour demand and supply of labourers (Deshingkar and Start 2003).

According to the Census of India (2011) there are about 402.5 million rural workers of which 127.6 million are cultivators and 107.5 million are agricultural labourers. In other words, pure agricultural workers constitute nearly 58.4 per cent of the total rural workers, of which 31.7 per cent are owner cultivators and 26.7 per cent are mainly agricultural wage earners.

The latest available Agricultural Census data (2011) also reveals that about 78 per cent of the operational holdings in the country are marginal and small, having less than two hectares. About 13 per cent holdings have two to four hectares and 7.1 per cent have four to ten hectares of land. The relatively large holdings above ten hectares number only about 1.6 per cent of the total operational holdings. However, this 1.6 per cent of the large holding occupies about 17.3 per cent of the total area, while 78 per cent of the holdings which are less than two hectares, and operates only about 32.4 per cent of the total area.

This reveals inequality in the distribution of the operational holdings. Also, there is an inequality of income between the agricultural workers, which is evident from the fact that the percentage share of agriculture in the current total GDP is only 13.2 per cent, while the percentage share of the agricultural work force to the total work force comes to about 60 per cent (Kusum Das and Gunajit, 2016).

Nearly 600 million individuals are engaged in farming and over 80 per cent of them belong to the small and marginal farmer category (Mukesh *et al.* 2008). Due to imperfect adaptation to the local environments, insufficient provision of nutrients and water, and incomplete control of pests, diseases and weeds, the current average yield of major farming systems in India is just 40 per cent of what can be achieved even with the technologies currently on the shelf. There is an acute shortage of labour in every sector in India. However, in the name of welfare measures, government of India and the state governments are taking away a lot of people from workforce, thereby enhancing shortage of labour and curtailing growth in GDP. In India, particularly in the southern states, there is an acute shortage of skilled and unskilled manpower in every sector of the economy. Labourers constitute a vital input in agricultural production, but they are migrating from one place to another. Implementation of MGNREGA program during peak agricultural season and urbanization are the major problems which lead to the shortage of agricultural labourers (Deshingkar and Start, 2003).

Scarcity of farm labourers is a grave concern for the farmers, who may not even hesitate to abandon farming. The acute shortage of agricultural labourers in the state has led to the delay in crop establishment, poor crop growth, no or untimely weeding, irrational use of fertilizers, insufficient irrigation to crops etc., which has pressed Indian farmers to shift from farming to non-farm activities. There are evidences of shift in cropping patterns in the irrigated and rainfed agriculture due to increased labour scarcity (Baba *et al.* 2011). Over the past couple of decades, there has been a growing concern that the farm labour has been decreasing which has been caused by occupational changes, people's mindset, government policies and reforms making it imperative to investigate into the dynamics or the scarcity of agricultural labour and its effect on agricultural economy. Taking into consideration this pressing problems existing in agricultural economy and unmanageable situations, it was perceived to undertake a study. The cause of labour scarcity and alternative solutions being region-specific, this study is restricted to North Karnataka, where the labour scarcity is being felt as a persistent disturbance by most of the farmers.

Data base and Methodology

The study was undertaken in Raichur, Koppal and Kalaburagi districts of North eastern Karnataka during the year 2016-17 based on post stratified classification of crops which are predominantly grown in those districts. Primary data collected pertained to the previous year. The stratified random sampling technique was used for the selection of respondents and agricultural labourers. Two taluks from each district and two villages from each taluk were selected for the study. The village with the highest net area under cultivation was selected purposively from each taluk. The sample size was restricted to 180 farmers. For evaluating the specific objectives of the study, required primary data were collected from the sample respondents for the agricultural year 2015-16. Tabular analyses have been adopted to fulfill the specific objectives of the study.

RESULTS AND DISCUSSION

Supply-demand gap of agricultural labourers for the principal crops in Raichur district

An examination of the operation-wise and month-wise labour requirement of the principle crops in the study area was carried out to throw light on the supply-demand aspect of the agricultural labourers. The details are presented in Table 1.

