

## Scale Construction for Measuring the Attitude towards Participatory Irrigation Management Approach

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### ABSTRACT

*The present study aimed at developing an attitude scale to measure the attitude of the farmers towards Participatory Irrigation Management (PIM) approach. Likert's Summated Rating Scale Technique was followed for development of the scale. The validity of the scale was examined with the help of face and content validity. Test retest method was followed for testing reliability of the scale and reliability co-efficient was 0.76. Hence, the scale is reliable and can produce consistent results. The scale so developed finally consists of 24 statements including 13 positive and 11 negative statements.*

**Key words:** Attitude; Participatory irrigation management; Reliability; Validity;

As contemplated elsewhere in the world, that the available institutional option at the moment for efficient management of water resources for irrigation is the Participatory irrigation Management (PIM) in which the farmers and irrigation department together play significant role in irrigation management. Francis (1993) analyse the people participation as not only the involvement of people in the choice and administration of public policies, but also their direct involvement in making and implementing decisions pertaining to social, economic and participating activities. It has now widely recognized that for improving the irrigation management and for sustained performance of water resources, water users (farmers') participation is necessary and it is being implemented in Andhra Pradesh and others states. PIM approach was operationalised as "an approach for management of irrigation system/resources in which all the farmers involve or take part by expressing their views and sharing the responsibilities during each and every management activity for efficient function of irrigation system towards sustained development". Attitude is the pre-disposition of action (Sherif and Cantril, 1945). Attitude is the degree of positive or negative affect associated with some psychological object (Thurstone and Chave, 1929). Thus, the attitude in this study was operationalised as

"the degree of positive or negative feeling of farmers under tank irrigation commands towards PIM approach". As PIM is all about involving farmers, it was felt the attitude of the farmers towards this new approach is the prime factor that influence the behaviour and action of the farmers while implementing this new principle. In this backdrop a scale was developed to assess the attitude of the farmers under tank irrigation commands.

### METHODOLOGY

*Selection of type of attitude scale:* For measuring the attitudes, different type of scales developed by Thurstone, Likert, Guttman and Bagardus were available and in this study Likert Method of Summated Ratings (Likert's Technique, 1932) procedure was followed.

*Collection of attitude stimuli:* A set of statements covering the area of PIM approach were collected from the available literature and through interaction with the extension experts and Irrigation Officials. A tentative list of 60 statements consisting of 34 positive and 26 negative statements were drafted keeping in view of the applicability of statements suited to the area of study.

*Editing the statements:* Each statement was edited considering the 14 informal criteria suggested by Thurstone & Chave (1929) and Edwards and Kilpatrick (1948).

**Final Attitude Scale**

S.No	Statement	Response categories				
		SA	A	UD	DA	SDA
1	Participatory approach helps to develop competency as per potential of water users					
2	Participatory approach paves way towards self reliance in irrigation management by the farmers themselves					
3*	PIM approach is limited to influential people and they only will be benefited more					
4*	Unification of diverse groups for water users will be a myth					
5*	Farmers are not equipped technically, financial or legally to cope up with this new PIM approach					
6	In participatory approach all affairs are fair and democratic					
7*	Participatory approach widens the gap between resource full and resource poor farmers					
8	Participatory approach decreases public referrals					
9	Farmers will develop a sense of belongingness with the system for better and economic upkeep					
10	PIM enables quick and easy settling of irrigation conflicts					
11	PIM is an opportunity for the farmers to invest in group for irrigation system development					
12	Participatory approach is 'for the farmers', 'by the farmers' and 'with the farmers'					
13*	Participatory approach is political platform for the mighty water user groups					
14	Farmers should not wait for the irrigation system to get rehabilitate by others and need to do by themselves					
15*	Too much political interference make the PIM approach ineffective					
16*	Individual prosperity will be hindered by group rules and regulations					
17*	There is no need for participatory approach at all now-a-days, as the individual can strive for himself					
18	Any scientific intervention will be fruitful when ever all the farmers participate and share the responsibility					
19	Participatory approach is nothing but 'one for all and all for one'					
20*	Farmer participation in irrigation management is more often a potential than a reality					
21*	Full participation of farmers hinges on level of genuine autonomy that the groups exercises					
22	I believe in a long run participatory approach will lead to over all development of irrigated agriculture and the society as a whole					
23*	Even I don't participate I feel its my right to get my water share					
24	I would like to give my ideas and take the others for the benefit of all					

\* negative statements

*Item analysis:* For the purpose of preparation of final scale 60 statements were administered to farmers. For this purpose Kadapa district of Andhra Pradesh was selected purposively and two mandals (Kodur and Pullampeta mandals) were selected randomly. From each mandal two irrigation tanks were selected randomly. From each tank ayacut 15 respondents were selected, thus the total respondents selected were 60. The respondents were asked to indicate their degree of favourable or unfavourable with each item on 5 point continuum scale viz. Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. Scoring was given for positive statements as 5,4,3,2 and 1 and for negative statements as 1,2,3,4 and 5 respectively.

The total individual scores of each respondent for 60 statements were computed by summing up their score for all statements and arrayed in descending order. Further, the respondents were divided into 4 groups, comprising 15 respondents in each group. The top 25 per cent were considered as the highest group and bottom 25 per cent scores as the lowest group and were taken for evaluation of individual statements. The 't' values for each statement were calculated using the formula suggested by *Edwards (1967)*.

*Selection of the statements for final scale:* All the 60 statements were then arrayed on the basis of their 't' value. From these, 13 positive and 11 negative statements were selected for the final scale based on the following criteria:

- i. the 't' value should be more than 1.75
- ii. the statement should present a new idea *i.e.*, the idea not overlapping with that expressed in other selected statements
- iii. the statement should be simply worded and brief

*Validity and Reliability:* The validity of the scale was examined with the help of content validity to determine how well the contents of the scale represented the subject matter under study. As all the possible statements covering the universe were selected by discussion with extension experts and officials of the agriculture, the present scale satisfied content and face validity. Reliability of the scale was calculated by Test-Retest method. The Reliability Coefficient (r) was found to be 0.76 indicating that the attitude scale has precision, accuracy and can be used for measurement.

*Final Attitude Scale :* Farmers will have different opinion towards PIM approach. The following statements represents the diverse meanings/opinion on agriculture related self employment. Please indicate by putting tick (Ö) mark in the appropriate box whether you strongly agree (SA), Agree (A), Undecided (UD), Disagree (DA) and Strongly Disagree (SDA) with these statements.

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