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A Scale to Measure the Attitude of Farmers towards Livelihood Diversification

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A B S T R A C T

An attempt was made to develop a standardized scale to analyze the attitude of farmers towards livelihood diversificationusing summated rating methods suggested by Likert and Edwards. The attitude scale developed was found to be highly reliable and valid. The final attitude scale consisted of 15 statements and this scale was administered to 30 farmers in Chikkaballapura district in Karnataka during 2017-2018 to analyse their attitude of farmers towards livelihood diversification. These farmers were personally interviewed using schedule. The results revealed that a vast majority of farmers (73.33%) had favourable to more favourable attitude towards livelihood diversification. Age, education, annual family income, awareness about livelihood diversification, aspirations, farming experience, economic motivation, management orientation, innovative proneness, mass media participation and extension participation of farmers had a positive and significant relationship with the attitude towards livelihood diversification.

Introduction

Rapid environmental change, increasing climate variability, land fragmentation and underlying institutional lacunae have shaped rural livelihoods in India. Increasingly, livelihood diversification has been a significant livelihood strategy to manage risks, meet aspirations, and move out of increasingly unprofitable agriculture (Chandni Singh, 2019). This movement of people is changing shape, household structures, and the metrics to assess these transitions, often through categories of male- and female-

headed households, shortfall in gaining insight and outcomes of diversification. Diversification consists of diversified activities maintaining over time and in adjusting it according to contingencies in order to maximize the profit, spread risk or achieve other goals of the household. By keeping in view, the capability to operate a set of different activities, diversified households are likely to enjoy higher flexibility and resilience capacity than agriculture dependent families. Thus, it is not astonishing that in the light of the repeated environmental, economic and political shocks affecting rural areas of developing countries, livelihood diversification has become more attractive for many rural livelihoods during the past few years.

Rural livelihoods diversification has generally occurred as a result of an increased importance of off-farm wage labour in household livelihood activities or through the development of on-farm production of non-conventional marketable commodities. In both cases, diversification ranges from occasional diversification to strategic diversification wherein a deliberate attempt will be made to optimize household abilities to take advantage of ever-changing opportunities and cope with unexpected constraints. It is also primary means by which individuals reduce risk and is widely understood as a form of self-insurance. There is nothing new about livelihood diversification itself, rural people diversified to some extent to earn additional benefits based on the skills possessed from several years ago. However, it is given greater importance and recognition today to ensure food security and substantial income. (Patrizio Warren, 2002)

Livelihood diversification is a key strategy by which people in many parts of the world try to improve their livelihood. Decreasing land man ratio, poor socio economic condition of the farmers, vagaries of rainfall, nature of agriculture, new risks from environmental deterioration, population pressure and rapidly changing agricultural input and output markets through globalization and high degree of vulnerability are affecting sustainability of farmer's livelihood (Poonam Annie *et al.*, 2018). Thus, livelihood diversification is utmost important for improving the farmers livelihood and mechanism for economic growth. There is no scale to analyse the attitude of farmers towards livelihood diversification, hence the present study is undertaken with the specific objectives includes to develop and standardize a scale to analyse the attitude of farmers towards livelihood diversification; To analyse the attitude of farmers towards livelihood diversification and also to find out the relationship between the personal, socio-economic, psychological and communication characteristics of farmers on their attitude towards livelihood diversification.

Materials and Methods

The present study was conducted in three villages of Chikkaballapura district in Karnatakaduring 2017-2018 to analyse the attitude of farmers towards livelihood diversification. In the present study, attitude is operationally defined as the degree of positive or negative disposition / association with the farmers towards livelihood diversification. Attitude scale specifically developed for the study was utilized to analyse the farmers' attitude towards livelihood diversification.

Livelihood diversification in the present study was operationally defined as the process by which an individual or rural household attempts to find or adopt wide range of on-farm, off-farm and non-farm activities in different combinations for increasing the income and assets, resulting in enhancing the

well being and standard of living of the family members.

