

## International Journal of Agriculture Extension and Social Development

Volume 7; Issue 1; Jan 2024; Page No. 240-244

Received: 01-11-2023  
Accepted: 03-12-2023

Indexed Journal  
Peer Reviewed Journal

### Construction of scale to measure attitude of rural youth towards agriculture as a source of livelihood

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DOI: <https://doi.org/10.33545/26180723.2024.v7.i1d.214>

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#### Abstract

The research study was conducted during 2021-2022. In this study, attitude of rural youth towards agriculture as a source for livelihood was ascertained. Hence, an attempt has been made to construct a scale for measuring the attitude of rural youth towards agriculture. Method of summated rating scale, by Likert was used. Twenty four statements were selected from thirty statements for which „t“ values were calculated. Statements both positive and negative with t-values more than 2.18 were selected. Statement wise content analysis of attitude of rural youth towards agriculture was tested. Finally 18 most suitable statements were retained and were used as final statements for attitude scale.

**Keywords:** Rural youth, attitude scale, statement wise analysis

#### Introduction

An individual's attitude is the primary factor in development and has great influence on their thoughts, perceptions, and actions. It solely determines whether any vibrant enterprise succeeds or fails. Encouraging and motivating young people to further their education and pursue agriculture as a means of subsistence in rural areas represents some constraints. To inspire and motivate young people to start their own businesses in rural areas and mentor others around them, it is essential to create viable economic models in the villages. It is challenging, but not impossible, to pique rural youth's interest in and confidence in agriculture, given the numerous instances of successful agriculture being demonstrated in a variety of settings. Agriculture and youth retention in agriculture are so closely related. The apparent inequalities in basic utilities, communication, health, and education facilities between rural and urban areas have led to a noteworthy increase in the movement of young from rural to urban areas in quest of better livelihood possibilities.

It's concerning to note that over 45% of young people in the nation are moving from rural to urban areas. Youth constitute 30% of all migrants from rural to urban regions (Hazra, 2012) <sup>[7]</sup>. This has a number of ramifications for India's food security and agricultural future. Introspecting the causes of young people's has increased disinterest in agriculture is crucial. Many issues facing the farming industry today, such as debt, climate change, insufficient government support and credit, an unregulated market, degraded land, infrastructure, etc., cause young people to lose interest in the industry (Chowdhary and Chowdhary,

2013) <sup>[4]</sup>.

Numerous factors discourage young people from pursuing agriculture, such as low return on investment compared to the efforts involved, the notion that farming is a low status activity, and the belief among highly educated professionals that work on farms lacks intellectual fulfillment because it does not require creativity and expression (Anonymous, 2011) <sup>[1]</sup>. Incentives for producers and innovators are still lacking from public policies pertaining to trade, new variety introduction, licensing, intellectual property rights, and taxation. Additionally, the agricultural investment scenari in present context is insufficient to draw in the private companies required for finance, input supply, marketing, processing, and marketing (Brooks *et al.*, 2013) <sup>[2]</sup>. Among youth, interest in entering agricultural and allied sectors is declining, mainly due to the persistent perception of agriculture as a nonoperational field with nominal financial returns (Paisley, 2013) <sup>[10]</sup>. It is not considered an ideal place especially for people with white collar aspirations. Youth are moving away from agriculture because of alternate yet sustaining opportunities in cities such as better employment cum standards of living, better pay or more desirable occupations (Foster, 2014) <sup>[6]</sup>. Some of the most important factors for youth to drift from agriculture are white collar attraction, uncertainty of crop production, meagre price, low profit, insufficient credit etc. (Sherawat and Sharma, 1994) <sup>[11]</sup>.

As urban wage rates, particularly in the unorganized sector, are seemingly higher than in farm sector, agricultural labor frequently migrates to urban and peri-urban regions

(Mehrotra *et al.*, 2013) <sup>[9]</sup>. Rural youth's participation in agriculture was significantly impacted by all of these, which made them to shy away from it.

A structured tendency to feel, think, see, and act in a certain way toward a cognitive object is called an attitude. According to Thurstone (1946) <sup>[13]</sup>, attitude is the extent of a psychological object's positive and negative effects. A psychological object is any symbol, phrase, slogan, individual, group, organization, or concept that elicits differing opinions about its potential benefits or drawbacks. The positive or negative attitudes that rural young people have about agriculture as their source of livelihood were operationalized in this study.

