

## Covid-19: Agricultural Labour Migration in Telangana

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**ABSTRACT:** The present field study was undertaken to examine the pattern of labour migration due to COVID-19 pandemic and the factors associated with it in Mahbubnagar district of Telangana during 2020-21. Various statistical tools were employed for analysis of the data. It is found that before the pandemic, among the migrant agricultural labourer households majority *i.e.*, 75.00 per cent went for rural to urban migration followed by 25.00 per cent of the went for rural-to-rural migration for agricultural works and during the COVID-19 period, 46.67 per cent of the respondents went for rural to urban migration followed by 30.00 per cent went for rural to rural migration, 23.33 per cent of the respondents went for partially rural to urban migration and partially rural-to-rural migration for agricultural works respectively. Before COVID-19, majority of the migrant agricultural labourers *i.e.*, 48.33 per cent went for inter district migration followed by intra district migration. During COVID-19 period, majority of the migrant labourers *i.e.*, 51.67 per cent went to intra district migration, followed by inter district migration. Major push factors affecting migration of agricultural labourers were predominant rainfed farming at the native place, low standard of living in own village, major pull factors affecting migration were adequate return in non-farm sector adequate employment opportunities in the non-farming sector. Major significant factors affecting duration of migration were number of days of employment, monthly expenditure and dependency ratio with regression co-efficient 0.963, 0.004 and 1.710 respectively.

**Keywords:** Agriculture labourers, Migration and COVID-19.

### INTRODUCTION

Agricultural labor migration refers to the movement of people from one place to another in search of work opportunities in the agricultural sector. This type of migration can occur within a country or across international borders, and it is often driven by economic, social, and political factors. Agricultural labor migration has been a common phenomenon throughout history, as people have moved from rural areas to urban centers or to other rural areas in search of work. In many cases, agricultural labor migration is seasonal, with workers moving to different areas depending on the demands of the agricultural cycle (Arumugam, 2020). By the 2035 half of the Indian population will migrate to urban areas. (Pulla and Nisha 2021).

The COVID-19 pandemic has had a significant impact on agricultural labor migration. With border closures and travel restrictions, many migrant workers have been unable to travel to their places of work, leading to labor shortages in the agricultural sector (Unni, 2020;

Workie *et al.*, 2020). In some cases, agricultural workers who were already in the host country when the pandemic hit have been stranded without access to necessary healthcare, income support, or legal protections. This has resulted in increased vulnerability to exploitation and abuse, including long working hours, low wages, and unsafe working conditions (Harris *et al.*, 2020; Ceylan *et al.*, 2020). Additionally, COVID-19 outbreaks in agricultural workplaces have highlighted the risks faced by migrant workers who often live in crowded and unsanitary conditions, making them more susceptible to contracting the virus (Mishra *et al.*, 2021; Roubik *et al.*, 2022; Dandekar and Ghai 2020; Kumar and Anwer 2020; Yadav and Agarwal 2021). The pandemic has also highlighted the importance of agricultural labor migration to the global food supply chain, as many countries rely on migrant workers to plant, harvest, and process crops. (Bhagath, 2020; Bhavani, 2020) The disruption caused by the pandemic has underscored the need for governments and other stakeholders to work together to ensure that

agricultural workers are protected, and that the supply of food is maintained (Eileen *et al.*, 2021; Jha *et al.*, 2020). The focus of this study is mainly on the pattern of the migration and reverse migration of the agricultural labourers in the study area and the factors associated with migration.

## METHODOLOGY

Primary data required for evaluating the specific objectives designed for the study was collected from sample migrant agricultural labourer households through survey method. The data collected covers two periods viz., from 25<sup>th</sup> March 2019 to 24<sup>th</sup> March 2020 and 25<sup>th</sup> March 2020 to 25<sup>th</sup> March 2021. Multistage sampling technique was used in selection of districts, mandals and villages. In the first stage Mahbubnagar district of Telangana state was purposively selected as it is drought prone area in Telangana it is having more chances of migrant agricultural labours (Vijay, 2011). Similarly, in the second stage two mandals namely

Devarakhadra and Jadcherla were selected based on highest number of agricultural labour population. In the third stage, two villages from each selected mandal with highest registered agricultural labour population viz., Kodgal (1411) and Gangapur (916) villages were selected from the Jadcherla mandal and Nagaram (920) and Koukuntla (880) villages were selected from Devarakhadra mandal. From each selected village, 15 numbers of migrant agricultural labour households were selected randomly totally 60 migrant agricultural labour households were selected. The required primary data were collected from sample farmers and sample migrant labourers by using a pre tested questionnaire and secondary data collected from various related public organizations, reports published by different institutions and official websites of different organizations. Suitable statistical tools and tabular analysis were used to analyze the data.

