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Factors influencing migration of labourers to coffee plantations

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Abstract
Migration, as a worldwide event, is as old as civilization and development. The present study examined the factors influencing migration of labourers to Coffee plantations in Chikkamagaluru and Kodagu districts of Karnataka state during 2020-21. A total of 140 samples, 70 from each districts were selected by following simple random sampling technique. The factors influencing migration were classified into push (7) and pull (7) factors. In order to prioritize push and pull factors, Garrett ranking technique was employed. The study indicated that lack of employment opportunities in hometown as the major push factor with highest Garrett mean score of 78.00 (I rank) followed by lower earnings at hometown (II rank with mean score 60.85), poor economic conditions (III rank), indebtedness (IV rank), lack of basic amenities in the native place (V rank), small landholdings/landlessness (VI rank) and drought/famine/crop failure (VII) were considered as important push factors. Among the pull factors, availability of ample work opportunities in coffee plantation was considered as the most important with Garrett mean score of 78.00 (I rank). The purpose of family well-being with mean score of 66.00 (II rank), higher wages compared to native (III rank), better health care services and living conditions (IV rank), better opportunities for children's education (V rank), higher social status (VI rank) and better opportunities for marriage (VII rank) were in order of importance among the pull factors. The majority of migrant labourers believe that having appropriate job opportunities in their native places throughout the year (77.85%) and almost three-quarters of them suggested that wage rates should be raised (73.57%) were some of the key suggestions made by the migrant labourers to mitigate the migration.

Keywords: Coffee, plantations, zones, migration, labourers and migrant labourers

Introduction
One important facet of study on population is the study of migration arising out of various social, economic or political reasons. Opportunities in urban areas for employment, education, etc., have been a pull factor attracting migrants from rural to urban areas and from smaller towns and cities to larger metropolitan areas. There is also migration in the opposite direction from urban to rural areas due to various reasons. Out of about 98 million total intra-state and inter-state migrants in the country during the last decade, 61 million have moved to rural areas and 36 million to urban areas. Migration stream out of rural areas (73 million) to another rural area was relatively high (53 million) in comparison to rural to urban areas (20 million). About six million migrants went to rural areas from urban areas. Based on net migrants by last residence during the past decade, i.e., the difference between in-migration and out-migration, in each state, Maharashtra stands at the top of the list with 2.3 million net migrants, followed by Delhi (1.7 million), Gujarat (0.68 million) and Haryana (0.67 million) as per census. Uttar Pradesh (2.6 million) and Bihar (1.7 million) were the two states with the most significant number of net migrants migrating out of the state (Census of India, 2011) [2].

The pattern of growth of migration in the past two to three decades has steadily widened the gap between agriculture and non-agriculture between rural and urban areas and also between the states with excellent and critical growth indicators. It has steadily concentrated in a few areas and a few conditions. In India, states like Karnataka, Kerala and Gujarat emerged as promising development zones, a dynamic often conflated with economic growth, whereas states like Bihar, Orissa and Chhattisgarh are known for appalling growth indicators. Migration of labour from states with critical growth indicators to states with substantially superior growth indicators is a widespread phenomenon, sometimes represented in more and better livelihood possibilities.

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The labour force in Chikkamagaluru and Kodagu is multi-cultural, comprising locals, migrants from different districts of Karnataka state *viz.,* Chitradurga, Davangere, Mysore and Northern districts. Migration is also apparent from North-eastern and Southern India. Assam and West Bengal constitute the Northeastern part, while Tamil Nadu and Kerala in the Southern part. As maximum labourers have immigrated to the study area, especially for Coffee estates from the poor, small and marginal farm households, they have to search for alternative sources of livelihood during the slack season. During peak season, migrants from the above mentioned regions found working in Coffee estates as lucrative and safe nest compared to their home states. The average daily number of persons employed on Coffee plantations in the state of Karnataka was about 5.16 lakh workers in the fiscal year 2020 (Statista, 2021) [5].

