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Development of a scale to measure the livelihood status of migrant labourers in coffee Plantations of Kodagu and Chikkamagaluru districts Karnataka state

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Abstract

In the current research study, efforts are directed towards the development and standardization of a scale to measure the livelihood status of the migrant labourers who are working in the coffee plantations of the Karnataka state. As the result, a highly reliable and valid scale was developed. The livelihood status scale consisted of 85 statements categorized under five components. The developed livelihood status scale was administered to 32 migrant labourers from four coffee estates of Karnataka state during 200-21. It was found that 09.38 percent migrants livelihood status was highly improved followed by improved (28.12%) and partially improved (34.37%).

Keywords: Livelihood status, Reliable and Valid

Introduction

Migration is the movement of people, either within a country or across international borders. It includes all kinds of movements, irrespective of the drivers, duration and voluntary/involuntary nature (Chambers and Conway 1992) [2]. It encompasses economic migrants, distress migrants, internally displaced persons (IDPs,) refugees and asylum seekers, returnees and people moving for other purposes, including for education and family reunification. It is always seen as problematic in academic and policy debates. It is often seen as the consequence of ruptures, of environmental disaster, economic exploitation, or political or civil tensions and violence (Dang 2000) [3]. And it is often perceived as one of the cause of problems, like environmental degradation, health problems, 'brain drain', political or social instability, declining law and order, and unravelling social fabric and support systems. On the one hand, migrants tend to be seen as rational economic agents, able to judge differences in opportunities and rewards at home and the place of destination. Recent economic theories have emphasized the role of households, and migration strategies as elements of collective portfolios of activities and income sources. A large share of migrants originates from rural areas. Around 40% of international remittances are sent to rural areas, reflecting the rural origins of a large share of migrants (FAO 2016) [1]. Hence, the present study is taken up with the specific objectives

a. To develop and standardize a scale to measure the livelihood status of the migrated farm labourers in coffee plantations

b. To measure the livelihood status of the migrated farm labourers in coffee plantations

Materials and Methods

The present study was conducted in Hassan district of Karnataka. In Hassan district, Sakleshpura taluk was selected based on the coffee growing area. Under Sakleshpura taluk four estates which is having more than 50 acres of coffee were selected by sociogram technique and 8 migrant labours from each estate where randomly selected for the study. Thus, the total sample constituted to 32. The data was collected by using the interview schedule developed for the study. The responses were scored, classified, analyzed and tabulated with the help of frequency and percentage technique in Microsoft Excel-2019.

Results and Discussion

Development of scale to analyze the livelihood status of migrant laborers in coffee plantations

Livelihood status is operationally defined as "situation of migrated individual with reference to human factor, physical factor, social factor, natural and financial factor". The summated rating scale method suggested by (Likert, 1932) [5] and (Edwards, 1969) [4] were followed in the development of the scale following six stages *viz.*, identification of components, collection of items/statements, relevancy test, item analysis, reliability and validity (M. H. Ali., 2008) [6].

1. Identification of components of Livelihood Status:

Five components relating to the livelihood status of migrant labourers were identified *viz.*, Human factor, Physical factor, social factor, financial factor and

Natural factor were identified for the developing livelihood status statements in order to analyse the livelihood status of the migrated labourers.

2. **Collection of statements:** A tentative list of 168 livelihood statements/items classified under five components were collected through extensive review of literature and by consulting the social scientists.
3. **Editing of Livelihood Statements:** A total 168 livelihood statements were edited as per the 14 criteria enunciated by Edwards (1969) ^[4] and Thurstone and Chave (1929) ^[7]. As a consequence, nine livelihood statements were eliminated and the remaining 152 livelihood statements were included for the study.
4. **Relevancy test:** A total of 152 statements were sent to experts in the field of social sciences working in State Agricultural Universities, Indian Council of Agricultural Research Institutes and Development Departments, to critically evaluate the relevancy of each statement viz., Most Relevant (MR), Relevant (R), Somewhat Relevant (SWR), Less Relevant (LR) and Not Relevant (NR) with the score of 5,4,3,2 and 1, respectively. The judges were also requested to make necessary modifications and additions or deletion of statements, if they desired to. A total of 62 judges returned the questionnaires duly completed and these were considered for further processing. From the data gathered, 'Relevancy Percentage (RP)' and Mean Relevancy Score (MRS)' were worked out for all the 152 livelihood statements. Using RP and MRS, the individual livelihood statements were screened for relevancies using the following formulae.