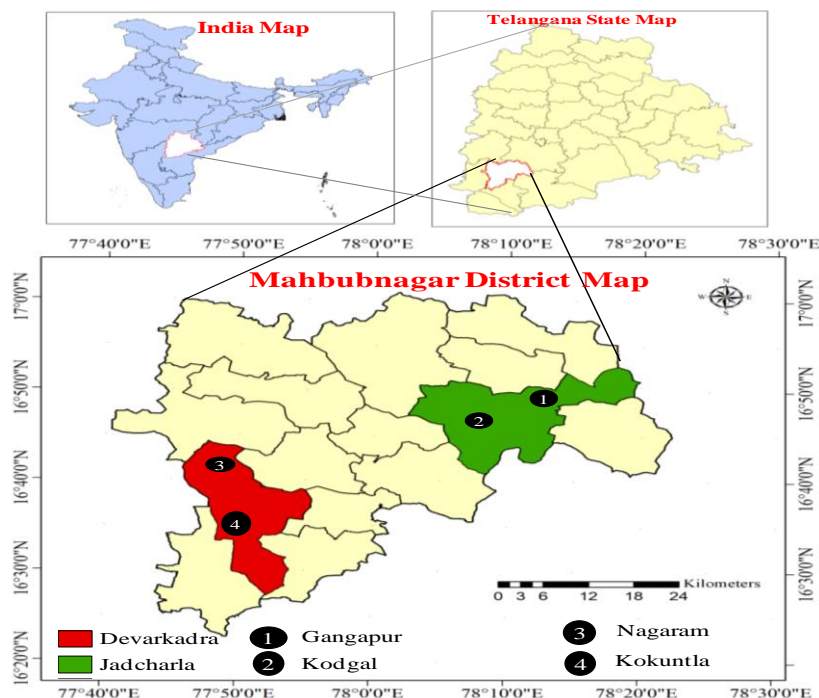


Fig. 1. Pictographical representation of study area.

**Tabular analysis.** Tabular analysis involving the computation of means, percentages, ranges *etc.* were used to present the data regarding the socio-economic profile and opinions expressed by the sample farmers and migrant agricultural labour households.

**Multiple linear regression analysis.** Multiple linear regression analysis is the most common form of linear regression analysis. As a predictive analysis, multiple linear regression is used to explain the relationship between one continuous dependent variable and two or more independent variables. The independent variables can be continuous or categorical.

The form of multiple linear regression function is as follows.

$$Y = a_0 + b_1X_1 + b_2X_2 + \dots + b_n X_n + u$$

Where,

Y= Dependent variable

$a_0$  = Intercept (Constant term)

$X_1, \dots, X_n$  = Independent variables

$b_1, \dots, b_n$  = Regression coefficients

u = Residual error

## RESULTS AND DISCUSSION

### A. Patterns of agricultural labour migration

While examining the patterns of labour migration two different patterns were observed which were classified as Type-1 and Type-2 migrations. Type-1 describe the migration from the rural origin to rural or urban or both. Similarly Type-2 pattern indicate the movement of labour from origin to destinations within district or other district or other state or both intra and inter district.

**Table 1: Pattern of migration among sample migrant agriculture labour households.**

Sr. No.	Type of migration	Particulars	Before COVID-19 pandemic	During COVID-19 pandemic
1.	Type-1 migration	Rural to rural (For agricultural works)	15(25.00)	18(30.00)
		Rural to urban (For non agricultural works)	45(75.00)	28(46.67)
		Both Rural to rural + Rural to urban	-	14(23.33)
		Total	60 (100.00)	60(100.00)
2.	Type-2 migration	Intra district	28(46.67)	31(51.67)
		Inter district	29(48.33)	12(20.00)
		Interstate	03(05.00)	03(05.00)
		Both Intra district + Inter district migrated people	-	14(23.33)
		Total	60(100.00)	60(100.00)

Note: Figures in parenthesis indicate percentages.