A total of 19 personal, socio-economic, psychological and communication characteristics of farmers (Table 3) were selected for the study to find out the relationship with the farmers' attitude towards livelihood diversification. Nineteen personal, socio-economic, psychological and communication characteristics of farmers were measured using standardized procedure and scales.

Zero order correlation test was employed to find out the relationship between personal, socio-economic, psychological and communication characteristics of farmers with their attitude towards livelihood diversification. Multiple regression analysis was used to know the extent of contribution of personal, socio-economic, psychological and communication characteristics of farmers on the attitude towards livelihood diversification.

Results and Discussion

Development of scale to analyse the attitude towards livelihood diversification

The following steps were followed to develop and standardize a scale to measure the attitude of farmers towards livelihood diversification.

Collection and editing of items

A list of 42statements reflecting the attitude towards livelihood diversification was prepared through extensive review of literature and in consultation with the social scientists. The statements so identified were carefully edited in the light of 16 criteria suggested by Edwards (1969). Thirty statements were retained after editing using the 16 criteria.

Relevancy test

Thirty statements were sent to 115 judges in the State Agricultural Universities and Indian Council of Agricultural Research institutes across the country with necessary instructions to critically evaluate each statement as to its relevancy to measure the attitude of farmers towards livelihood diversification and were requested to give their response on a four point continuum viz., Most relevant (MR), Relevant (R), Less relevant (LR) and Not relevant (NR) with the assigned scores of 4,3,2 and 1, respectively. In all, 58 judges could respond in time.

The relevancy score for each statement was found out by adding the scores on the rating scale for all the 58 judges. From the data so gathered 'Relevancy weightage' and 'Mean relevancy score' were worked out for all the 31 items by using the following formulae:

Relevancy Weightage (RW) =

$$\frac{MR \times 4 + R \times 3 + LR \times 2 + NR \times 1}{\text{Maximum possible score}}$$

Mean Relevancy Score (MRS) =

$$\frac{MR \times 4 + R \times 3 + LR \times 2 + NR \times 1}{\text{No. of judges responded}}$$

Using these two criteria individual statements were screened for these relevancies. Accordingly, statements having Relevancy weight-age of0.75 and above and Mean relevancy score of 3.00 and above were considered for final selection. By this process, 21 statements were isolated in the first stag, which were suitably modified and written as per the comments of judges whatever applicable.

Item analysis

To delineate the statements based on the extent to which they can differentiate the attitude statements about livelihood diversification as favourable or unfavourable, item analysis was carried out on the statements selected in the first stage. A schedule consisting of 21 statements was prepared and used for personally interviewing the attitude of farmers on a five point continuum in a non-sample area viz., three villages of Chikkaballapura district in Karnataka during 2017-2018. For item analysis, the respondents were arranged in ascending order based on the attitude scores. Twenty five per cent of the subject with the highest total score and twenty five per cent with the lowest total scores were selected. These two groups provided the criterion groups in terms of which item analysis was conducted and critical ratio was calculated by using the following formula:

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

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
$\sum$ = Summation
t = The extent to which a given statement differentiates between the high and low groups

The results of the item analysis ('t' value) revealed that five statements were non-significant, while six statements were significant at 5 per cent level and the remaining nine statements were significant at 1 per cent level. Fifteen statements which were statistically significant at 5 per cent and 1 per cent level were finally retained in the scale to measure the attitude of the farmers towards livelihood diversification.

Reliability

The split half method was employed to test the reliability of the attitude scale. The value of correlation co-efficient was 0.555 and this was further corrected by using Spearman Brown formula and obtained the reliability co-efficient of the whole set. The 'r' value of the scale was 0.713, which was highly significant at one per cent level indicating the high reliability of the scale. It was inferred that the attitude scale constructed was reliable.

