

## SCALE TO MEASURE ATTITUDE OF FARMER MEMBERS TOWARDS FARMER PRODUCER ORGANIZATIONS

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### ABSTRACT

*Attitudes are individually attributed emotions, beliefs and behavioural tendencies an individual has towards a specific abstract or concrete object. To measure the attitude of farmer members towards Farmers Producer Organizations (FPOs), need was realized to use a scale. So, Likert's summated rating scale was developed by following the methodology given by Likert (1932) and Edward (1957). After in-depth reviewing of secondary sources and discussion with primary sources, six indicators were finalized to form the items for scale development. Based on 80 judge's response 57 statements were selected for item analysis. The split half method was used to testing reliability and the reliability coefficient was 0.92. The face validity and content validity were examined. The developed final scale consists of 16 statements in which 11 were positive statements and 5 were negative statements. The developed scale was found highly reliable and valid.*

**Keywords:** farmer producer organization, attitude, reliability, validity, likert's summated rating scale.

### INTRODUCTION

Farmers Producer Organization (FPO) is producers' organization where the farmers are members. Small Farmers' Agribusiness Consortium (SFAC) is providing support for promotion of FPOs. It is a generic name for an organization of producers of any produce, e.g., agricultural, non-farm products, artisan products, etc. Agricultural land holding in the country is dominated by small and marginal farmers with average size of less than 1 hectare. These farmers face challenges both in production and post production stages like access to production technology, quality inputs at reasonable prices, credit, custom hiring, seed production, value addition, processing, investments and most importantly market access.

The main objective of FPO is to ensure better income for the producers through an organization of their own. Small producers do not have the volume individually (both inputs and produce) to get the benefit of economies of scale. Besides, in agricultural marketing, there is a long chain of intermediaries who very often work none transparently leading to the situation where the producer receives only a small part of the value that the ultimate consumer pays. Through aggregation, the primary producers can avail the benefit of economies of scale. They will also have better bargaining power vis-à-vis the bulk buyers of produce and bulk suppliers of inputs. So the study conducted to measure the attitude of the farmer members towards FPOs which clear the farmers' interest in farmer producer organizations.

Therefore, it had become key important to develop a scale to study the attitude of farmers towards FPOs to increase the sustainability and success of FPOs as well as participation of farmers in FPOs.

### OBJECTIVE

To develop a scale to measure an attitude of farmer members towards Farmer Producer Organizations (FPOs)

### METHODOLOGY

An attitude is a hypothetical construct that represents an individual's degree of like or dislike for something. Attitudes are generally positive or negative views of a person, place, thing or event, this is often referred to as the attitude object.

Attitudes are individually attributed emotions, beliefs and behavioural tendencies an individual has towards a specific abstract or concrete object. Attitude is a personal disposition common to individuals, but varying in degrees, which impels individuals to react to object, situations or prepositions in ways that can be called favourable or unfavourable. It is the degree of positive or negative disposition associated with some psychological object. Hence, the statements to measure the dimension were constructed in terms of the interest and attitude is likely to have, whether it is positive or negative. Scaling is the science of determining measuring instruments for human judgment.

Likert scale technique is a non-comparative scaling technique and are uni-dimensional (only measure a single trait) in nature. Respondents are asked to indicate their level of agreement with a given statement by way of an ordinal scale (Vinaya *et al.*, 2016; Yeragorla *et al.*, 2021). The Likert-type scale is the most widely used method of scale construction because of its relative ease of construction, its use of fewer statistical assumptions. It is comprised of a set of statements or “items” that scale a respondent’s level of agreement, favourability, or other similar perception. The class of all possible items that could be made about a given referent object can be called a “universe of content,” describing possible stimuli from which attitudes toward that object may arise.

### Steps in construction of Likert attitude scale to measure the attitude of farmer members towards FPOs:

#### (1) Discussion and review for item collection

To develop a scale on attitude of farmer members towards Farmer Producer Organizations, the topic was informally discussed within experts in the field, members of NGOs and officials who had personal experience in formation of FPOs. In the process of item generation for the scale, detailed and in-depth review of FPO formation guidelines, booklets, research papers, journals and internet sources have been done.

