

RESEARCH ARTICLE :

A scale to measure the livelihood status of tribal youth

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SUMMARY : An attempt is made to construct a scale to measure the livelihood status of tribal youth using summated rating method. The methods of rating was followed in the construction of the scale. The livelihood scale developed was found to be reliable and valid. The scale developed is useful in explicitly measuring the livelihood status of tribal youth. Thirty farm youth from North Canara district of Karnataka state was interviewed to analyze their livelihood status using the scale developed for the study. The results revealed that more number of tribal youth (43.34%) were belonging to high livelihood status, whereas 36.66 and 20.00 per cent of tribal youth were belonging to medium and low level of livelihood status.

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KEY WORDS :

Scale to measure, Tribal youth, Coping strategies, Stress, Shocks

BACKGROUND AND OBJECTIVES

The term ‘livelihood’ refers to a means of living, especially of earning enough money to feed oneself, *i.e.*, the financial means whereby one lives. A person’s livelihood refers to means of securing the necessities of life, for example, a fisherman’s livelihood depends on the availability and accessibility of fish. In short, livelihood refers to sources of income through which one can earn enough money to feed himself. The concept of livelihood is rapidly gaining acceptance as a valuable means of understanding the factors that influence people’s lives and well-being. It is comprised of capacities, assets, and activities and coping strategies to overcome crisis required for means of living (Chambers and Conway, 1992). A livelihood will be

sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capacities and assets, both now and in the future, while not undermining the natural resource base. There is no suitable scale to measure the livelihood status of tribal youth so far, hence the present study is undertaken with the following specific objectives:

- To develop and standardize a scale to measure the livelihood status of tribal youth.
- To assess the livelihood status of tribal youth.

RESOURCES AND METHODS

The present study was conducted during 2017-2018. The methods of rating was followed in the study for developing and

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standardizing the scale to analyze the livelihood status of tribal youth. A sample of 30 tribal youth from North Canara district of Karnataka state were interviewed to analyze their livelihood status using the scale developed for the study. The collected data was scored and tabulated and analyzed using frequency, percentage, mean and standard deviation. Based on the mean (172.50) and half standard deviation (15.00), the tribal youth were categorized into low, medium and high level of livelihood status.

OBSERVATIONS AND ANALYSIS

The results obtained from the present study as well as discussions have been summarized under following heads:

Development of scale to measure the livelihood status :

In the present investigation, livelihood status is operationally defined as “the status of tribal youth with reference to assets, activities, capabilities and coping strategies to overcome crisis which in turn ensures the livelihood security”. The method of summated rating scale were followed in the development of the scale through six stages viz., identification of dimensions, collection of items/statements, relevancy test, item analysis, reliability and validity.

Identification of dimensions :

Four major dimensions viz., assets, capabilities, activities and coping strategies to overcome crisis related to livelihood status were identified based on review of literature and discussion with experts in the field of extension education. Five sub-components like natural assets, social assets, human assets, physical assets and financial assets were identified and included under asset dimension.

Collection and editing of items :

A list of 133 items/statements reflecting the livelihood status were collected through extensive review of literature and discussion with social scientists. One hundred and thirteen statement were retained after the carefully editing, revision and restructuring.

Relevancy test :

One hundred thirteen items/statements were sent

to 120 judges in State Agricultural Universities, Central Agricultural Universities and Indian Council of Agricultural Research Institutions with necessary instructions to critically evaluate each item/statement as to its relevancy to measure the livelihood status of tribal youth and give their response on a five point continuum 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. In all, 75 judges returned the questionnaires duly completed were considered for further processing. The relevancy score for each item/statement was found out by adding the scores on the rating scale for all the 75 judges. From the data so gathered, “Relevancy Percentage”, and “Mean Relevancy Score” were worked out for all the 113 items/statements by using the following formulae:

$$\text{Relevancy percentage} = \frac{(\text{MR} \times 5) + (\text{R} \times 4) + (\text{SWR} \times 3) + (\text{LR} \times 2) + (\text{NR} \times 1)}{\text{Maximum possible score (i.e. } 50 \times 5 = 250)} \times 100$$

$$\text{Mean relevancy score} = \frac{(\text{MR} \times 5) + (\text{R} \times 4) + (\text{SWR} \times 3) + (\text{LR} \times 2) + (\text{NR} \times 1)}{\text{Number of judges responded}}$$

Using these two criteria, individual statements were screened for their relevancies. Accordingly, 76 items/statements having relevancy percentage of more than 75 per cent and Mean Relevancy score of more than 3.25 were considered for further process.

