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DEVELOPMENT OF SCALE TO MEASURE ATTITUDE OF FARMERS TOWARDS FAMILY FARMING

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ABSTRACT

Family farming has a huge contribution in the total food grain production of the country. We can't feed our population without active involvement of farmers in family farming occupation. For understanding the attitude of farmers towards family farming, attitude scale was developed. In initial stage for developing the scale, 36 statements were collected from the relevant literature, and consulting major advisor, experts and extension personnel. The statements, thus selected, were edited on the basis of the criteria suggested by Edward (1957), and finally, 28 statements were selected as they were found to be non-ambiguous and non-factual. Based on the median and Q values, 20 statements was finally selected to constitute attitude scale. The test was found to be reliable (0.85) and valid.

Keywords : *agriculture, attitude, family farming, farmer, scale*

INTRODUCTION

Agriculture plays a vital role in the Indian economy with over 58.00 per cent of the population dependent on agriculture as their main source of income. Most of the farmers of our country live in rural areas and are engaged in family farming. A family farm is generally understood to be a farm owned and/or operated by a family; it is sometimes considered to be an estate passed down by inheritance. Family farming has a huge contribution in the total food grain production of the country (Chauhan et al., 2017). We can't feed our population without active involvement of farmers in family farming occupation. The population of our country is increasing at a high rate and this has caused a reduction in the average land holding size of a farmer. The total land holding of the country is also shrinking continuously due to use of agricultural land for residential and industrial purposes. Our country is now facing a dual challenge of shrinking agricultural land and increasing population to feed. On the other hand, increasing population has caused high demand for goods and thereby inflation in the country. The inflation increases the cost of cultivation and ultimately reduces net income of the farmers so they remain in distress. Witnessing this trend in agriculture the young generation would not like to adopt family farming as their occupation. In such a situation it becomes necessary to know the attitude of the farmers towards family farming. Considering the scanty research and existing facts, a study on "Development of scale to measure the attitude of farmers towards family farming" was undertaken with the following objective.

OBJECTIVE

To develop scale to measure the attitude of farmers towards family farming

METHODOLOGY

In this study, an attempt has been made to develop a scale, which can scientifically measure the attitude of farmers towards family farming. In the present study attitude is conceptualized as the positive or negative feelings of farmer towards family farming independently. Among the techniques available, 'Scale product method' which combines the Thurstone's technique (1928) of equal appearing interval scale for selection of items and Likert's technique (1932) of summated rating for ascertaining the response on the scale as proposed by Eysenck and Crown (1949) was used. The steps followed to develop the scale in sequence were item collection, item analysis, determination of scale and 'Q' values, finding reliability of the scale and validity of the scale. The methods were followed as suggested by Patel, & Chauhan (2010), Vinaya et al. (2018), Jagadeeswari et al. (2019), Chauhan and Patel (2020), Yeragorla et al. (2021) and Patel et al.(2022).

Determination of scale and quartile value

The five points of the rating scale were assigned ranging from 1 for most unfavourable and 5 for most favourable. Based on their judgment, the median value of the distribution for the statement was calculated with the help of the following formula.

$$S = L + \frac{0.50 - \sum Pb}{Pw} \times i$$

Where,

S = The median or scale value of the statement

L = The lower limit of the interval in which the median falls

∑Pb = The sum of the proportion below the interval in which the median falls

Pw = The proportion within the interval in which the median falls

i = The width of the interval, which was assumed as equal to 1.0 (one)

The interquartile range ($Q = Q_3 - Q_1$) for each statement was also worked out for determination of ambiguity involved in the statement. To determine the value of Q at 75th centile and 25th centile, the following formulas were used. The 75th centile was obtained by the following formula.

$$C_{75} = L + \frac{0.75 - \sum Pb}{Pw} \times i$$

Where,

C_{75} = The 75th centile value of the statement

L = The lower limit of the interval in which the 75th centile falls

∑Pb = The sum of the proportion below the interval in which the 75th centile falls

Pw = The proportion within the interval in which the 75th centile falls

i = The width of the interval and is assumed to be equal to 1.0 (one)

The 25th centile was obtained by the formula

$$C_{25} = L + \frac{0.25 - \sum Pb}{Pw} \times i$$

Where,

C_{25} = The 25th centile value of the statement

L = The lower limit of the interval in which the 25th centile falls

∑Pb = The sum of the proportion below the interval in which the 25th centile falls

Pw = The proportion within the interval in which the 25th centile falls

i = The width of the interval and is assumed to be equal to 1.0 (one)

Then the interquartile range worked out by taking the difference between C_{75} (Q_3) and C_{25} (Q_1), thus,

$$\mathbf{Q = C_{75} - C_{25}}$$

In this manner the interquartile range (Q) for each statement was worked out. Only those statements were selected whose scale values were greater than Q value.