As maximum labourers immigrate to Chikkamagaluru and Kodagu, especially for Coffee estates from different parts of the state and neighbouring states, for their livelihood security. Since no study has been undertaken to determine the specific reasons for migration and to elicit their opinion/suggestions to reduce migration. The findings of this study may assist administrators and policymakers in developing appropriate programs or schemes that provide employment possibilities to mitigate migration. With all this in view, the present investigation entitled "Factors Influencing Migration of Labourers to Coffee Plantations" was undertaken with the following objectives:

1. To analyse the factors influencing migration of labourers to coffee plantations
2. To elicit the suggestions by the migrants to mitigate migration

Materials and Methods

The study was conducted in two major Coffee-growing districts of Karnataka state, namely, Chikkamagaluru and Kodagu (Figure 1) during the year 2020-21. These two districts were purposively selected as they are contributing four-fifth towards total Coffee production in the state. Coffee is a highly labour-intensive crop and its yield depends on the performance of labourers employed to perform various cultural operations. Labour requirements in these regions were met through migrant and local labourers. Deploying of migrant labourers depends on the area and production of the Coffee plantation. It becomes imperative to probe into the reasons for interstate and intrastate immigration of labourers to Coffee plantations.

To analyse the factors influencing migration of labourers to Coffee plantations, Coffee-producing zones within the districts were selected. Zones refer to the group of villages having an area under Coffee of more than or equal to 10000 ha. The zones were further positioned within districts based on the area under Coffee plantations. Both Chikkamagaluru and Kodagu districts were divided into 24 Coffee-producing zones *i.e.,* 12 from each district. Irrespective of the position of zones in terms of area under Coffee, 10 migrant labourers were selected randomly from the villages having the highest area under Coffee in each of the zones. Thus, 140 migrant labourers were selected from 14 villages having the highest area under Coffee from 14 zones (Table 1). Ex-post-facto design was used for the present study. This design was considered appropriate because the phenomenon had already occurred. The data was collected through personal interview method and analyzed using statistical tools such as frequency, percentage and Garrett's ranking technique.
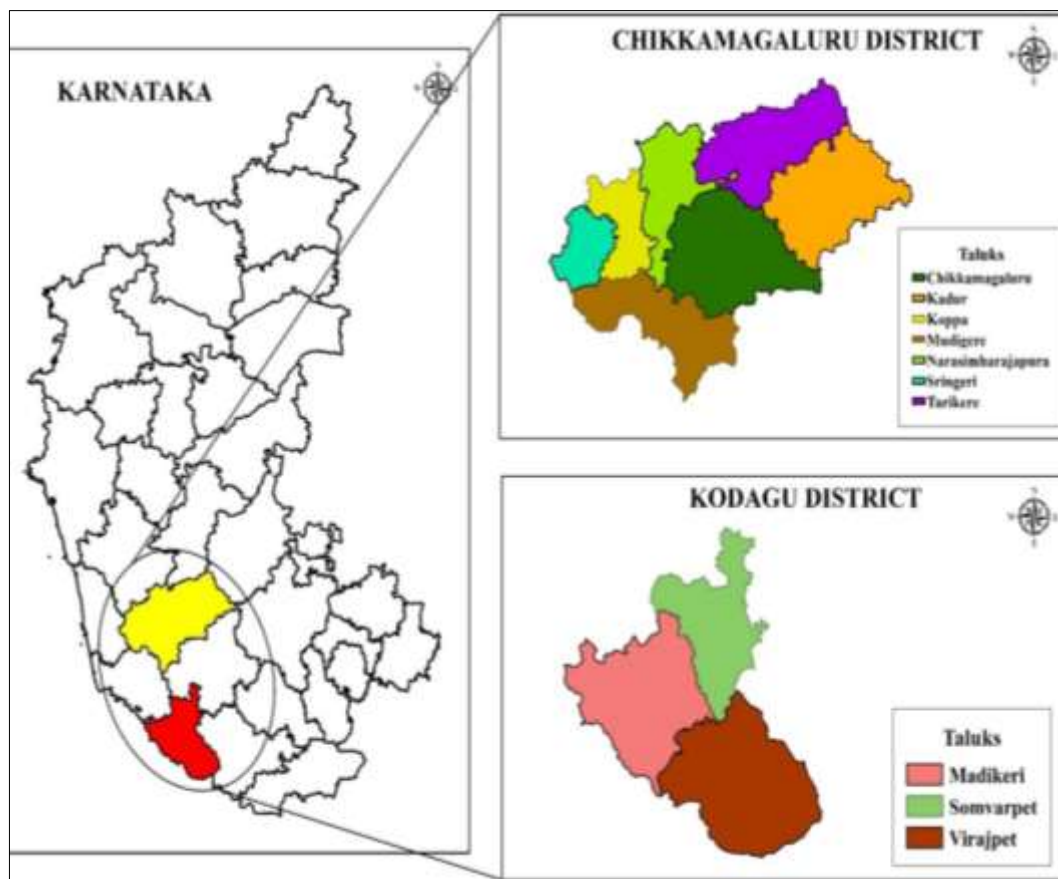