Item analysis :

To delineate the items/statements based on the extent to which they differentiate the livelihood status items/statements as favorable or unfavorable, item analysis was carried out on the items/statements selected in the first stage. For item analysis, the respondents were arranged in ascending order based on livelihood status scores. Twenty five per cent of the subjects with the highest total score and 25 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 student ‘t’ test.

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

where,

\bar{X}_H = Individual scores in the high group

\bar{X}_L = Individual scores in the low group

ΣX_H^2 = Sum of squares of the individual score on a given statement for high group

ΣX_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 = Extent to which a given statement differentiate between the high and low group.

Based on the item analysis (t value), 61 statements which were statistically significant at five per cent and one per cent were finally retained in the scale to measure the livelihood status of tribal youth. Sixty one items/statements were selected in the final livelihood status scale grouped under four dimensions: Assets (Natural Assets, Social Assets, Human Assets, Physical Assets and Financial Assets), Activities, Capabilities and Coping strategies to overcome crisis.

Reliability:

Reliability in its true sense refers to precision of the scale constructed for any purpose. It is otherwise called as the extent to which repeated measure produces the same result. In any social science research newly constructed scale has to be tested for its reliability before it is used. A scale is reliable when it gives consistently the same results when applied to the same sample. The designed livelihood scale for the study was pre-tested for its reliability by using the split half method.

Pilot study was conducted among 30 tribal youth in non-sample area using 61 statements. Split half method was employed to test the reliability of the livelihood scale. The value of correlation co-efficient was 0.66 and this was further corrected by using Spearman Brown formula and obtained the co-efficient of whole set. The 'r' value of the scale was 0.793, which was highly significant at one per cent level of probability indicating the high reliability of the scale.

Split half test reliability formula :

$$r_{1/2}^1 = \frac{(N * \Sigma XY) - (\Sigma X)(\Sigma Y)}{\sqrt{[N * \Sigma X^2 - (\Sigma X)^2] - [N * \Sigma Y^2 - (\Sigma Y)^2]}}$$

where,

ΣX = Sum of the scores of the odd number items

ΣY = Sum of the scores of the even numbers items

ΣX^2 = Sum of the squares of the odd number items

ΣY^2 = Sum of the squares of the even number items

Whole test reliability formula :

$$r_{11} = \frac{2 * r_{1/2}}{1 + r_{1/2}}$$

where,

$r_{1/2}$ = Half test reliability

Validity :

Validity refers to the ability of the instrument to measure what it proposed to measure (Muly and Sabarathanam, 1980). The data was subjected for statistical validity. The validity co-efficient for the scale was found to be highly significant at one per cent level of probability (0.891) indicating the higher validity of the developed scale. Hence, the scale is valid. Thus, the developed scale to measure livelihood status was feasible and appropriate.

$$\text{Statistical validity} = \sqrt{r_{11}}$$

Administering the scale:

The final scale consists of 61 statements (Table 1) which will assess the livelihood status of tribal youth. The response could be collected on a four point continuum namely, highly satisfied, satisfied, less satisfied and not satisfied with assigned score of 4, 3, 2, and 1, respectively. Thus, the minimum and maximum score one could get is 61 and 244, respectively. The livelihood status score of a respondent could be calculated by adding up the scores obtained by him/her on all items/statements. Higher score on this scale indicates that the respondent has higher level of livelihood status.

Livelihood status of tribal youth :

A sample of 30 tribal youth in North Canara district of Karnataka state were interviewed to analyze their livelihood status using the scale developed for the study. The results revealed that more number of tribal youth (43.34%) were belonging to high livelihood status, whereas 36.66 and 20.00 per cent of them were belonging to medium and low level of livelihood status (Table 2). It can be inferred from the results that as high as 80.00 per cent of the tribal youth were belonging to high to medium level of livelihood status. The results are in consonance with the findings of Datta (2013); Dhanashree *et al.* (2014) and Yashodhara (2015).