#### (2) Formation and selection of indicators

based on discussion and in-depth review of secondary sources related to Farmer Producer Organizations, 15 indicators were identified and collected. After discussion with experts of extension department, the indicators were merged under a meaningful common heading and in the last

6 indicators were finalized which provided a multi aspects to form the statements within a boundary.

#### (3) Writing statements

Considering the indicators and based on multidimensions of FPOs like services provided by FPOs, role, performance and management in FPOs, Environment and organizational culture of FPOs, treatment given to the members and extensive review and discussion, a set of such statements were formed which were simple and straight forward to get quick and easy response. Under each indicator, 13 statements related to topic were constructed thus total 78 statements were roughly formed in initial step. To get the different degree of favourable or unfavourable attitude towards Farmer Producer Organizations, there were both positive and negative statements. From the total 78 statements, 25 statements were negative and 53 were positive statements. Positive statements should be objective statements which are acceptable by those having the attitude, and just as unacceptable by those having the attitude, and just as unacceptable to those not having it. Negative statements should be objective statements which are acceptable to those not having the attitude and just as unacceptable to those having it.

#### (4) Editing of items

A tentative set of items were edited by applying the 14 criteria given by Edwards (1969), Thurstone and Chave (1929) and Edwards and Kilpatric (1948). As a result, out of 78 statements 21 statements were eliminated after discussing with major advisor. The remaining 57 statements were finalized for the study mentioned in table 1 among them 41 were positive and 16 were negative statements.

**Table 1: A list of attitude statements towards farmer producer organizations with their t value**

| Statement No. | Statement                                       | t value         |
|---------------|---|-----------------|
| 1             | FPO increases the employment opportunities.     | <b>3.70328</b>  |
| 2             | FPO is the need of hour.                        | 1.350489        |
| 3             | FPO centralizes the power. (-)                  | <b>3.250135</b> |
| 4             | FPO promotes equal treatment to members.        | <b>3.064524</b> |
| 5             | FPO promotes cast discrimination. (-)           | 1.914854        |
| 6             | Develops entrepreneurial characteristics.       | 1.14208         |
| 7             | FPO fosters farming as an enterprise.           | 0.15133         |
| 8             | FPO bridges agriculture and rural development.  | 1.084227        |
| 9             | Sustainability is bottleneck of FPO. (-)        | <b>5.168114</b> |
| 10            | It offers risk mitigation practices to farmers. | 1.756821        |
| 11            | FPO inspires the youth for farming.             | 1.054093        |