Fig 1: Map showing the study area

Table 1: Details of the respondents selected for the study

Sl. No.	District	Zone	Village	Migrant labourers
1.	Chikkamagaluru	Alduru	Handi	10
		Balehonnuru	Balehonnuru	10
		Eastern Giri	Mallenahalli	10
		Kalasa	Mavinakere	10
		Koppa	Kwardhithlu	10
		Mallanduru	Mallanduru	10
		Mudigere	Malsavara	10
2.	Kodagu	Gonikoppal	Pollibetta	10
		Madikeri	Hoskeri	10
		Napoklu	Kolakeri	10
		Siddapura	Siddapura	10
		Srimangala	Srimangala	10
		Suntikoppa	Jamburu	10
		Virajpet	Hathur	10
Total (Nos.)	2	14	14	140

Results and Discussion
Factors influencing migration of labourers to coffee plantations
Migration among labourers is influenced by certain factors, which can be grouped into push and pull factors. As the name indicates, push factors are the problems faced by the labourers at their native place, which compel them to migrate, while pull factors are the attractions at the place of migration that pull the labourers towards that place. With this in view, the factors influencing migration among labourers were studied. The factors influencing migration among labourers were ranked with Garrett's ranking technique and depicted in Tables 2 and 3.

Push factors influencing migration of labourers to coffee plantations
According to the results depicted in Table 2, Unsurprisingly, lack of employment opportunities at one's native place with Garrett mean score of 78.00 emerges as the most significant push factor for migration. When individuals are unable to find suitable work in their hometowns, they often feel compelled to seek better opportunities elsewhere, leading to migration to regions with more robust job markets. Lower wages at the native place with Garrett mean score of 60.85 closely follow

as the second most influential push factor. This indicates that not only is the availability of jobs crucial, but the remuneration associated with those jobs significantly impacts migration decisions. Individuals are likely to migrate to areas where they can earn higher wages and improve their standard of living. Poverty and poor economic conditions in one's hometown are strong drivers of migration ranked third with Garrett mean score of 53.00. When individuals are faced with limited economic prospects and financial hardship, they may choose to migrate in search of better economic opportunities to escape the cycle of poverty. Indebtedness is another important push factor. High levels of debt can be overwhelming and may prompt individuals to migrate in the hope of finding a more stable financial situation, as they might find it challenging to repay their debts in their native place. While drought, famine and crop failure are significant challenges, they appear to be somewhat lower on the list of push factors with Garrett mean score of 27.57. This may be due to seasonal or cyclical nature, as individuals may endure such hardships during certain times of the year but opt to stay in their native places during better agricultural seasons. The results were in accordance with the findings of Patel (2017) [3] and Sagar *et al.* (2021) [4].

Table 2: Push factors influencing migration of labourers to Coffee plantations

n= 140			
Sl. No.	Push factors	Garrett mean score	Rank
1.	Lack of employment opportunities at native place	78.00	I
2.	Lower wages at native place	60.85	II
3.	Poverty/Poor economic conditions	53.00	III
4.	Indebtedness	47.14	IV
5.	Lack of amenities at native place	43.00	V
6.	Small size of land holdings/Landlessness	41.42	VI
7.	Drought/Famine/Crop failure	27.57	VII

Pull factors influencing migration of labourers to coffee plantations
According to the results depicted in Table 3, the most prominent pull factor identified in the survey is the availability of ample work opportunities with Garrett mean score of 78.00. This result mirrors the top push factor of "Lack of Employment Opportunities at Native Place," indicating that individuals are often motivated to migrate in pursuit of better job prospects. Regions offering a vibrant job market tend to attract migrants seeking employment and economic advancement. Migration driven by family welfare

considerations is the second most significant pull factor Garrett mean score of 66.00. Individuals may move to provide a better life for their families, aiming to secure their well-being, education and overall quality of life. This underscores the importance of family-oriented migration decisions. Higher wage rates than those available at one's native place serve as a another important pull factor Garrett mean score of 57.00. This aligns with the push factor "Lower Wages at Native Place," indicating that individuals are enticed by the prospect of earning more and improving their financial situation in the destination region. The least influential pull factor identified

in this study is the prospect of finding better marriage opportunities with Garrett mean score of 22.00. The results were in accordance with the findings of Patel (2017) [3] and Amresh (2021) [21].

