

## **A Scale to Measure Farmers Attitude towards Value Addition in Maize**

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### **ABSTRACT**

*The intent of this research is to identify the attitude of farmers towards value addition in maize. The purpose of scale construction is to design a questionnaire that provides a quantitative measurement of a theoretical variable. The present study aims to develop an attitude scale to measure farmers' attitude towards value addition in maize. Hence, the study "Production, Value addition and Marketing Behaviour of Maize growers in Tamil Nadu - A Critical Analysis" was contemplated to develop and standardize a scale for measuring the same and conducted during 2012.*

In Tamil Nadu, maize is an important raw material for poultry feed industries and other food processing industries. The use of maize in poultry feed by poultry industry, particularly located in Salem, Namakkal, Pollachi, and Udumalpet areas are getting remarkable importance. Though substantial quantity of maize is being produced in the Udumalpet block, there is no value addition to it. Here, large quantity of maize is being procured by the commission agents and transported to far off processing units. Hence, the scope of Value addition is sound enough for the reason of availability of raw material as well as the large market size.

### **METHODOLOGY**

Attitude is the psychological disposition of the maize farmers about value addition in maize with varying degrees of favourableness or unfavourableness. The method of equal appearing intervals as suggested by Thurstone

and Chave (1929) was followed in the development of scale. Possible statements concerning the psychological object i.e. 'Value Addition' was collected based on review of literature, discussion with scientists and extensionists. The 95 statements collected were screened by following the informal criteria suggested by Edwards (1969). Based on the screening, 60 items were selected which formed the universe of content.

### **Item scoring and computation of scale values and Q values**

The 60 statements were then subjected to judges opinion on a five-point continuum, ranging from most unfavourable to most favourable. The list of statements was sent to 60 judges comprising professors of post harvest technology, TNAU, extensionists of State Agricultural Universities of Tamil Nadu, Karnataka and Avinashilingam University. Of the 60 judges, 40 judges responded by sending

their judgements. The scale values and Q values were computed for the 60 statements by applying the formula as suggested by Thurstone and Chave (1929) which is as follows.

$$S = l + \left[ 0.50 - \frac{\sum pb}{pw} \right] i$$

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 proportions 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 and is assumed to be equal to 1.0

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

Where,

Q – Interquartile range

$C_{75}$  – the 75<sup>th</sup> centile,  $C_{25} = l + \left[ 0.25 - \frac{\sum pb}{pw} \right] i$

$C_{25}$  – the 25<sup>th</sup> centile,  $C_{75} = l + \left[ 0.75 - \frac{\sum pb}{pw} \right] i$

The scale values were arranged in descending order of magnitude and the difference between the successive scale values and the cumulative total of the computed differences were worked out. Considering the time limitation from farmers' point of view, it was decided to select 9 statements to constitute the attitude scale. Since, the selected scale values should have equal appearing interval and distributed uniformly along the psychological continuum, it was

necessary to form 9 compartments so as to select 9 statements, i.e one statement from each compartment. The basis for forming the compartments was that, each compartment should be equally spaced in the continuum.

Thereby, 9 items were selected with equal appearing interval and with a uniform distribution along the psychological continuum. The attitude scale thus constructed is given in the Table 1.

### **Standardization of the Scale**

#### **Reliability of the scale**

The reliability coefficient  $r$  of the scale (0.642), significant at one per cent level of probability was determined by 'Split-half' method. Further the reliability coefficient of the whole test  $r_{tt}$  (0.784) was computed using the Spearman-Brown Prophecy formula. According to Singh (2008), when the purpose of the test is to compare the means of the two groups of narrow range, a reliability coefficient of 0.50 or 0.60 would suffice. Hence, the constructed scale is reliable as the  $r_{tt}$  was > 0.60.

#### **Content validity of the scale**

Content validation was carried out by subjecting the selected 9 items to judges' opinion. They were asked to indicate the extent to which each attitude item covered the domains of the psychological object 'value addition'. The responses were obtained on a four – point continuum of most adequately covers', 'more adequately covers', 'less

adequately covers' and 'least adequately covers'. Scores of 4, 3, 2 and 1 were given for the points on the continuum respectively. Totally 30 judges responded by sending their judgments.