Taking all the above crucial facts into account, research was undertaken with the prime objective to construct an attitude scale in order to understand the varying degrees of attitude of rural youth towards agriculture as a source for livelihood.

**Materials and Methods**

The following are the step by step methods used to construct a scale to gauge rural youths' attitudes regarding agriculture. The Likert (1932) <sup>[8]</sup> summated rating scale method was utilized to create the rural youth attitude scale on agri-enterprise.

**Steps used in construction of attitude scale are given below**

The subsequent steps listed below were used to develop the scale to measure the attitude of rural youth towards agriculture as a source for livelihood (Edwards, 1969 and Chandrakandan *et al.*, 2000) <sup>[5, 3]</sup>.

**Collection and Editing of Items**

Approximately sixty statements that reflected the perspectives of young people in rural areas on agriculture as a means of subsistence were first collected from a variety of sources, including books, journals, post-graduate theses, and the official website of MANAGE (National Institute of Agricultural Extension Management). Subsequently they were revised using Edward's recommended criteria, and roughly thirty statements were chosen for editing based on their suitability.

**Relevancy Test**

It's quite not possible that every statement gathered has the same relevance when gauging rural youths' attitudes about agriculture as a source of income. As a result, an expert panel reviews these statements to assess their applicability and determine whether to include them in the final scale. In order to gauge the attitudes of rural youth, a panel of 100 experts was given the list of the thirty statements for critical examination. They were asked to scrutinize each statement in depth. For a critical assessment, the experts included scientists from ICAR Research Stations and Institutions, subject matter experts from KVKs, and experts from State Agricultural Universities across the nation. The experts are

asked to respond in a five-point continuum scale that comprises Highly relevant, Relevant, Neutral, Irrelevant, and Highly irrelevant.

During a course of four weeks, around 45 specialists out of 100 answered. The relevancy score of every item is determined by summing the ratings for all 45 expert comments on a rating scale. The relevancy scoring, relevancy percentage, and mean relevancy scores for each statement are calculated based on this data using the following formulas.

**Relevancy percentage (RP)**

Relevancy percentage is estimated by summing up the frequency score of highly relevant, relevant, and neutral categories indicating the number of respondents who rated the statements into categories such as highly relevant, relevant, and neutral, which are in turn transformed into percentage.

$$RP = FS/ MPS \times 100 \dots\dots\dots(1)$$

**Relevancy weightage (RW)**

Relevancy weightage is calculated by the formula

$$RW = \frac{HRR+RR+NR+IR+HIR}{MPS} \dots\dots\dots(2)$$

**Mean relevancy score (MRS)**

This is calculated by the formula

$$MRS = \frac{HRR+RR+NR+IR+HIR}{N} \dots\dots\dots(3)$$

- Indicating,
- FS = Frequency score
- HRR = High Relevant Response (A5)
- RR = Relevant Response (A4)
- NR = Neutral Response (A3)
- IR = Irrelevant Response (A2)
- HIR = Highly Irrelevant (A1)
- MPS = Maximum Possible Score (45 x 5 = 225)
- N = Number of Experts (45)

The statements are sorted for relevance based on these three parameters. As a result, the final selection of statements takes into account statements with a relevancy percentage >75.00, a relevancy weightage >0.70, and a mean relevancy score >7.0. By adopting this method, 24 statements out of 30 had a relevancy percentage >75, a relevancy weightage >0.70, and a mean relevancy score >7.0. Additionally, in the initial screening stage, the statements were adequately adjusted and revised in response to expert feedback. After the relevancy test, 24 statements are ultimately selected.

**Results and Discussion**

Selection of statements after relevancy test is exemplified in table (1).