The crop-wise, operation-wise labour requirement was worked out from the primary data collected from the study area and the corresponding values were multiplied with the total area under each crop to get the month-wise labour requirement per year in the study area. The supply of agricultural labourers per year was worked out by assuming thatthe available agriculture labour force was employed on an average for twenty days in a month (Gayathri, 2013). Thus considering the total agricultural labour force in the district as 383526

Table 1: Month-wise agricultural labour supply-demand for principal crops of Raichur District for the year 2015-16 (No. Mandays/ha)

Crops	Demand and supply of agricultural labourers												
	Area (ha)	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Paddy	16, 2, 580	—	—	—	—	—	26, 01, 280	45, 52, 240	48, 77, 400	52, 02, 560	32, 51, 600	—	—
Jowar	76, 744	—	—	—	—	—	23, 02, 320	15, 34, 880	—	—	—	23, 02, 320	—
Redgram	37, 594	—	—	—	—	—	7, 51, 880	10, 52, 632	4, 51, 128	—	—	11, 27, 820	13, 15, 790
Bengalgram	60, 078	12, 01, 560	—	—	—	—	—	—	—	—	2, 40, 312	7, 20, 936	19, 22, 496
Groundnut	32, 942	—	—	—	—	—	3, 29, 420	7, 24, 724	6, 58, 840	—	10, 54, 144	—	—
Sunflower	30, 461	8, 52, 908	—	—	—	—	—	—	—	3, 65, 532	7, 31, 064	6, 09, 220	6, 70, 142
Cotton	1, 04, 970	—	—	6, 29, 820	8, 39, 760	10, 49, 700	18, 89, 460	—	—	8, 39, 760	27, 29, 220	29, 39, 160	37, 78, 920
Demand		20, 54, 468 **(3.66)**	—	6, 29, 820 **(1.12)**	8, 39, 760 **(1.50)**	10, 49, 700 **(1.87)**	78, 74, 360 **(14.04)**	78, 64, 476 **(14.02)**	59, 87, 368 (10.67)	64, 07, 852 **(11.42)**	80, 06, 340 **(14.27)**	76, 99, 456 **(13.72)**	76, 87, 348 **(13.70)**
S-D gap		56, 16, 052	76, 70, 520	70, 40, 700	68, 30, 760	66, 20, 820	-2, 03, 840	-1, 93, 956	16, 83, 152	12, 62, 668	-3, 35, 820	-28, 936	-16, 828
Supply: 383526*x 20**=76, 70, 520													

Note: ** Raichur district total agricultural labour population; ** Number of mandays employed per month taken as 20 (Gayathri (2013) and Prabhakar et al. (2011)).*

(DSO data, Raichur, 2014-15 as per 2011 census), the supply of the total labour was worked out to be 7670520 man-days per month.

Further it can be seen from the table that, the highest demand for labour, was in the months of October (14.27%) and June (14.04%) followed by the month of July (14.02%), November (13.72%), December (13.70%), September (11.42%), August (10.67%), January (3.66%), April (1.50%) and least in the month of March (1.12%). It can be seen that the supply of farm labourers (7670520 mandays) was inadequate in the months of June, July, October and September revealing the reality and the depth of the agricultural labour scarcity in Raichur district. From the table it can be seen that the highest labour requirement for paddy was in the month of September (5202560 mandays) as it coincided with the harvesting and also the sowing of sunflower and cotton crops. The pulse crop required relatively less labour during September. The maximum labour was demanded in the month of December 1315790 (mandays) by redgram when the harvesting operations were carried out and bengalgram demanded maximum labour in the month of November (1922496 person days) and January (1201560 person days) for carrying the weeding and the harvesting operations. Commercial crop cotton and major oilseed crop sunflower demanded maximum labour in the month of December and January which coincided with the sowing of *Rabi* crops and also harvesting operations.