- a) **Relevancy Percentage (RP):** It was obtained by using the following formula.

$$RP = \frac{MR \times 5 + R \times 4 + SWR \times 3 + LR \times 2 + NR \times 1 \times 100}{\text{Maximum possible score}}$$

- b) **Mean Relevancy Score (MRS):** It was worked out using the following formula

$$MRS = \frac{MR \times 5 + R \times 4 + SWR \times 3 + LR \times 2 + NR \times 1}{\text{Number of judges responded}}$$

Accordingly, the livelihood statements having 'Relevancy Percentage' of 85 percent and above and Mean Relevancy Score of 4.25 and above were considered for final selection. Accordingly, livelihood status statements were retained after relevancy test and these statements were suitably modified and written as per the comments of the judges wherever applicable.

5. **Item analysis:** Totally 121 livelihood status statements were subjected to item analysis to delineate the items based on the extent to which they can differentiate the livelihood status of the respondent. A sample of 32 migrant labourers were interviewed for the study. The respondents were asked to indicate their degree of agreement or disagreement with each statement on a five-point continuum ranging from 'strongly agree' to 'strongly disagree'. Based upon the total scores, the

respondents were arranged in descending order. The top 25 percent of the respondents with their total scores were considered as the high group and the bottom 25 percent as the low group. These two groups provided criterion groups in terms of evaluating the individual statements. Thus, out of 32 migrant labourers to whom the items were administered for item analysis, eight respondents with highest and eight respondents with lowest scores were used as criterion groups to evaluate individual items. The critical ratio, that is, the 't' value which analyses the extent to which a given statement differentiates between the better and poor livelihood status of migrant labourers in coffee plantation for each statement, was calculated by using the following formula:

$$t = \frac{\bar{X}_H - \bar{X}_L}{\sqrt{\frac{\sum X_H^2 - \frac{(\sum X_H)^2}{n} \times \sum X_L^2 - \frac{(\sum X_L)^2}{n}}{n(n-1)}}$$

Where,

\bar{X}_H = The mean score on given statement of the high group

\bar{X}_L = The mean score on given statement of the low group

$\sum X_H^2$ = Sum of squares of the individual score on a given statement for high group

$\sum X_L^2$ = Sum of squares of the individual score on a given statement for low group

n = Number of respondents in each group

Σ = Summation

t = The extent to which a given statement differentiates between the high and low groups.

After computing the 't' value for all the 121 livelihood statements, 91 livelihood statements with 't' value equal to or greater than 1.67 were selected for the final livelihood status scale

6. **Standardization of scale:** The reliability and validity were ascertained for the standardization of the scale
7. **Reliability:** Reliability refers to precision of the scale constructed for any purpose. A reliability test will be reliable when it gives the same repeated result under the same conditions. In any social science research, a newly constructed scale has to be tested for its reliability before it is used. The split-half method was employed to test the reliability of the livelihood scale. The value of correlation coefficient was 0.81 and this was further corrected by using Spearman Brown formula to obtain the reliability coefficient of the whole set. The 'r' value of the scale was 0.85, which was found significant at one percent level indicating the high reliability of the scale. It was concluded that the livelihood scale constructed was reliable.
8. **Validity:** It refers to how well a scale analyses what it is purported to measure. The square root of whole test reliability value ($r_{1/2}$) gives the validity value. The data was subjected to statistical validity, which was found to be 0.8430. Hence, the validity coefficient was also found to be appropriate and suitable for the tool developed. Thus, the developed scale to analyse livelihood status of the migrant labourers.

Administration of the scale

The final scale consists of 78 statements for determining the livelihood status of the migrant laborers. The response will be collected on a five-point continuum, namely, strongly

agree, agree, undecided, disagree and strongly disagree with assigned score of 5,4,3,2 and 1 for positive statements and reverse scoring for negative statements respectively.