**Table 1:** Selection of Statements after Relevancy Test

S. No.	Statements	RP	RW	MRS
1	Agriculture leads to overall development of rural youth’s family	80.80	0.77	7.97
2	Agriculture is generally considered as a laborious profession	76.00	0.76	7.06
3	With farming a person can be his own master	84.20	0.72	7.22
4	The ultimate rural prosperity does not depend on agriculture	66.40	0.76	7.48
5	Educated youth should come to farming sector	78.30	0.77	7.42
6	I feel that agriculture is not a remunerative profession	75.70	0.73	7.46
7	Food security is ensured only by attracting rural youth to farming.	56.40	0.53	6.77
8	I do not want my children to take up agriculture as their vocation	75.50	0.75	7.44
9	Agriculture promises physical health and mental peace	76.20	0.711	7.77
10	No female will want a farmer as her groom	75.50	0.75	7.44
11	Scientific agriculture is highly profitable	86.70	0.86	8.86
12	Agriculture does not require any specialized knowledge	72.00	0.69	7.71
13	Agriculture is primary solution to curb unemployment and rural migration of youth	78.00	0.76	7.33
14	I am very keen to migrate to urban area for other lucrative jobs and higher standard of living	73.33	0.79	7.02
15	Taking up farming restricts urban contact and recreational enjoyment	58.60	0.46	7.48
16	I carry self- esteem that I am a proud farmer.	77.30	0.77	7.64
17	Low price for agricultural produce and higher production costs has made agriculture less feasible profession	75.10	0.71	7.26
18	I feel that agriculture do not require any specialized knowledge	73.30	0.79	7.26
19	Farming is highly risky and challenging	72.40	0.71	7.68
20	I enjoy farming because it only sustains my livelihood as well as national development	80.67	0.76	7.97
21	None of Indian agricultural produce can compete in global agricultural market	70.22	0.69	7.24
22	I believe that doors of opportunities are still left unopened in the context of Indian agriculture	83.11	0.83	8.82
23	Agriculture should be taught as a subject right from school to develop interest in the young minds	87.11	0.84	7.33
24	I feel that undertaking agriculture as a profession is waste of time and energy	75.11	0.84	7.48
25	Agriculture is the underlying base for all other sectors and offers ample opportunities for farm growth	51.11	0.511	7.00
26	I fear that agriculture do not increase my intellectual growth	76.88	0.84	7.45
27	I prefer to take up farming only as a part time activity	81.7	0.81	8.84
28	I am curious to adopt new methods and update latest technology in my farm	78.66	0.74	7.84
29	I shall take up farming and motivate my peer ones to do the same	87.11	0.81	7.65
30	Only people of lower stratum of society will take up farming	83.7	0.82	7.31

**Item Analysis and Calculation of “t” Value:**

Item analysis was used to separate the 24 statements that were chosen based on how well they could distinguish between respondents who had a high attitude and those who had a low attitude towards agriculture as a source of livelihood. Thus, 40 respondents from a non-sampling area (Bikaner) were given carefully considered statements that reflected the mindset of rural youth. On a five-point scale from "strongly agree" to "strongly disagree," the respondents were asked to indicate how much they agreed or disagreed with each statement. For statements that were favorable, the scoring was as follows: five weights were assigned to strongly agree responses, four to agree, three to undecided, two to disagree, and one to strongly disagree responses. The scoring method for unfavorable attitude statements was reversed: responses with a weight of 1 were considered strongly agree, for agree with a weight of 2, for neutral with a weight of 3, for disagree with a weight of 4, and finally strongly disagree with a weight of 5, respectively. The summation score for each respondent's total statements was calculated after the respondents' answers were documented. There was a minimum score of 22 and a maximum score of 110 for each respondent for 22 statements. The scores of the respondents were then re-arranged in order of lowest to highest. 25% of the highest scores (10) and 25% of the lowest scores (10) were chosen for the item analysis. Item analysis was applied to these

statements in order to chose the elements that will make up the final attitude scale. The formula is used to determine the critical ratio, also known as the t-value, which is a measurement of how much a certain statement differs between the high and low groups of responders for each statement.

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

.....(4)

- t= t value of particular statement
- X<sub>H</sub>=the mean score of high group
- X<sub>L</sub>= the mean score of low group
- N=number of respondents in each group
- Σ=summation

After estimating the t- values for all the items of the attitude scale using the formula (4), the values of the statements were arranged in descending order from the highest to the lowest and finally 18 statements were selected from the scale whose values were highest i.e., with t- values more than 2.18, for both positive and negative statements.