Agricultural labour when they were migrating, they might have taken up rural farm related activities or urban related activities as per the availability of work and their skill possessed by them. So, the pattern of migration from rural to rural and rural to urban and both together were studied and presented in Table 1. It was noticed that before COVID-19 pandemic in the study areamigration was observed to be ‘Rural to rural for agricultural works’ (25 per cent) and ‘Rural to urban for non-agricultural works’ (75 per cent) who might have possessed skills in the respective works but they never opted for migration for both agricultural and non-agricultural works. During COVID-19 pandemic, there was a situation where in the migrants opted for agricultural works as well as non-agricultural works partly who accounted for 23.34 per cent of the sample. Before COVID-19 pandemic, lot of Rural to urban migration (75 per cent) was found which was reduced and probably even without the skills they might have opted for both agricultural and non-agricultural works as shown in the table. There was a slight change was observed before pandemic when compared to during pandemic, in case of ‘rural to rural migrants those went for agricultural activities’ was about 16.66 per cent whereas in case of rural to urban migrants those who went for non-agricultural activities was about -35.42 per cent respectively.

It can be concluded that when compared to the before pandemic period, there was increase in ‘Rural to rural migration’ during the pandemic and some of the migrant agricultural labourers who were under ‘Rural to urban migration’ were shifted to both ‘Rural to rural and rural to urban migration’ category due to non-availability of work during the period.

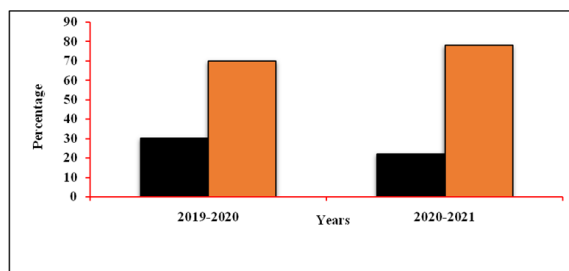
The pattern of migration within the district or in between the districts or in between the states were studied and presented in the Table 1. Out of the 60 selected samples data pertaining to before COVID-19 pandemic, majority of the migrant agricultural labourers *i.e.*, 48.33 per cent opted for inter district migration that too mainly went to only one city *i.e.*,

Hyderabad, followed by intra district migration, 48.33 per cent went to Mahbubnagar and Jadcherla and only 5 per cent of sample labourers opted for interstate migration *i.e.*, mainly to Mumbai. The results obtained were in accordance with Shekar *et al.* (2020).

During COVID-19 pandemic, period majority of the migrant agricultural labourers *i.e.*, 51.66 per cent opted for intra district migration *i.e.*, Mahbubnagar and Jadcherla followed by inter district migration (20 per cent) went to Hyderabad. Those who opted for both intra district and inter district were 23.34 per cent and very least (5 per cent) were went on interstate migration to Mumbai. During the COVID-19 pandemic when compared to the before COVID-19 situation, while intra district migration being the same, inter district migration has reduced by 26.66 per cent and partial intra district and partial inter district type of migration has increased in the same magnitude. Interstate migration level did not witness any change in spite of pandemic.

It can be concluded that before and during COVID-19 pandemic those who went for intra district migration has increased, inter district migration has decreased and they shifted to both intra district and inter district migration whereas interstate migration has remained same.

Extent of labour migration in sample migrant agricultural labourer households during 2019-20 and 2020-21 was explained by using a bar chart in Fig. 2. It was noticed that before COVID-19 pandemic, 30 per cent of migrant agricultural labourers were gone for long term migration and it was decreased to 22 per cent during the pandemic. Before pandemic, about 70 per cent of migrant agricultural labourers were gone for short term migration and it was increased to 78 per cent during the pandemic. Hence, it can be concluded that there was an increase in short term migration and decrease in long term migration before and during pandemic period. These results are in accordance with the results of Vijay (2011).