Supply-demand gap of agricultural labourers for principal crops in Koppal District

The estimated demand for agricultural labourers in the Koppal district has been found to bethe highest during the month of July (6087494 person days) and June (5661844 person days), followed by September, October, November, December and May (Table 2). The available labour population was employed on an average for twenty person days in a month, and considering the total agricultural labour population of the district as 273016, the supply was worked out to be 5460320 person-days per month. A perusal

Table 2: Month-wise agricultural labour supply-demand for principal crops of Koppal District 2015-16 (No. Mandays/ha)

Crops	Area (ha)	Demand and supply of agricultural labourers											
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Paddy	75, 201	—	—	—	—	—	12, 03, 216	21, 05, 628	22, 56, 030	24, 06, 432	15, 04, 020	—	—
Maize	63, 936	—	—	—	—	—	21, 09, 888	17, 90, 208	—	19, 18, 080	—	—	—
Jowar	36, 444	—	—	—	—	—	12, 75, 540	10, 20, 432	—	—	—	9, 11, 100	—
Wheat	6, 356	38, 136	88, 984	—	—	—	—	—	—	—	1, 65, 256	1, 58, 900	50, 848
Redgram	14, 572	—	—	—	—	—	3, 20, 584	40, 8, 016	4, 51, 128	—	—	10, 52, 632	—
Bengalgram	52, 053	10, 41, 060	—	—	—	—	—	—	—	—	2, 08, 212	6, 24, 636	15, 61, 590
Groundnut	35, 065	—	—	—	—	—	3, 29, 420	7, 24, 724	6, 58, 840	—	10, 54, 144	—	—
Sunflower	48, 889	13, 68, 892	—	—	—	—	—	—	—	5, 86, 668	11, 73, 336	9, 77, 780	10, 75, 558
Cotton	22, 900	—	—	1, 37, 400	1, 83, 200	2, 29, 000	4, 12, 200	—	—	1, 83, 200	5, 95, 400	6, 41, 200	8, 24, 400
Safflower	4, 308	1, 20, 624	—	—	—	—	—	—	—	—	51, 696	1, 03, 392	94, 776
Sugarcane	2, 749	27, 490	16, 494	-	-	68, 725	10, 996	38, 486	21, 992	10, 996	32, 988	68, 725	21, 992
Demand		25, 96, 202	1, 05, 478	1, 37, 400	1, 83, 200	2, 97, 725	56, 61, 844	60, 87, 494	33, 87, 990	51, 05, 376	47, 85, 052	45, 38, 365	36, 29, 164
		(8.60)	**(0.35)**	**(0.46)**	**(0.61)**	**(0.99)**	**(18.75)**	**(20.16)**	**(11.22)**	**(16.91)**	(15.85)	**(15.03)**	**(12.02)**
S-D gap		28, 64, 118	53, 54, 842	53, 22, 920	52, 77, 120	51, 62, 595	-2, 01, 524	-6, 27, 174	20, 72, 330	3, 54, 944	6, 75, 268	9, 21, 955	18, 31, 156
Supply: 273016*×20** = 54, 60, 320													

Note: ** Koppal district total agricultural labour population; ** Number of mandays employed per month taken as 20 (Gayathri (2013) and Prabhakar et al. (2011)). Figures in parentheses indicate percentage to total demand.*

of the Table 2 revealed that the labour demand exceeded the labour supply during June and July. It is to be noted that the total monthly demand during the months of July was exceeding the supply by around 6.3 lakh which expresses the gravity of labour scarcity prevailing in the Koppal district.