**Table 2:** Final selection of Statements for Construction of Attitude Scale

S. No.	Statements	“t” value
1	Agriculture leads to overall development of rural youth’s family	2.193
2	Agriculture is generally considered as a laborious profession	2.664
3	With farming a person can be his own master	2.211
4	Educated youth should come to farming sector	3.165
5	I feel that agriculture is not a remunerative profession	3.982
6	Agriculture promises physical health and mental peace	0.199
7	I do not want my children to take up agriculture as their vocation	3.049
8	I am very keen to migrate to urban area for other lucrative jobs and higher standard of living	2.321
9	No female will want a farmer as her groom	1.097
10	I carry self- esteem that I am a proud farmer	2.449
11	Farming is highly risky and challenging	2.531
12	I enjoy farming because it only sustains my livelihood as well as national development	2.602
13	Low price for agricultural produce and higher production costs has made agriculture less feasible profession	3.091
14	Agriculture should be taught as a subject right from school to develop interest in the young minds	2.193
15	I believe that doors of opportunities are still left unopened in the context of Indian agriculture	1.045
16	I fear that agriculture do not increase my intellectual growth	2.674
17	I prefer to take up farming only as a part time activity	2.453
18	Scientific farming is highly profitable	2.413
19	I am curious to adopt new methods and update latest technology in my farm	4.032
20	I shall take up farming and motivate my peer ones to do the same	2.548
21	Agriculture is primary solution to curb unemployment and rural migration of youth	0.178
22	I feel that agriculture do not require any specialized knowledge	2.814

**Reliability and validity of Attitude Scale**

The scale developed was further ascertained for reliability and validity. “Reliability is the consistency of measuring instrument.” To estimate the reliability of the attitude scale Split-Half method is used. As validity connotatively means truthfulness, referring to “the degree to which a test measures, what it is purported to measure” content validity is used to assess the validity of the scale.

**Split-half methodology**

The reliability of the scale was estimated by ‘split half’ method. It is undoubtedly proven that the split-half method is considered as the best choice for computing reliability. The chosen attitude items were separated into two halves by odd even method. The two halves were tested with 40 farmers in a non-sample area, per say in Bikaner. The scores obtained were exposed to product moment correlation test in order to assess the reliability of the half-test. The half-test reliability coefficient (r) obtained is 0.52, which was stately significant at five percent level of probability. Subsequently, the reliability coefficient of the whole test was administered using the Spearman-Brown prophecy formula stated below:

$$\text{Reliability co-efficient of whole test} = \frac{2 \times \text{reliability coefficient of half test}}{1 + \text{reliability coefficient of half test}}$$

The whole test reliability (r<sub>tt</sub>) was 0.68. Singh (2008) [12] stated that a reliability coefficient of 0.50 or 0.60 is adequate when the mean scores of the two groups are within a small range. As an outcome, the developed scale can be considered because the r<sub>tt</sub> is higher than 0.60.

**Content validity of the attitude scale**

Content validity, or the representativeness or sampling adequacy of a measuring instrument’s content, is how the validity of the scale is determined. Given the need for expert consultation over the universe of statements that could be made, the scale satisfies both of these criteria. This ensures

the attitude scale’s excellent content validity. The scale is built using the specifications provided in Edwards’ consolidated rating method. It follows that the scores obtained from using this scale are thought to reflect only rural youths’ attitudes toward agriculture as a source of livelihood. There is extensive thought given to ensuring a reasonable level of content validity when choosing attitude statements. The calculated “t” value for each of the finalized score statements was substantial, indicating that the scale’s attitude statements have discriminating values. Thus, accepting the scale as an accurate indicator of attitude seems plausible.

**Conclusion**

The rural youth in Rajasthan were therefore given the remaining eighteen attitude statements to examine their attitudes on agriculture as a means of subsistence. Nine of the eighteen statements were each positive and negative. For each item, the respondents were asked to rate their level of agreement or disagreement on a five-point Likert scale: strongly agree, agree, undecided, disagree, and disagree strongly. The positive comments received scores of 5, 4, 3, 2, and 1, whereas the negative statements received values of 1, 2, 3, 4, and 5 respectively.

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