Table 1: Scale to analyse the livelihood status of migrant labourers in coffee plantations

I. Human factor (6)				
a. Skills (19-08)				
		RP	MRS	t - value
1	Acquired pruning skills helped for the family livelihood status	86.00	4.30	1.87
2	De-sucking skills enhanced the income of the family	90.00	4.50	1.74
3	Full stumping operation in coffee provides fringe benefits	88.30	4.42	2.26
4	Quality assessing skills of coffee-based on colour and shape is essential	89.23	4.47	2.35
5	Skill on parchment of the coffee is needed	86.15	4.30	2.12
6	Coffee roasting skill creates additional employment	87.38	4.36	1.94
7	Skill of driving the farm vehicle / machineries in the undulated topography for farm operations and harvested produce is required	89.84	4.49	2.25
8	Skills on identifying the ripened fruits for harvesting reduces the crop loss	92.00	4.60	1.97
b. Knowledge (14-5)				
1	Estate owners considers your field knowledge in taking farm operations	85.23	4.26	1.84
2	Knowledge on management of plantations helps to improve your livelihood status	88.61	4.43	2.02
3	Integrated Pest Management knowledge adds financial advantage	88.92	4.44	2.27
4	Being familiar with the coffee processing added monetary benefits	87.32	4.36	1.84
5	Knowledge on coffee roasting increases the employment opportunity and wage rates	86.46	4.32	1.88
c. Experience (8-7)				
1	Experience in coffee plantation management activities facilitates for easy employment opportunities	94.15	4.70	1.95
2	The experience is essential in carrying out farm operations	90.46	4.50	2.03
3	Experience in coffee pruning increases the wages	86.15	4.30	2.25
4	Coffee fruit picking experience gives work in plantation	88.00	4.41	2.29
5	Experience in parchment of coffee adds advantage	86.76	4.33	2.34
6	Coffee roasting skills helped for additional income	88.00	4.40	2.02
7	Possessing the experience in post harvesting operations of coffee is an added advantage	87.07	4.35	1.89
d. Education (4-3)				
1	Improving the functional literacy of family members	87.38	4.36	2.33
2	Send my children to school	91.38	4.56	2.04
3	Afford higher education to the younger ones of the family	92.30	4.61	1.95
e. Gender sensitization (5)				
1	Equal importance is given for girl child education	91.69	4.58	2.33
2	Women are accessing the better health facilities	86.76	4.33	2.25
3	Women labourers are also equally treated/ employed in plantation activities.	88.92	4.44	2.19
4	Women labour are also economically empowered by working in the coffee plantations	90.76	4.53	2.15
5	Women are complementing the earning power of family	93.23	4.66	2.55
f. Emotional well-being (9-6)				
1	Harmony among migrated labourers and estate owners leads to grow together	90.15	4.5	1.98
2	Involvement of migrated labourers to decide the immediate actions to be taken in farm operations of coffee plantation	86.76	4.33	1.91
3	Migrated family members are assisted with medical insurance	89.53	4.47	2.41
4	Availability of nutritious food for consumption at work place	86.76	4.33	1.82
5	Migration to coffee area has improved the overall standard of living	90.76	4.53	1.78
6	Migration increased the quality of life among migrants and their families back in their natives	88.30	4.41	1.94
II. Physical factor				
a. Facility (17-9)				
1	Proper path/ farm road for transportation of inputs and harvested produce in coffee plantation are available	88.30	4.41	1.83
2	Connectivity of roads from estate to the main road	85.53	4.27	2.61
3	Transportation facilities are affordable	88.61	4.43	2.41
4	Drinking water is supplied adequately	88.30	4.41	2.12
5	Water supply for household purpose is adequate	88.92	4.45	1.84
6	Electrical connection is provided in the given accommodation	88.00	4.40	2.46
7	Availability of adequate sources of energy for household or domestic usage	86.76	4.33	2.26
8	Health care facility is available at the needy time	88.00	4.44	1.92
9	In emergency the transportation facility is arranged	84.92	4.40	2.04
III. Social factor (5)				
a. Network (9-6)				
1	Opportunities are provided to participate in farmers organization	88.61	4.43	1.95
2	Able to have membership in any society	87.38	4.36	2.22
3	Provisions are made to take part in election voting	86.15	4.30	1.87
4	Women migrated labourers are involved in SHGs activities	88.00	4.40	1.92