| Statement No. | Statement   | t value         |
|---------------|---|-----------------|
| 12            | Diplomates are representatives in management committee. (-)     | 1.566699        |
| 13            | It is a boon for small and marginal farmers.                    | 1.579515        |
| 14            | FPO believes in gender equality.                                | <b>2.43119</b>  |
| 15            | FPO enhances the self-confidence of farmers.                    | 1.350489        |
| 16            | Strengthens the risk bearing ability.                           | 1.416103        |
| 17            | Develops professionalism among farmers.                         | <b>4.278444</b> |
| 18            | FPO inspires to cultivate novel crops.                          | 1.218544        |
| 19            | FPO is a futile exercise. (-)                                   | 1.78915         |
| 20            | Farmers are emotionally attached with FPO.                      | <b>3.302891</b> |
| 21            | FPO works against culture. (-)                                  | <b>2.489905</b> |
| 22            | Facilitates the sustainable resource utilization.               | 0.168073        |
| 23            | Promotes intermediators in marketing. (-)                       | 1.808389        |
| 24            | Enhances marketing efficiencies.                                | <b>2.348881</b> |
| 25            | Ensures financial security.                                     | 1.070882        |
| 26            | Develops the marketing perspective.                             | 1.245682        |
| 27            | Facilitates timely marketing of farm produce.                   | <b>2.133205</b> |
| 28            | Raised the standard of marketing.                               | 1.936492        |
| 29            | Prevents distress sales of farm produce.                        | 1.46385         |
| 30            | Profit sharing mechanism has led to success.                    | 1.527525        |
| 31            | FPO is increasing producer's income by reducing marketing cost. | 1.8             |
| 32            | Working with FPO intensify marketing risk. (-)                  | 1.648672        |
| 33            | Failed to ensure regular market availability. (-)               | 1.695362        |
| 34            | Credit accessibility is complex through FPO. (-)                | <b>4.051983</b> |
| 35            | FPO improves rural economy.                                     | 1.578457        |
| 36            | FPO exempts insurance coverage. (-)                             | 1.899566        |
| 37            | Protects farmers against market instability.                    | 1.930518        |
| 38            | Reduces the administrative transparency. (-)                    | 1.666667        |
| 39            | Collective decision making is a key aspect.                     | <b>2.348881</b> |
| 40            | Political interference is seen in FPO. (-)                      | 0.910066        |
| 41            | FPO encourages women empowerment.                               | <b>2.55377</b>  |
| 42            | Bounded with complex rules and regulations. (-)                 | 1.914854        |
| 43            | Confirms timely availability of inputs.                         | 1.5473          |
| 44            | Collective purchasing weakens the bargaining power. (-)         | <b>3.694088</b> |
| 45            | Make participatory purchasing of farm mechanization possible.   | 1.30856         |
| 46            | Minimize the adulteration in inputs while purchasing.           | 1.330821        |
| 47            | Accessible value-added services for farm produce.               | 0.522233        |
| 48            | Value addition services enhance the product price.              | 1.100964        |
| 49            | Advisories available on cropping system.                        | 1.585273        |
| 50            | Reduces post harvesting losses through storage / transport.     | <b>2.760262</b> |
| 51            | Ineffective transfer of technical guidance. (-)                 | 1.910144        |
| 52            | Ensures better quality inputs.                                  | 0.881134        |

| Statement No. | Statement   | t value         |
|---------------|---|-----------------|
| 53            | Educating the ways and means of FPO.                | 0.858019        |
| 54            | Improves the practical knowledge through workshops. | 0.522233        |
| 55            | Facilitates capacity building among members.        | 1.619061        |
| 56            | FPO works with collective action.                   | 0.458029        |
| 57            | Provide timely and need based training.             | <b>5.057563</b> |

n= number of respondents in each group

**(5) Item analysis**

Statement analysis is the key step to construct a valid and reliable scale. To get the fastest response the schedule was sent online in Google form through email and WhatsApp as well as offline mode sending hardcopy to the experts of extensions, scientists of KVKs and PhD scholars of various states. The Performa were sent to almost 200 people among them 100 had responded. From the total collected response, 20 respondents were eliminated as their responses were incomplete. 80 responses were finalized for further analysis. The responses of them were elicited on five-point continuum namely, strongly agree, agree, undecided, disagree and strongly disagree. If the item was positive (favourable to the subject under study) strongly agree was given the numerical value of strongly agree 4, agree 3, undecided 2, disagree 1 and strongly disagree 0. While in case of negative items (unfavourable to the subject under study) the scores were reversed. The score for each individual respondent was obtained by summing up the scores over all items. Considering the total score earned by each respondent they were arranged in descending order. Then 20 percent i.e. 16 of respondents with the highest total score and also 20 percent i.e.16 of them with the lowest total score were selected. These two groups provided the criterion groups as “high” and “low” groups to evaluate the individual item. The critical ratio, that is the ‘t’ value which is a measure of the extent to which a given statement differentiates between the high and low groups of the respondents for each statement was calculated by using the formula suggested by Edward (1957).

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

Where,

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

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

**(6) Selection of items for inclusion in final scale**

The value of critical ratio 2.042 was observed to be significantly differentiating between “high” and “low” group. The statements having t- value equal to or greater than 2.042 were selected for inclusion in the final format of the attitude scale. By this procedure 16 items were retained and included in the final format of attitude scale as shown in Table 2.