Reliability of the scale

The coefficient of reliability was calculated using Rulon's formula (Guilford, 1954).

The coefficient of reliability obtained through Rulon's formula was 0.74. Reliability is directly related to the length of the scale when we split it to odd and even numbers of items. The reliability coefficient which has been calculated is the value of half size of the original scale. Therefore, a correction factor should be added and is calculated by using the Spearman Brown formula.

$$rtt = \frac{2roe}{1 + roe}$$

Where,

rtt = Coefficient of reliability of original test

roe = Reliability of coefficient of odd and even score

$$rtt = \frac{2(0.74)}{1+0.74}$$

= 0.85

Thus, the scale developed was found highly reliable.

List of finally selected statements for the scale

Sr. No.	Statements	S Value	Q Value
1	I believe that family farming is a profitable occupation. (+)	4.76	0.85
2	Family farming has less scope for higher education accessibility to our children. (-)	3.37	2.15
3	I feel that family farming improves decision-making. (+)	4.07	0.34
4	I feel that family farming is the best venture for rural people as it makes them self-employed. (+)	4.17	1.02
5	As there is no other means of income so I am forced to do family farming. (-)	3.75	1.98
6	I don't have enough money to start family farming. (-)	3.87	2.34
7	I feel self-confident after taking up family farming. (+)	4.20	1.27
8	I like family farming as it is related to our heritage. (+)	2.44	2.14
9	Family farming provides fresh food to my family. (+)	4.05	1.41
10	I would like to seek more entrepreneurial opportunities in family farming. (+)	4.42	1.60
11	I prefer to be in family farming rather than job. (+)	4.34	1.25
12	I am not interested in motivating others to take up family farming as an occupation. (-)	2.39	2.12
13	Family farming does not provide continuous income throughout the year. (-)	2.60	2.50
14	Family farming increase house-hold well-being. (+)	4.31	1.05
15	Family farming ensures gender equality. (+)	4.28	1.32
16	I feel that family farming is gambling. (-)	2.50	1.95
17	I feel that family farming improves team work. (+)	4.10	1.06
18	Family farming is economically not viable. (-)	2.26	1.90
19	I feel that only experienced person can start the family farming. (-)	3.71	2.28
20	I like family farming as it provides me natural environment to live in. (+)	4.44	1.23

SA = Strongly Agree, A = Agree, UD = Undecided, D = Disagree, SDA = Strongly Disagree

CONCLUSION

Looking to the value of reliability and validity of the scale it is advised to use/apply this scale for further research.

CONFLICT OF INTEREST

This is to declare that there is "No conflict of interest" among researcher.

REFERENCES

Chauhan, N. B., Vinaya Kumar, H. M. and Patel, J. B. (2017). Sustainability Crisis of Family Farming. 'National Seminar on Extension Plus: Expanding the Horizons of Extension for Holistic Agricultural Development', April 21-22, 2017: Lead Paper, 67-74.

Chauhan, C. D. & Patel, J. B. (2020) A scale to measure the attitude of member farmers of gram panchayat towards Pradhan Mantri Fasal Bima Yojana. *Guj. J. Ext. Edu.,* 31(1):1-5.

Eysenck, H. J. & Crown, S. (1949). An Experimental studyin opinion attitude methodology, *International J. of Attitude Res.,* 3:47-86

Guilford, J. P. (1954). Psychometric Methods. Tata McGraw Hill Publication Co. Ltd., Bombay: 378-382.

Jagadeeswari, B., Vinaya Kumar H. M. & Patel, J. B. (2019). Attitude of postgraduate students towards research, *Guj. J. Ext. Edu.,* 30(1): 87-89.

Likert, R. A. (1932). A Technique for the measurement of attitude. Archives of Psychology, New York, 140.

Patel M. R., Vinaya Kumar H. M. & Chauhan, N. B. (2022). A Scale to Measure Self-Confidence of Rural Youth about Floriculture Farming. *Guj. J. Ext. Edu.,* 34(2): 128-130.

Patel, M.C., & Chauhan, N.B. (2010). Construction of attitude scale to measure agricultural risk orientation. *Karnataka J. of Agril. Sci.,* 23(2), 392-393.

Thurston, L. L. & Chave, E. G. (1928).The measurement of\ attitude, Chicago University Press, USA.,39- 40.

Vinaya Kumar H. M., Patel J. B. & Chauhan, N. B. (2018). Attitude of farmers towards Agricultural Produce Market Committee. *Guj. J. Ext. Edu.,* 29(2): 224-226.

Yeragorla, Venkata Harikrishna, Patel, J. B. & Vinaya Kumar, H. M. (2021) Development of a scale to measure the attitude of extension personnel towards e-extension. *Guj. J. Ext. Edu.,* 32(1): 34-37.

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