



Farmers Strategies to Cope Labour Shortage in Northern and Southern Dry Zones of Karnataka, India

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Abstract

This study aimed to analyze the strategies adopted by the farmers to overcome the labour shortage in Sindhanur taluk of Raichur district and Mandya taluk of Mandya district. Random sample of 120 farmers each from the taluk were selected for the study. Opinion survey was conducted and results revealed that mechanization of agricultural operations, shifting towards less labour required crops, hiring labour from outside the village and intensive use of family labour are the major strategies adopted by farmers to overcome labour shortage. Mechanization in agriculture helped to solve the labour shortage. Therefore, this study concludes that the awareness among farmers should be created about existence of custom hiring centres and they should be encouraged to use it through self help groups based on subsidized rates.



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Introduction

The present day growth pattern of the Indian economy has drawn the attention because the agriculture growth has been declining at alarming rate however the rest of the economy is growing at unprecedented rates. Further, introduction of one of the major economic reforms in 1991 (Liberalization, Privatization and Globalization) has pronounced effect on the Indian economy in general and on the agriculture in particular through rising real wage rates, increased rural-urban migration, labour shortage for agriculture, increased share of non-agriculture in both employment and income,

increased non-farm incomes compared to farm incomes, rising input costs including labour cost and wider adoption of farm mechanization.

Structural transformation of Indian agriculture has resulted in changes in the employment scenario of the agricultural labour. One of the serious problems concerning labour employment is its seasonality, which has caused under-utilization of available labour in some seasons and over-utilization in other periods⁶. Among different factors of production, labour is a vital one but they are migrating to different parts in general and urban areas in particular for

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better livelihood, adding to the existing imbalance between labour demand and supply⁴. Migration of labourers to nearby villages for higher wages was the most serious problem leading to labour scarcity⁵.

There are different kinds of implications associated with agricultural labour scarcity such as delay in crop establishment, no or untimely weeding, irrational use of fertilizers, insufficient irrigation to crops, poor crop growth etc. Non-timely operation of activities in the farm led by labour scarcity during important stages of the crop resulting in inefficiency at field level as expressed by most of the farmers.

There is various mechanism by which farmers try to cope with the supply-demand gap of agricultural labour during busy agricultural seasons. The old patron-client relationship between the employers and the employees was not prevalent in the same form as it was before the 1980s¹⁰. The study has suggested that to cope with the situation of supply-demand gap of farm labour, there is no other alternative but to adopt selective mechanization of farm activities.

The farmers have adopted various strategies like use of family labour, increased use of machinery and hired labour from outside the village⁸. Conducted study on farmer strategies to face labour shortages in Chilean agriculture. The results revealed that more than a half of farmers (52.6 %) chose the strategy of paying better to their workers. About 13.8 per cent chose improve the workers' working conditions and 9.5 per cent chose to mechanize¹. The selling/leasing of personal property by the male farmers and reduction of portion of land to be cultivated by the female farmers were the strategies adopted by farmers in Nigeria⁷. With this background, this study intended to analyze the coping strategies adopted by the farmers to overcome the labour shortage.

Methodology

In the present study, multistage random sampling technique was adopted for the selection of study area and respondents. The command area, Raichur (Northern Dry Zone) and Mandya districts (Southern Dry zone) of Karnataka were purposively selected as these districts have the largest area under irrigation and these are the major rice-growing districts in Karnataka. In the first stage, Sindhanur taluk of

Raichur district and Mandya taluk of Mandya district were selected for the study based on the extent of net irrigated area under canal. 120 farmers each from the taluk were selected by using simple random sampling method. Opinion survey was conducted in the study area to analyze the strategies adopted by the selected farmers to overcome the labour shortage. In order to facilitate interpretation of findings, statistical measures like percentage and average was worked out wherever necessary.

Results and Discussions

Socio-Economic Features of Respondents

Northern Dry Zone (Raichur District)

Socio-economic features of sample respondents of Raichur district (Table 1) indicated that out of total respondents, 18 respondents were aged below 35 years constituting 15 per cent of the total, 46 between 35 and 50 years constituting 38.33 per cent to the total and 56 above 50 years constituting 46.67 percent of the total number of respondents, respectively. The average age of the respondent was around 47 years.

With respect of education of the total respondents, 34 had primary education, 21 had education up to high school, six had college education, three had degree and 47 respondents were illiterate constituting 28.33, 17.50, 5, 2.5 and 39.17 per cent of the total respondents, respectively (Table 1). The interesting thing is around 7.5 per cent of respondents were able to read and write without any formal education.

It was observed that 83 respondents had nuclear families constituting 69.17 percent of the total and 37 had joint families constituting 30.83 percent of the total respondents. The average family size of the respondents was around four and nine in case of nuclear and joint families, respectively.