Validity

The validity co-efficient value of the scale was 0.844, which was also statistically significant at one per cent level of probability, indicating the higher validity of the developed scale. Hence, the scale is valid.

Thus, the developed scale to measure attitude of beneficiaries towards livelihood diversification was feasible and appropriate.

Administration of attitude scale and method of scoring

The final scale consists of 15 statements (Table 1) for analyzing the attitude of farmers towards livelihood diversification. The response could 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, respectively. The attitude score of a respondent can be calculated by adding up the scores obtained by him/ her on all statements. The attitude score of the attitude scale ranges

from a minimum of 15 to a maximum of 75. Higher score on this scale indicates that the respondent has favourable attitude towards livelihood diversification.

The scale developed was administered to 30 farmers in Chikkaballapura district in Karnataka during 2017-2018 to analyse their attitude towards livelihood diversification. The farmers were classified into more favourable, favourable and less favourable attitude towards livelihood diversification based on mean (54.22) and one standard deviation (9.44).

Overall attitude of farmers towards livelihood diversification

The results in Table 2 revealed that more number of farmers (40.00%) had more favourable attitude towards livelihood diversification, whereas 33.33 and 26.67 per cent of the farmers possessed favourable and less favourable attitude towards livelihood diversification, respectively. It can be inferred that a vast majority of farmers (73.33%) had favourable to more favourable attitude towards livelihood diversification.

Livelihood serves as insurance to farmers during crisis, ensure livelihood security, leads to efficient utilization of available resources and arrests migration, hence a vast majority of farmers (73.33%) of the farmers had favourable to more favourable attitude towards livelihood diversification. Similar trend of findings was observed by Saha (2006) and Jayantha Roy (2011).

Relationship between personal, socio-economic, psychological and communication characteristics of farmers on their attitude towards livelihood diversification

Table 3 presents the results of the zero order correlation test depicting the relationship between personal, socio-economic, psychological and communication characteristics of farmers on their attitude towards livelihood diversification. It is observed that family size, material possession, livestock possession, farming commitment, achievement motivation, credit orientation, risk orientation and market accessibility of farmers had no significant relationship with the attitude towards livelihood diversification.

Variables such as annual family income, awareness about livelihood diversification and aspirations of farmers had a positive relationship with the attitude towards livelihood diversification at five per cent level, whereas age, education, farming experience, economic motivation, management orientation, innovative proneness, mass media participation and extension participation of farmers had positive and significant relationship with the attitude towards livelihood diversification at one per cent level.

The results of multiple regression analysis reveals that age, education, family income, farming experience, awareness about livelihood diversification, economic motivation, management orientation, innovative proneness, mass media participation and extension participation of farmers were found to be significant with their attitude towards livelihood diversification. The R^2 value shows out that all the 19 personal, socio-economic, psychological and communication characteristics had contributed to the tune of 77.94 per cent of variation in the extent of livelihood diversification among farmers.

The above results clearly indicates that for every unit increase in the age, education, farming experience, annual family income, awareness about livelihood diversification, aspirations, economic motivation, management orientation, innovative

proneness, mass media participation and extension participation of farmers there will be development of more favourable attitude towards livelihood diversification. More or less similar findings were observed by Ahmed (2018), Mohankumara (2019) and Melese Abawa Tizazu *et al.,* (2018).

Table.1 Attitude of farmers towards livelihood diversification

Sl. No.	Statements	SA	A	UD	DA	SDA
1.	Livelihood diversification is a boon to farmer					
2.	Livelihood diversification serves as an insurance to farmer during crisis					
3.	Livelihood diversification do not arrests the migration of farmers to towns and cities					
4.	Livelihood diversification leads to inefficient utilization of resources					
5.	Livelihood diversification is a strategy for risk mitigation					
6.	Livelihood diversification ensures livelihood insecurity					
7.	Livelihood diversification does not ensures economic efficiency and sustainable livelihood					
8.	Successive progress in one enterprise and wealth lead to livelihood diversification					
9.	Benefits of government scheme direct the people towards livelihood diversification.					
10.	Competitive spirit among the people promotes livelihood diversification.					
11.	Scarcity of farm labour results in diversification to non-farm activities.					
12.	Livelihood diversification provides no scope for acquiring new knowledge and skills					
13.	Livelihood diversification increases the social status in the community					
14.	It gives me happy when others respects me for adopting livelihood diversification					
15.	Social capital enables households to diversify in main sources of livelihood including farm and non-farm activities					