The mean score 2.5 was fixed as the basis for deciding the content validity of the scale. If the overall mean score of the attitude items as rated by the judges was above 2.5, the scale will be declared as valid and if not otherwise. In the present case, the overall mean score was worked out as 3.12 and therefore the constructed attitude scale is said to be valid.

### Administration of the scale

The final scale consists of 9 statements (Table 1). From Udumalpet block, three villages namely Kuruchikottai, Andiaya gavundanur and Periavalavadi was selected based on the maximum area under maize cultivation. The scale was administered to 150 maize farmers selected using proportionate random sampling method.

A five-point continuum of 'Strongly Agree', 'Agree', 'Undecided', 'Disagree' and 'Strongly Disagree' was used as response categories.

**Table 1.**  
**Final Set of Attitude Items Selected for the Scale**

SI.No.	Statement	SA	A	UD	DA	SDA
1	Value addition is the next phase of development in commercial maize cultivation					
2	Value addition in maize would fetch more return in present days of living					
3	Previous experiences have no association with value addition *					
4	Certification shouldn't be mandatory for value added products *					
5	Rural youths could be encouraged to do value addition as it has promising future					
6	Future market will be less for value added products from maize *					
7	Maize value addition doesn't create new opportunities for enterprise development among farmers *					
8	Out-of-box thinking in business should be high to do value addition					
9	Farm women do have roles in value addition					

\* Negative statements.

SA: Strongly Agree, A: Agree, UD: UnDecided, DA: Disagree, SDA: Strongly DisAgree

The scoring adopted for favourable statement was 7, 5, 4, 3 and 1 and vice-versa for unfavourable statements. The score obtained for each statement was summed up to arrive at the attitude score for the respondents. The responses were grouped as less favourable, moderately favourable and highly favourable based on the mean and standard deviation method.

## FINDINGS AND DISCUSSION

It is quite evident from the Table 2 that majority (48.00 %) of the maize growers possessed a moderately favourable attitude towards value addition followed by one-third

(36.00 %) of the respondents with less favourable attitude towards value addition. The left over 16.00 per cent of the respondents possessed a highly favourable attitude towards value addition in maize.

About 36.00 per cent of farmers possessed a less favourable attitude towards value addition in maize since they could have considered value addition to be a least prospective business. They would have set back considering the challenges in value addition which requires lots of managerial expertise, and includes problems like general and specialty labor, packaging, transportation, rent, business taxes and many

**Table 2.**  
**Distribution of Farmers Based on their Attitude Towards Value Addition (n=150)**

SI.No.	Category	Number	Per cent
1	Low	53	36.00
2	Medium	73	48.00
3	High	24	16.00

other costs. As majority of the maize farmers are indebted, they felt it is imperative to sell the produce immediately and use the money to pay back their credit. They might have also felt that income from value addition would have less stabilizing impact on their family economy and this might have pushed them towards the less favourable attitude on the continuum.

On the other hand almost 48.00 per cent of the maize farmers possessed a moderately favourable attitude towards value addition in maize which might be due to the reason to

do value addition as one additional activity or doing during lean season rather than to do completely. Moreover they might have also thought that it could be better for a family to do value addition than to be dependent on maize cultivation alone. The income from diversified occupations would also complement the family income during monetary crisis.

The high favorableness towards value addition among the remaining 16.00 per cent of the respondents may be because they are often more open to new ideas and practices

than the less and moderately favouring farmers. The education level, economic orientation, their exposure to outside world and availability of more number of family members might have also encouraged their attitude formation. Ability to identify opportunities in the existing situation, confidence to start value addition business by pooling resources, adoption of innovation might be the underlying factors for the farmers who liked to involve in value addition.

## **CONCLUSION**

The reliability and validity of the scale indicated the precision and consistency of the results. This scale can be used to measure the farmers' attitude beyond the study area

with suitable modifications. The present study revealed that maize farmers possessed moderately favourable to low favourableness towards value addition. Suitable extension teaching methods and programmes can be designed to change their attitude level.

## **REFERENCES**

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