**(7) Standardization of the scale**

For the purpose of standardization, validity and reliability of the scale was ascertained as following.

**(a) Reliability of the scale**

The term reliability is used to refer to the degree of variable error in a measurement. Reliability is the extent to which a measurement is free of variable errors. The split-half technique was used to measure the reliability of the constructed scale. The 16 statements were divided into two equal halves with 8 odd numbered and 8 even numbered statements. These were administered to 25 farmer members of FPOs in the non-sample area. Each of the two sets were considered as separate scales having two sets of scores. Co-efficient of reliability between the two sets of scores was calculated by Rulon’s formula (Guilford, 1954), which was found to be 0.92 which was significant at 1 percent level. The correction factor calculated by using Spearman Brown formula was also found to be 0.91. Hence, the scale developed for the purpose was found to be highly reliable.

**(b) Validity of the scale**

Validity is the extent to which the measure provides an accurate representation of what one is trying to measure. The validity of the scale was tested in the following way.

**(c) Content validity**

The scale was examined for the content validity by determining how well the content of the scale represented the subject matter under study. As all the possible items covering the universe of content were selected by discussions with

experts, subject matter specialists and from all the available literature on the subject, the scale satisfied the content validity. In this way the scale for measuring the attitude of the respondents towards Farmer Producer Organizations is ready for its final use.

**RESULTS AND DISCUSSION**

**Table 2: Final standardized scale to measure attitude of farmer members towards Farmer Producer Organizations**

| No. | Statements   |
|-----|--|
| 1   | <b>FPO increases the employment opportunities.</b>                 |
| 2   | <b>FPO centralizes the power. (-)</b>                              |
| 3   | <b>FPO promotes equal treatment to members.</b>                    |
| 4   | <b>Sustainability is bottleneck of FPO. (-)</b>                    |
| 5   | <b>FPO believes in gender equality.</b>                            |
| 6   | <b>Develops professionalism among farmers.</b>                     |
| 7   | <b>Farmers are emotionally attached with FPO.</b>                  |
| 8   | <b>FPO works against culture. (-)</b>                              |
| 9   | <b>Enhances marketing efficiencies.</b>                            |
| 10  | <b>Facilitates timely marketing of farm produce.</b>               |
| 11  | <b>Credit accessibility is complex through FPO. (-)</b>            |
| 12  | <b>Collective decision making is a key aspect.</b>                 |
| 13  | <b>FPO encourages women empowerment.</b>                           |
| 14  | <b>Collective purchasing weakens the bargaining power. (-)</b>     |
| 15  | <b>Reduces post harvesting losses through storage / transport.</b> |
| 16  | <b>Provide timely and need based training.</b>                     |

Table 2 shows the final scale consists of 16 statements about Farmer Producer Organization. The responses had to be recorded on a five- point continuum representing strongly agree, agree, undecided, disagree, and strongly disagree with scores of 5, 4, 3, 2 and 1 for positive statements and vice-versa for negative statements. The attitude score of each respondent can be calculated by summing the scores obtained by him on all the items. The maximum obtainable score according to the present attitude scale is 80, whereas minimum obtainable score is 16.

**CONCLUSION**

An attitude scale can act as a cost-effective and

easy to administer instrument for gathering baseline data. Item analysis is to be done for selection of statistically appropriate subjects which can differentiate the respondents with positive attitude to negative attitude. Thus, it can be concluded that finally selected items are highly statistically fit for the measuring attitude of farmer members towards Farmer Producer Organizations (FPO) by using ‘Likert-type scale technique’. The developed attitude scale was found to be highly reliable and valid. This scale can be used to measure the attitude of farmers members towards Farmer Producer Organizations (FPO) beyond the study area with suitable modifications. It will serve as a guideline for policy makers, planners and university authorities in planning and implementing efforts to develop and disseminate various programmes for improving the participation of farmers in FPOs.

**CONFLICT OF INTEREST**

The authors of the paper declare no conflict of interest.

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