**Fig. 2.** Extent of labour migration.

*B. Factors affecting migration of agricultural labourers*  
Different socio-economic factors causing migration were presented in the Table 2 and they were categorized into 2 major group's viz., 1. Push factors of migration 2. Pull factors of migration.

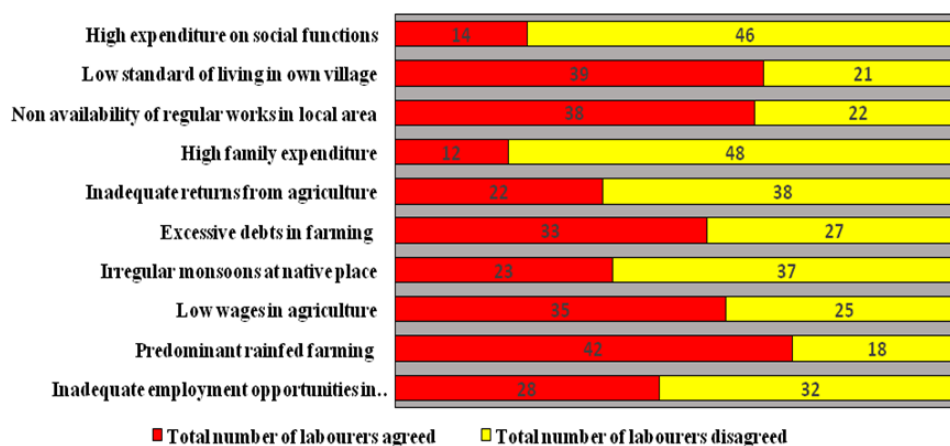
Push factors of migration were conditions in migrant agricultural labourer households that make it difficult to live at their native place, while pull factors were

circumstances in the destination place that make it more attractive place to live than at their native places These results are in accordance with the results of Lee *et al.* (2020).

The extent of agreement/ disagreement of sample migrant agricultural labourers with the identified factors were recorded and presented in the following figure.

**Table 2: Push and pull factors affecting migration of agricultural labourers.**

Sr. No.	Factors affecting migration
1.	Inadequate employment opportunities in agriculture
2.	Predominant rainfed farming (lack of irrigation facility)
3.	Low wages in agriculture
4.	Irregular monsoons
5.	Excessive debts in farming sector
6.	Inadequate returns from agriculture
7.	High family expenditure
8.	Adequate returns in nonfarm sector
9.	Adequate employment opportunities in the non-farming sector outside the village
10.	Non availability of regular works in the native villages
11.	Better educational facilities for children in urban areas
12.	Adequate medical facilities in urban areas
13.	Low standard of living in own village
14.	Expenditure towards social functions
15.	Opportunities for acquiring new skills in nonfarm sector



**Fig. 3.** Push factors of migration.

It was identified from the Fig. 3 that predominant rainfed farming at the native place was the major factor contributing for migration of 70 per cent of the respondents. It was followed by low standard of living in own village (65.00 per cent), non-availability of regular works in local area (63.34 per cent), low wages in agriculture (58.34 per cent), excessive debts in

farming sector (55.00 per cent), inadequate employment opportunities in agriculture (46.67 per cent), irregular monsoons (38.34 per cent), inadequate returns from agriculture (36.67 per cent), high expenditure towards social functions (23.34 per cent) and high family expenditure (20.00 per cent) in descending order of magnitude were important push factors of migration.