5	Helping hand by estate owners and neighborhood enhances the security of life	86.15	4.30	1.87
6	Treating migrated labour as a source of information by fellow labourers	88.03	4.41	2.72
b. Relationship (8-5)				
1	Contact with the external agencies to seek employment in the plantation	89.84	4.49	2.14
2	Community support is assured during crisis	87.69	4.38	1.89
3	Ability to have friend/ neighbor for help during crisis	88.92	4.45	1.94
4	Trustworthiness with the estate owners	87.07	4.35	1.80
5	Support from fellow villagers at the time of emergency	88.61	4.43	1.90
c. Parents and Peer influences (13-6)				
1	I migrated as my commune looked down upon farming	85.23	4.26	1.71
2	I migrated as my family wants me to make more money like my neighbors who have already migrated	88.61	4.43	2.01
3	My friends think that migration is not the only solution for leading good life	90.15	4.50	2.08
4	My family satisfied that I make more money like my friends	89.53	4.47	2.15
5	Influenced on the investment patterns in production process	85.53	4.27	1.84
d. Degree of Social embeddedness (6-3)				
1	I always prefer to stay in the migrated place than my home place	88.61	4.43	2.25
2	I feel comfortable when surrounded by people belonging to my community	86.15	4.3	1.91
3	I leave my family back in my native when i move to unfamiliar places	85.53	4.27	2.93
IV. Financial factor				
a. Expenditure (9- 5)				
1	Credits are available from formal banking sources	85.53	4.27	2.01
2	Availing credits from self-help groups is possible	86.76	4.33	2.41
3	Availability of fund for medical treatment	88.61	4.43	2.13
4	Funds are spent on children's education	89.53	4.47	1.84
5	Loans are repaid timely	86.46	4.32	2.44
b. Savings (9-8)				
1	Allowed to take up additional income generating activities	86.15	4.30	1.93
2	Amount invested in different activities after spending for domestic purpose	88.30	4.41	2.09
3	Additional purchase of jewelry increased the social security	85.53	4.27	1.77
4	Assets are available for mortgage in case of emergency	87.38	4.36	2.49
5	Investment in insurance and health coverage	91.07	4.55	1.58
6	Sufficient income for savings	85.84	4.29	2.15
7	Income generating activities initiated out of savings	85.23	4.26	2.06
8	The wages earned is sufficient for hand to mouth	87.38	4.36	1.18
c. Remittance (11- 10)				
1	Remittance from migration has increased my family status	88.30	4.41	1.78
2	Remittance from migration has given economic independence	88.00	4.40	2.72
3	Remittance from migration has increased my ability to support family financial needs	92.90	4.64	1.78
4	Remittance from migration has encouraged me to create assets in native	89.53	4.47	1.83
5	Remittance from migration is a security for future life of family	88.00	4.40	1.87
6	Able to repay the outstanding loan amount	89.53	4.48	1.75
7	Able to spend adequately for household activities	87.63	4.38	2.16
8	Helped in providing quality education to children	86.46	4.32	1.9
9	Facilitated for agricultural operations back at home	87.69	4.38	2.12
10	Used to take part in family/ social gathering with confidence	88.61	4.43	2.43
V. Natural factor (11-6)				
1	Patch of land is provided for kitchen garden	90.76	4.53	2.04
2	Can own livestock and grazed in plantation	88.30	4.41	2.06
3	Access to water from farm ponds for livestock rearing	87.07	4.35	1.89
4	Separate rain harvesting structures are installed for personnel use of migrated farm labourers	86.46	4.32	2.30
5	Soil and water conservation measures are practiced	86.46	4.33	2.09
6	Fruits and vegetables grown in the plantation are permitted for own consumption	85.53	4.27	2.71

To measure the livelihood status of the migrated farm labourers in coffee plantations

Table 2: Overall Livelihood Status of the Migrant labors in coffee plantations of Sakleshpura (n=32)

Sl. No.	Component	Status Improved	f	%
1	Livelihood Status Mean:410 SD:41.50	Highly Improved	03.00	09.38
2		Improved	09.00	28.12
3		Partially Improved	11.00	34.37
4		Less Improved	08.00	25.00
5		Not Improved	01.00	03.13

f- Frequency and % - Percentage

Table 2 represents the overall livelihood status of the migrant labors in coffee plantations of Sakleshpura i.e., It is noted that 34.37 percent of the migrants opined they have partial improvement in their livelihood followed by improvement and less improvement. This can be conveniently explained with the facts that the migrant labors will get the employment and the higher wages than they get in the native places. Further, the welfare measures for the labors like free housing, medicines, safe drinking water might have also contributed for the result. Further, only 09.38 percent of the migrants opined that their livelihood is highly improved and meager percent (03.13%)

of the respondents said that they have not seen improvement in their livelihood it could be because of low wages received due to lesser skills, and experience which is considered while making payments to the migrant labours.

Conclusion

Migration is a means to measure the socio-economic status of the society. The landless and marginal farmers who are in constant debt, migration is the only choice of livelihood and it acts as a catalyst to improve the livelihood status. The scale developed is found to reliable and valid, hence it can be used to measure the livelihood status of migrant labours in coffee plantations.

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