Supply-demand gap of agricultural labourers for principal crops in Kalaburagi District

The estimated crop wise demand and supply of agricultural labourers in Kalaburagi district has been depicted in the Table 3. It can be revealed from the table that there was the highest demand for agricultural labour in the month of November (24.72%), followed by June (19.52%), July (19.36%) and December (11.32%) months. The crop wise labour requirement has also been depicted in the table. Redgram occupied a major share in the total cropped area in Kalaburagi district. The labour requirement was the highest in the months of July and November (8801604 persondays) as it coincided with sowing and harvesting season. Bengalgram demanded more labour in the month of December (5530050 person days) and January (3686700 person days) as it is the season of harvesting. Major cereals crops cultivated in the district were Maize, Jowar and Wheat which required a large number of labourers during the months of June and February. The major commercial crops grown in the district were Cotton and Sugarcane which required more

Table 3: Month-wise agricultural labour supply-demand for principal crops of Kalaburagi District 2015-16 (No. Mandays/ha)

Crops	Demand and supply of agricultural labourers												
	Area (ha)	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Maize	5, 484	—	—	—	—	—	1, 80, 972	1, 53, 552	—	1, 64, 520	—	—	—
Jowar	2, 39, 203	—	—	—	—	—	83, 72, 105	66, 97, 684	—	—	—	59, 80, 075	—
Wheat	14, 149	84, 894	1, 98, 086	—	—	—	—	—	—	—	3, 67, 874	3, 53, 725	1, 13, 192
Redgram	31, 4, 343	—	—	—	—	—	69, 15, 546	88, 01, 604	37, 72, 116	—	—	88, 01, 604	—
Bengalgram	1, 84, 335	36, 86, 700	—	—	—	—	—	—	—	—	7, 37, 340	22, 12, 020	55, 30, 050
Greengram	20, 292	—	—	—	—	—	1, 01, 460	3, 44, 964	2, 63, 796	—	4, 66, 716	2, 43, 504	—
Blackgram	18, 672	—	—	—	—	—	93, 360	3, 17, 424	2, 42, 736	—	4, 29, 456	2, 24, 064	—
Sunflower	42, 445	11, 88, 460	—	—	—	—	—	—	—	5, 09, 340	10, 18, 680	8, 48, 900	9, 33, 790
Cotton	82, 637	—	—	4, 95, 822	6, 61, 096	8, 26, 370	14, 87, 466	—	—	6, 61, 096	21, 48, 562	23, 13, 836	29, 74, 932
Sugarcane	68, 602	6, 86, 020	4, 11, 612	—	—	17, 15, 050	2, 74, 408	9, 60, 428	5, 48, 816	2, 74, 408	8, 23, 224	17, 15, 050	5, 48, 816
Demand		56, 46, 074	6, 09, 698	4, 95, 822	6, 61, 096	25, 41, 420	17, 4, 25, 317	1, 72, 75, 656	48, 27, 464	16, 09, 364	59, 91, 852	2, 20, 64, 092	1, 01, 00, 780
		(6.33)	**(0.68)**	**(0.56)**	**(0.74)**	**(2.85)**	**(19.52)**	**(19.36)**	**(5.41)**	**(1.80)**	**(6.71)**	**(24.72)**	**(11.32)**
S-D gap		26, 59, 266	76, 95, 642	78, 09, 518	76, 44, 244	57, 63, 920	-91, 19, 977	-89, 70, 316	34, 77, 876	66, 95, 976	23, 13, 488	-1, 37, 58, 752	-17, 95, 440
Supply: 415267*×20** = 83, 05, 340													

Note: ** Kalaburagi district total agricultural labour population ** Number of mandays employed per month taken as 20 (Gayathri (2013) and Prabhakar et al. (2011)); Figures in parentheses indicate percentage to total demand.*

labour during the months of November and December.

CONCLUSION

It is revealed from the study that in Raichur district the labour demand exceeded the labour supply during the months of October,June, July, November, September, August, January and April. The estimated demand for agricultural labourers in the Koppal district has been found to be the highest during the month of July and June, followed by September, October, November December and May. In Kalaburagi, there was the highest demand for labour during the months of November followed by June, July and December months. In order to overcome the present situation, custom hiring is to be encouraged among farmers for the adoption of the highly expensive labour saving technologies/ implements. Agricultural extension system of the districts has to be geared up, to bring farmers out from the conventional methods of cultivation and educate them on the adoption of the available labour saving implements and proper training programmes should be implemented for improving the skill of the agricultural labours.

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