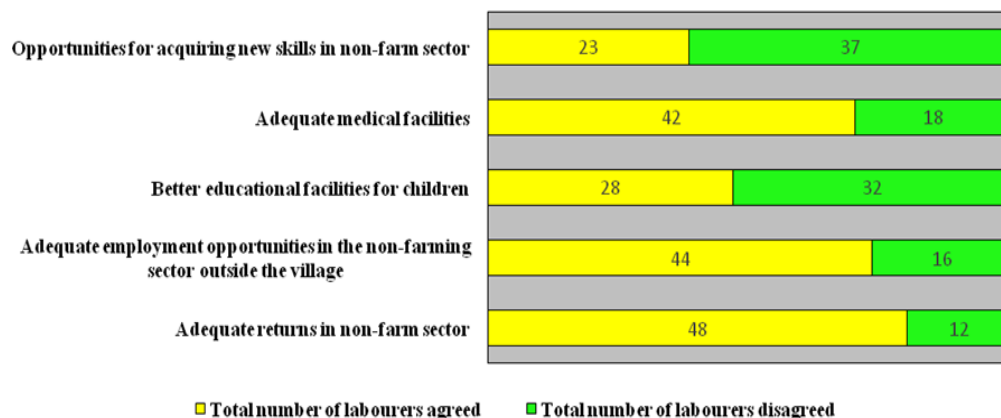


Fig. 4. Pull factors of migration.

From the Fig. 3 it was clear that an adequate return in non-farm sector was the major pull factor contributing for migration of 80 per cent of the respondents. It was followed by adequate employment opportunities in the non-farming sector outside the village (73.33 per cent), adequate medical facilities (70.00 per cent), better educational facilities for children (46.67 per cent) and opportunities for acquiring new skills in non-farm sector (38.33 per cent) in descending order of magnitude were important pull factors which led to migration of the labourers in sample households.

**Major factors affecting duration of migration in agricultural labour households.** Migration is a social process and was affected by many factors. More specifically it was affected by age, education, wage rate, number of days of employment, debts, family size, monthly expenditure, family income, dependency ratio etc.

An attempt has been made to examine the influence of various factors on number of days of migration. The regression model was applied to study the factors affecting duration of migration and the results were discussed below.

The variations in duration of migration across migrant agricultural labourer households were explained by variations in the identified explanatory variables viz., age, education, wage rate, number of days of employment, debts, family size, monthly expenditure, family income and dependency ratio.

The results of regression analysis with regard to respondents of Mahbubnagar district were presented in Table 3.

$$Y = (-46.746) + (-0.491)X_1 + (-1.855)X_2 + (-0.041)X_3 + (0.963)X_4 + (0.000)X_5 + (4.499)X_6 + (0.004)X_7 + (0.000)X_8 + (1.710)X_9 + u$$

$$R^2 = 0.92 \quad F = 62.92 \quad n = 60$$

The co-efficient of multiple determination  $R^2$  for the regression equation is 0.92 which was significant at 5 per cent level of probability indicated that 92.00 per cent of variation in the dependent variable i.e., duration of migration was explained by the nine explanatory variables included in the function. The remaining per cent of variation may be due to some other factors such as type of activity involved, demand for labour at work place etc.

Table 3: Factors affecting the duration of migration in sample agricultural labourer households.

Sr. No.	Variables	Regression Co-efficient	t – Stat value
1.	Intercept (a)	-46.746	-1.146
2.	Age ( $X_1$ )	-0.491	-0.727
3.	Education ( $X_2$ )	-1.855	-1.142
4.	Wage rate ( $X_3$ )	-0.041	-1.179
5.	Number of days of employment at work place ( $X_4$ )	0.963*	7.280
6.	Debts( $X_5$ )	0.000	1.448
7.	Family size ( $X_6$ )	4.499	0.425
8.	Monthly expenditure at work place ( $X_7$ )	0.004*	2.665
9.	Total family income at work place ( $X_8$ )	0.000	1.339
10.	Dependency ratio ( $X_9$ )	1.710*	2.378

Note: \* indicates significant at 5 per cent level

From Table 3, it is observed that variables such as age ( $X_1$ ), education ( $X_2$ ) and wage rate ( $X_3$ ) were negatively influencing on duration of migration, while number of days of employment ( $X_4$ ), debt level ( $X_5$ ), family size ( $X_6$ ), monthly expenditure at work place ( $X_7$ ), family income ( $X_8$ ) and dependency ratio ( $X_9$ ) were positively influencing on duration of migration in the study area. Among all the explanatory variables, number of days of

employment, monthly expenditure at work place and dependency ratio were statistically significant at 5 per cent level.