The respondents had an average land holding of 4.98 hectares. Out of total respondents, 90 per cent of the respondents had own land with average size of land holding of 3 hectares, 51.67 percent of respondents had taken land on rental basis and 4.17 percent of respondents leased-out their land. The averaged leased-in and leased-out land was 4.41 and 1.68 hectares (Table 1), respectively.

Southern Dry Zone (Mandya district)

Socio-economic features of the respondents of Mandya district (Table 1) indicated that out of total respondents, 25 respondents were aged below 35 years, 47 between 35 and 50 years and 48 above 50 years, constituting 20.83, 39.17 and 40 per cent of the total number of respondents, respectively. The average age of head of the family was 28.72, 40.91 and 58.02 years in the case of less than 35, 35-50 and above 50 years age group, respectively. The average age of the respondent was around 45 years.

It was observed that 20 respondents had primary education constituting 16.67 percent of the total, 33 had education up to high school constituting 27.50 percent, 24 had college education constituting 20 percent, 16 had degree constituting 13.33 per cent and 21 respondents were illiterate constituting

17.50 percent of the total respondents (Table 1). Around five per cent respondents do not have any formal education but they were capable to read and write.

The family type of the respondents indicated that majority of respondents (84.17%) had nuclear family with an average family size of around four and the remaining 15.83 percent of respondents had joint family with an average family size of around ten.

The average cultivable land-holding size of the respondent in the study area was 1.46 hectares. Out of total respondents, 118 respondents had own land with an average size of land holding of 1.21 hectares, 36 had an average land of 0.71 hectares rental basis or crop sharing basis and seven respondents had leased-out their land (Table 1).

Table 1: Socio-economic features of respondents

Classification	Raichur district		Mandya district	
	Number of respondents (n=120)	Average Age	Number of respondents (n=120)	Average Age
I. Age group		Age		Age
a. Below 35 yr	18 (15.00)	28.67	25 (20.83)	28.72
b. 35-50 yr	46 (38.33)	40.43	47 (39.17)	40.91
c. Above 50 yr	56 (46.67)	57.59	48 (40.00)	58.02
d. Overall	120 (100.00)	46.68	120 (100.00)	45.22
II. Education level				
a. Primary	34 (28.33)		20 (16.67)	
b. High School	21 (17.50)		33 (27.50)	
c. Pre-university	06 (05.00)		24 (20.00)	
d. Degree	03 (02.50)		16 (13.33)	
e. No formal education	09 (07.50)		06 (05.00)	
f. Illiterate	47 (39.17)		21 (17.50)	
III. Family type		Family size		Family size
a. Nuclear	83 (69.17)	03.98	101 (84.17)	04.29
b. Joint	37 (30.83)	08.65	19 (15.83)	10.37
IV. Land holding (ha)		Land holding		Land holding
a. Own land	108 (90.00)	3.00	118 (98.33)	1.21
b. leased in	62 (51.67)	4.41	36 (30.00)	0.71
c. leased out	05 (04.17)	1.68	07 (05.83)	0.57
d. Overall	120 (100.00)	4.98	120 (100.00)	1.46

Note: Figures in parentheses indicate per cent to total respondents

Agricultural Labour

The profile of agricultural labour in Karnataka is presented in table 2. In Karnataka, during 2001 census the agricultural labour constituted 26.46 percent of total work force. After one decade, this percent declined to 25.67 and the decadal change observed was -0.79 percent. Similarly, the declined

trend of agricultural labour was observed in Raichur district with negative decadal change of 2.38 per cent. However, the recent census had shown a slight increase in agricultural labour in Mandya district. The decadal percentage change was 0.29 in Mandya district (Table 2).

Table 2: The profile of agricultural labour

Particulars	Percentage of agricultural labour to total work force		Percentage change
	2001	2011	
Raichur district	44.83	42.45	-2.38
Mandya district	24.52	24.81	0.29
Karnataka state	26.46	25.67	-0.79

Note: Census of India (2001-2011)

Strategies Adopted by the Farmers in Northern Dry Zone to Overcome Labour Shortage (Sindhnanur Taluk)

The opinion survey was conducted in the study area to analyze the strategies adopted by the farmers to overcome the labour shortage and the results were presented in table 3.

Mechanization

It is evident from the table 3 that all the farmers had adopted mechanization for major operations like primary and secondary tillage as a strategy to overcome labour shortage in the study area. To cope with the situation of labour shortage, there is no other alternative but to adopt selective mechanization of farm activities¹⁰. The use of labour-saving cultivation practices, including hiring of tractors in land preparation, broadcasting of seeds instead of transplantation and no weeding of crops are the strategies adopted by farmers³.

Shift Towards Alternative Crops Having Less Labour-Requirement

Paddy was the main crop, which was cultivated during kharif and summer season in the study area but due to labour and water scarcity, majority of farmers (92.50 %) reduced area under paddy cultivation and shifted towards less labour intensive

crops like rabi jowar and bengalgram by leaving land fallow during kharif season (Table 3). Farmers were seen to allocate their cropped land in favour of less labour-intensive crops³. The farmers reported that they abandoned cultivation of crops during summer season due to water scarcity.