Table 3: Pull factors influencing migration of labourers to Coffee plantations

Sl. No.	Pull factors	Garrett mean score	Rank
	n= 140		
1.	Availability of ample work opportunities	78.00	I
2.	Family welfare purpose	66.00	II
3.	More wage rates than at the native place	57.00	III
4.	Better health care services and living conditions	50.00	IV
5.	Better scope for children education	43.00	V
6.	Better social status	35.00	VI
7.	Better scope for marriage	22.00	VII

Suggestions to mitigate migration

Table 4 outlines the suggestions provided by migrant labourers regarding measures that could address the push and pull factors associated with migration. These suggestions have been ranked based on their frequency of occurrence and are accompanied by the respective percentage of respondents who mentioned them. Let's delve into the results and discuss the implications of these suggestions:

The most commonly suggested measure is the creation of year-round job opportunities in individuals' native places (77.85%). This recommendation underscores the importance

of sustainable economic development in their native places. It reflects the desire of respondents to reduce the necessity of migration by ensuring a consistent availability of employment opportunities close to their homes. The call for increasing wage rates (73.57%) emerges as the second most frequent suggestion. Respondents are advocating for fair and competitive wages that can support a decent standard of living. This aligns with the push factors related to lower wages and wage disparities, emphasizing the economic aspect of migration decisions. A substantial number of respondents (67.85%) highlighted the importance of reducing the gender employment gap. This suggestion recognizes the role of gender inequality as a push factor, wherein women may migrate to escape limited employment opportunities or wage disparities. Addressing this gap can empower women and contribute to more balanced migration patterns. Narrowing the wage disparity between men and women is closely related to the previous suggestion. It emphasizes the importance of ensuring equal pay for equal work and eliminating gender-based wage discrimination, which can discourage women from staying in their native places. Respondents also stress the need to offer alternatives for productive work and self-employment (60.00%). This recommendation recognizes that not everyone seeks traditional wage employment. Providing opportunities for entrepreneurship and self-sustainability can be attractive to those looking for alternatives to traditional jobs. The result were in accordance with the findings of Patel (2017) [3].

Table 4: Suggestions from the migrant labourers to mitigate migration

Sl. No.	Suggestions	Frequency	n= 140 Percentage
1.	To create job opportunities in their native places round the year	109	77.85
2.	Wage rates should be raised	103	73.57
3.	Need to reduce the gender employment gap	95	67.85
4.	To narrow the wage disparity between men and women	87	62.14
5.	Should offer alternatives for productive work and self-employment	84	60.00

Source and pattern of labour use pattern in per acre of Coffee plantations

The perusal of Tables 5 and 6 indicates the sources of labour and labour use pattern in Arabica and Robusta Coffee plantations. Coffee, being labour intensive crop, demands a large number of labour to perform various operations. It is met through migrant labourers and local labourers. Migrant labourers are of two types, *i.e.,* permanent and seasonal. The total labour force required for maintenance of one acre of Coffee plantation came to 139 and 112 man-days in Arabica and Robusta, respectively. Of which, 73 man-days is constituted by local labourers and the rest by migrant labourers in the case of Arabica. Robusta being less labour intensive, required 112 man-days of labour. Of which, 67 is accounted by local labourers and the remaining 47 by migrant labourers. Robusta is less labour intensive as it is free from pests and diseases, requires minimum weeding and pruning. Harvesting of Coffee beans, harvesting of pepper, pruning of Coffee plants, pruning of shade trees, weeding, irrigation, plant protection measures, manuring and mulching are the major operations performed in the established Coffee gardens. Among the operations mentioned above, pruning of shade trees was found to be labour intensive, demanding 53 man-days of labour, both in the case of Arabica and Robusta Coffee. This operation is not performed by migrant labourers

as they lack the skill. It is performed by local labourers demanding relatively higher wages compared to migrant labourers. It is an indispensable operation to keep the Coffee garden free from the incidence of pests and diseases. Harvesting is the next labour intensive operation in both Arabica and Robusta Coffee plantations. It required a labour force of 30 man-days and 24 man-days in the case of Arabica and Robusta, respectively. Of which, 25 man-days in the case of Arabica and 19 in the case of Robusta comes from permanent /seasonal migrant labourers and the rest is met through local labourers. Harvesting is done in three stages/phases considering the output of ripened beans. The lower requirement of labour in the case of Robusta compared to Arabica is due to the gradient in plant population. Weeding is the third-largest labour force consuming operation in Arabica Coffee plantation, demanding 24 man-days of labour. Weeding is done twice a year to keep Coffee plantations free from weeds, a potential host for diseases. In addition, it facilitates efficient usage of fertilizers, ensures the availability of moisture to the Coffee plants. Pruning required 12 man-days in the case of Arabica while it was six in the case of Robusta. It is performed by skilled local labourers to reduce the biennial bearing habit of Coffee to prevent overbearing and exhaustion. The pruning operations either of Coffee or shade tree is season bound. Demand for skilled labourers