The regression co-efficient of number of days of employment availability at work place 0.963, which indicate that when all other independent variables were kept constant, one day increase in availability of employment of migrant agricultural labourers could



increase number of days of migration by 0.963 times. This indicates that the migrant agricultural labourer households with a greater number of days of availability of employment were more likely to get a greater number of days of migration. These results are similar with the results of Sundaravaradarajan *et al.* (2011).

Positive relationship exists between monthly expenditure at work place and number of days of migration with regression co-efficient of 0.004, which implied that an increase of one rupee in monthly expenditure at work place of migrant agricultural labourer resulted in increase of number of days of migration by 0.004 days. This meant that the families with higher expenditure at work place were going for a greater number of days of migration.

Similarly, a positive relationship was observed between dependency ratio and number of days of migration with regression co-efficient of 1.710, which revealed that increase in one dependent member in a family, number of days of migration was increased by 1.710 times. These indicate that the families with higher dependent members were migrating for a greater number of days when compared to the families with less dependent members in a family.

## SUMMARY

Among the sample migrant agricultural labourer households before COVID-19 pandemic majority of the labourers *i.e.*, 75.00 per cent went for rural to urban migration followed by 25.00 per cent of the labourers who went for rural-to-rural migration for agricultural works. During the COVID-19 pandemic period, 46.67 per cent of the respondents went for rural to urban migration followed by 30.00 per cent went for rural to rural migration, 23.33 per cent of the respondents went for partially rural to urban migration and partially rural-to-rural migration for agricultural works respectively. Before COVID-19 pandemic, the majority of the migrant labourers *i.e.*, 48.33 per cent went on inter-district migration, (Shekar *et al.*, 2020) followed by intra district migration, 46.67 per cent and only 5 per cent of sample labourers went on interstate migration. During COVID-19 pandemic period majority of the migrant labourers *i.e.*, 51.67 per cent went to intra district migration, followed by inter district migration (20 per cent). Those who went to intra district plus inter district were 23.33 per cent and very least (5 per cent) were went on interstate migration. Major factors affecting migration in agricultural labour households were differentiated into push and pull factors. Major push factors affecting migration of agricultural labourers were predominant rainfed farming at the native place followed by low standard of living, non-availability of regular works in local areas and major pull factors affecting migration were adequate return in non-farm sector followed by adequate employment opportunities in the non-farming sector outside the village, adequate medical facilities, better educational facilities for children and opportunities for acquiring new skills in non-farm sector *etc.*

## CONCLUSIONS

1. Among the sample migrant agricultural labourers, when compared to the before the pandemic, during the COVID-19 pandemic, there was an increase in 'Rural-to-rural migration' and some of the migrant agricultural labourers who went to 'Rural-to-urban migration' were shifted to both 'Rural-to-rural and rural-to-urban migration' due to non-availability of work during the pandemic lockdown.
2. Before the pandemic to during the pandemic time, sample migrant agricultural labourers who went for intra district migration was increased followed by inter-district migration was decreased and they shifted to both intra district and inter district type migration and interstate migration was remained the same.
3. Among different factors affecting the duration of migration of agricultural labourers, the variables such as number of days of employment, monthly expenditure and dependency ratio were found positive and significant.
4. Major push factors affecting migration were predominant rainfed farming at the native place followed by the low standard of living the major pull factors affecting migration were adequate returns in the non-farm sector followed by adequate employment opportunities in the non-farming sector outside the village.

## POLICY MEASURES SUGGESTED

- Proper official data of migrant labour is required to be maintained at each Gram panchayat level by the government for initiating informed policy decision/action plans as in no sample village such data was maintained by government bodies.
- There is a severe need for massive investment in rural infrastructure by establishing agro-industries such as processing units which is expected to create local employment opportunities for the rural population.
- Alternate employment opportunities should be created for the reverse migrated labour during the special situations like COVID-19 pandemic.
- Migrant agricultural labourers were also shifting to non-farm works during COVID-19 pandemic, this has proven that if the farm activities are regularly available, migration can be decreased.
- Commercialization of agriculture helps in providing employment to return migrant agricultural labourers.
- Migrants should be treated as a special group in economy transition and all the facilities, such as EPF, ration card, insurance and other safety net *etc.*, are to be provided to them by the local Governments at the place of migration.

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