Hiring Labour from Other Regions

The other strategy adopted by farmers was hiring labour from other regions during peak periods i.e. during sowing and harvesting of crops. It is evident from the results (Table 3) that 91.67 percent of farmers hired labour from other regions during peak periods by paying higher wages means by paying more¹. The farmers had to pay such exorbitant wages due to acute shortage of labourers during peak demand season⁹.

Intensive Use of Family Labour and Giving Land on Lease

The hiring labour at higher rate in the study area, 76.67 percent of farmers adopted strategy for use of family labour for more hours for various operations in the fields. Further, three farmers (2.5 %) leased out their land in exchange for an immediate return in the form of the rental payment. The practice of leaving land as fallow was almost absent in the study area.

Table 3: Strategies adopted by farmers to overcome labour shortage (Sindhanur taluk)

Sl. No.	Particulars	No of farmers (n=120)	Per cent
1	Mechanization of operation (major operations like primary and secondary tillage)	120	100.00
2	Shift towards alternative crops with less labour-requirement (reducing area under main crop)	111	92.50
3	Hiring labourers from other regions (during peak periods for sowing and harvesting)	110	91.67
4	Intensive use of family labour	92	76.67
5	Giving land for lease	03	02.50

Strategies Adopted by the Farmers in Southern Dry Zone to Overcome Labour Shortage (Mandya Taluk)

Different mechanisms were employed by different farmers in Mandya taluk to overcome labour shortage and are presented in table 4.

Mechanization

It is observed from table 4 that about 88 farmers (73.33 %) had adopted mechanization for major operations in the study area. Even though the land holding in study area was small in nature, the use of power tillers had made the work more flexible. The primary and secondary operations were mechanized by the farmers. Custom hiring of tractor-drawn tillage equipments has become an accepted practice and is expected to be more common on economic considerations².

Shift Towards Alternative Crops With Less Labour-Requirement

Sugarcane and paddy were the major crops in the study area and these crops required more labour for carrying out major field operations (Table 4). But due to labour scarcity during peak seasons, majority of farmers (90 %) adopted a strategy of shifting towards alternative crops, which demand less labour.

Mutual Family Labour Assistance With Neighbour Farmers and Intensive Use of Family Labour

It is evident from table 4 that another strategy adopted by 35 per cent of farmers was mutual family

labour assistance with neighbour farmers to carry out the field operations. In this case the cost did not pay between the farmers but the farming operations were carried out by mutual understanding. Further, 94.17 per cent of farmers had adopted a strategy of engaging family labour for more hours.

Hiring Labour from Other Regions

The major farming operations like sowing and harvesting of crops requires maximum labour. Therefore, to overcome labour shortage during these operations, about 86.67 percent of farmers had adopted a strategy of hiring labour from other regions by paying better wages and it was a common practice in the study area. The farmers had adopted various strategies to overcome labour shortage in agriculture such as use of family labour, increased use of machinery and hired labour from outside the village⁸.

Giving Land on Lease by Crop Output Sharing Basis and Leaving Land Fallow

Leasing land for cultivation was a common practice in the study area. The land on lease was taken place on crop output sharing basis or either rental payment. Thirty seven farmers (30.83 %) had given their land for cultivation on crop output sharing basis. Yet another strategy of leaving the land fallow was also adopted by farmers (8.33 %) as a response to labour shortages. Strategy of leaving land as fallow was adopted by farmers as a response to labour shortage³.

Table 4: Strategies adopted by farmers to overcome labour shortage (Mandya taluk)

Sl. No.	Particulars	No of farmers (n=120)	Per cent
1	Mechanization of operation (major operations like primary and secondary tillage)	88	73.33
2	Shift towards alternative crops with less labour-requirement (reducing the area under main crop)	108	90.00
3	Mutual family labour assistance with neighbour farmers	42	35.00
4	Hiring labourers from other regions (during peak season for sowing and harvesting)	104	86.67
5	Intensive use of family labour	113	94.17
6	Giving land on lease by crop output Sharing basis	37	30.83
7	Abandon cultivation/ leaving land fallow	10	08.33

Conclusion

It is clear from the above observations that the farmers are adopting different strategies to face labour shortage in study area. Among the various strategies reported by the farmers, Mechanization (major operations like primary and secondary tillage) and shifting towards alternative crops having less labour-requirement was opined as major strategies adopted by the farmer to mitigate labour scarcity. Mechanization in agriculture is the best strategy to face labour shortage but it has some limitation such as

costly and high maintenance charges, etc. Therefore, steps should be taken to create awareness among the farmers about existence of custom hiring centres and they should be encouraged to use it through self help groups based on subsidized rates.

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