involved in such operations escalates and results in quasi scarcity. The resultant of quasi scarcity is a hike in the wages of labourers. The uprooting of infected Coffee plants, irrigation, manuring and mulching, application of plant protection chemicals are the less labour intensive operations performed in both Arabica and Robusta Coffee. The wages offered for seasonal and permanent migrant workers irrespective of operations remained the same at Rs. 350 per man-day while it was Rs. 375 per man-day for local labourers. In addition to usual wages, permanent migrant labourers were provided with basic amenities like minimum equipped shelter, health care, financial assistance etc.

Table 5: Source and pattern of labour use in per acre of arabica coffee plantations

| Sl. No. | Operations | Migrant labourer | | | | | | Local labourer | | |
| | | Permanent | | | Seasonal | | | | | |
		Man-days/acre	Wage/day (Rs.)	Total wages (Rs.)	Man-days/acre	Wage/day (Rs.)	Total wages (Rs.)	Man-days/acre	Wage/day (Rs.)	Total wages (Rs.)
1.	Harvesting of Coffee beans	12	350	4200	13	350		5	350	1750
2.	Harvesting of pepper	4	350	1400	4	350		3	350	1050
3.	Weeding	24	350	8400	-	-	-	-	-	-
4.	Uprooting of pest infected Coffee plants	2	350	700	-	-	-	-	-	-
5.	Manuring and Mulching	2	350	700	-	-	-	-	-	-
6.	Irrigation with sprinkler set	3	350	1050	-	-	-	-	-	-
7.	Application of plant protection chemicals and growth regulators using power sprayers	2	350	700	-	-	-	-	-	-
8.	Pruning of Coffee plants	-	-	-	-	-	-	12	375	4500
9.	Pruning of shade tress	-	-	-	-	-	-	53	375	19875
	Total	49	17150		17	5950		73	27175	
	Total man-days/acre	**49+17+73 = 139**								

Table 6: Source and pattern of labour use in per acre robusta coffee plantations

| Sl. No. | Operations | Migrant labourer | | | | | | Local labourer | | |
| | | Permanent | | | Seasonal | | | | | |
		Man-days/acre	Wage/day (Rs.)	Total wages (Rs.)	Man-days/acre	Wage/day (Rs.)	Total wages (Rs.)	Man-days/acre	Wage/day (Rs.)	Total wages (Rs.)
1.	Harvesting of Coffee	9	350	3150	10	350	3500	5	350	4200
2.	Harvesting of pepper	4	350	1400	4	350	1400	3	350	2100
3.	Weeding	6	350	2100	-	-	-	-	-	-
4.	Uprooting of infected Coffee plants	-	-	-	-	-	-	-	-	-
5.	Manuring and Mulching	2	350	700	-	-	-	-	-	-
6.	Irrigation	9	350	3150	-	-	-	-	-	-
7.	Application of Plant protection chemicals and growth regulators	1	350	350	-	-	-	-	-	-
8.	Pruning of Coffee plants	-	-	-	-	-	-	6	375	2250
9.	Pruning of shade tress	-	-	-	-	-	-	53	375	19875
	Total	31	10850		14	4900		67	32625	
	Total man-days/acre	**31+14+67 = 112**								

Conclusion
In conclusion, the findings of the study reveal that economic factors, such as employment opportunities and wage rates, continue to be significant drivers of migration, but family welfare and the pursuit of a better quality of life also play a vital role. It is important to note that these factors are often interlinked and individuals may consider a combination of push factors when making migration decisions. The

suggestions put forth by survey participants reflect a strong emphasis on economic factors, particularly job creation and wage improvement. These suggestions are well-aligned with the push factors identified earlier, highlighting the critical role of economic conditions in influencing migration decisions. Policymakers and stakeholders should take these findings into account when developing strategies to address migration-related challenges and promote sustainable development in both sending and receiving regions. Additionally, addressing gender disparities in employment and wages is a prominent concern, indicating a desire for greater inclusivity and equality. The results were in accordance with the findings of Patel (2017) [3].

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