Conclusion :

It can be concluded from the study findings that the

Table 1 : Scale to measure the livelihood status of tribal youth

Sr. No.	Statements	HS	S	LS	NS
Assets					
Human assets					
1.	Availability of health care facility				
2.	Availability of educational facility				
3.	Opportunity for developing leadership qualities				
4.	Involving women in decision making				
5.	Encouraging women to participate in agricultural activities				
6.	Motivating women to pursue education				
7.	Training on agricultural and allied activities				
8.	Skill training on scientific exploitation of Non-timber forest products				
9.	Maintaining harmony with neighboring tribal groups				
10.	Access to health insurance				
Physical assets status					
1.	Owning a comfortable house				
2.	Possession of improved farm equipment and machinery				
3.	Availability of transport facilities				
4.	Access to connecting roads to the villages and forests				
5.	Possession of vehicle (bullock cart, tractors etc.)				
Natural assets status					
1.	Access to Non-timber forest products				
2.	Access to fuel wood for domestic use				
3.	Land ownership enhances livelihood status				
4.	Livestock provides guaranteed income				
5.	Assured irrigation facilities for increasing crop productivity				
6.	Fertile land enhances land productivity				
7.	Agro-forestry enhances livelihood status				
8.	Access to small timber for house construction and furniture				
Social assets status					
1.	Membership to various social institutions				
2.	Holding position in socio-political organisations				
3.	Participation in tribal development programmes				
4.	Credibility among fellow villagers				
5.	Getting community support during crisis				
6.	Participation in outreach activities				
7.	Serving as resource person in tribal development programmes				
8.	Extending support to villagers during emergencies				
9.	Extent of contact with the tribal development agency				
Financial assets status					
1.	Investment in income generating activities				
2.	Availability of credit facilities from formal institutions for agricultural and allied activities				
3.	Income from agriculture				
4.	Income from collection and marketing of Non-timber forest products				
5.	Possession of cash/ jewellery				
6.	Practicing animal husbandry, apiculture, etc. provides supplementary income				
7.	Getting financial assistance from fellow tribals during crisis				
Capabilities					
1.	Access to common property resources				
2.	Ability to utilize the services of rural institutions				
3.	Ability to protect and develop forests by participation in forestry development activities				
4.	Credit management ability				

Contd... Table 1

Table 1 contd...

5.	Ability to adopt innovative agricultural technologies
6.	Ability to establish contact with development departments
7.	Ability to represent local organizations
8.	Ability to pursue higher education
9.	Ability to provide assistance to fellow tribals during crisis
Activities	
1.	Participation in village meetings, discussion etc
2.	Practicing scientific crop management practices
3.	Participation in forest development activities
4.	Performing the duties as a responsible family member
5.	Protection of family from all kinds of threats
Coping practices for overcome crisis	
1.	Adequate savings maintained to meet unforeseen expenses
2.	Working as labour for getting additional income
3.	Borrowing food grains from fellow villagers during crisis
4.	Collection and marketing of NTFPs for getting supplementary income
5.	Borrowing money from SHGs/ thrift groups etc., for undertaking income generation activities
6.	Labour sharing with neighbours during scarcity of labour
7.	Practicing diary/piggery/goat and sheep rearing to earn extra income
8.	Pledging jewellery at time of crisis

(HS- Highly Satisfied, S-Satisfied, LS-Less Satisfied, NS- Not Satisfied) (Please indicate response for the following statements)

Table 2: Livelihood status of tribal youth

(n=30)

Sr. No.	Livelihood categories	Tribal youth	
		Number	Per cent
1.	Low (Less than 157.50 score)	6	20.00
2.	Medium (157.50 to 187.50 score)	11	36.66
3.	High (more than 187.50 score)	13	43.34
Total		30	100.00

Mean=172.50; 1 Standard deviation=30.00

scale developed to measure livelihood status was found to be reliable and valid. Hence, it can be further used by different researchers to measure livelihood status of tribal youth in different areas.

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