SA- Strongly Agree; A- Agree; UD-Undecided; DA- Disagree; SDA- Strongly Disagree'

Table.2 Overall attitude of farmers towards livelihood diversification

(n=30)

Sl.no.	Attitude	Farmers	
		Number	Per cent
1.	Less favourable (<44.78score)	8	26.67
2.	Favourable (44.78- 63.66 score)	10	33.33
3.	More favourable (>63.66 score)	12	40.00
	Total	30	100.00

Mean= 54.22; Standard deviation= 9.44

Table.3 Relationship and extent of contribution of personal, socio-economic, psychological and communication characteristics of farmers on the attitude towards livelihood diversification

(n=30)

Sl. No.	Characteristics	Correlation coefficient 'r' value	Regression coefficient (b)	Standard error of regression coefficient (SE$_b$)	't' value
1	Age	0.4094 **	0.5221 **	0.1258	4.15
2	Education	0.3152 **	0.7234 **	0.1874	3.86
3	Family size	0.1076^{NS}	0.1903^{NS}	0.1126	1.69
4	Family income	0.1984 *	0.3266 *	0.1625	2.01
5	Farming experience	0.4183 **	0.6687 **	0.1319	5.07
6	Awareness about livelihood diversification	0.1625 *	0.2912 *	0.1255	2.32
7	Material possession	0.1426 ^{NS}	0.1935^{NS}	0.1325	1.46
8	Livestock possession	0.1409 ^{NS}	0.1757^{NS}	0.1156	1.52
9	Farming commitment	0.1268 ^{NS}	0.1035^{NS}	0.1078	0.96
10	Economic motivation	0.3821 **	0.4169 **	0.0965	4.32
11	Achievement motivation	0.1429 ^{NS}	0.1767^{NS}	0.2104	0.84
12	Aspirations	0.1827 *	0.1984^{NS}	0.1078	1.84
13	Credit orientation	0.1435 ^{NS}	0.1269^{NS}	0.1209	1.05
14	Risk orientation	0.1208 ^{NS}	0.1177^{NS}	0.1015	1.16
15	Management orientation	0.3913 **	0.1604^{NS}	0.0996	1.61
16	Innovative proneness	0.4202 **	0.5041**	0.1432	3.52
17	Market accessibility	0.1157 ^{NS}	0.1985^{NS}	0.1134	1.75
18	Mass media participation	0.4135 **	0.4518 **	0.1058	4.27
19	Extension participation	0.5071 **	0.3022 **	0.0978	3.09

NS: Non-significant. *Significant at 5%; ** Significant at 1% level;R^2=0.7794

In conclusion, the attitude scale developed is found to be reliable and valid; hence it can be used to analyze the attitude of farmers towards livelihood diversification. On administering the attitude scale to thirty farmers, it was found that more number of farmers (40.00%) had more favourable attitude towards livelihood diversification,

whereas 33.33 and 26.67 per cent of the farmers possessed favourable and less favourable attitude towards livelihood diversification, respectively. For every unit increase in the age, education, farming experience, annual family income, awareness about livelihood diversification, aspirations, economic motivation, management orientation, innovative proneness, mass media participation and extension participation of farmers, there will be development of more favourable attitude towards livelihood diversification. The R^2 value shows out that all the 19 personal, socio-economic, psychological and communication characteristics had contributed to the tune of 77.94 per cent of variation in the extent of livelihood diversification among farmers.

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