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Development of a Scale to Measure Attitude of People towards Common Property Resources

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ABSTRACT

Initially a set of thirty statements was prepared to construct the attitude scale with the help of available literature, discussion with subject matter specialists and extension scientists. The editing of statements was done with the help of 14 informal criteria. Consequently, twenty six (26) unambiguous generalized relevant attitude statements were selected for item analysis. All the selected statements were mailed to a group of forty (40) experts for their agreement or disagreement on the statements. Twenty four experts returned these with their ratings. The final selection of the statements constituting the attitude scale was completed with the help of correlational method on the basis of mean difference of high and low group as suggested by Murphy and Likert (1937). The developed attitude scale contains twenty statements (Thirteen positive and seven negative). The scale was found reliable at 1 per cent level of probability with having content validity too.

Key words: Attitude scale, attitude measurement, common property resources,

INTRODUCTION

Common Property Resources (CPRs) are pastures, water bodies, forests which are managed by rural community for distribution of benefits to villagers. These resources play a vital role in providing income and employment to rural people in many different ways. The degradation of these resources has a direct negative impact on the livelihoods of the poor. At the same time their degradation also poses serious environmental problems to the society and country at large in the long run. Preserving these resources, therefore, paves the way for long lasting local solutions to livelihood issues. Equity and management aspects of utilization of CPRs have considerable social relevance in the changing paradigm of people's participation in the management of common property resources. While the problem of equity in resources use is common to all common property resources, this is more so in case of water bodies, pasture lands and forest. The participation of local rural people is imperative for management of CPRs. There was no scale available to measure attitude of people towards common property resources. Hence, the present study was planned and carried out during 2019-20 to develop a scale to measure attitude of rural people towards participation in planning, development and maintenance of common property resources.

METHODOLOGY

Attitude is the degree of positive or negative affect associated with some psychological object (Yadav *et al,* 2018). According to Thurstone (1946), "Psychological object means any symbol, phrase, slogan, idea, person and institution towards which people can differ with respect to positive or negative affect. Attitude in the

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present study was operationalized as the degree of positive or negative feeling, opinion, belief and action of local people towards common property resources in villages especially village ponds and pasture lands. The following procedure was adopted in constructing the scale to measure attitude of people towards common property resources.

Collection of attitude items or statements

The items making up an attitude scale are called statements. A statement may be defined as anything that is said about a psychological object (Bagdi & Shah, 2019). The first step in the construction of an attitude scale is collection of statements. Statements covering all aspects of people's attitude towards common property resources management were collected with the help of available literature, subject matter specialists and discussion with scientists. As such 30 statements were prepared.

Editing of statements

All the statements were edited by applying the 14 informal criteria and guidelines which were written by Edwards (1957) in his book as suggested by Thurstone and Chave (1929), Likert (1932), Wang (1932), Bird (1940) and Edward & Kilpatrick (1948). As a result out of 30 statements so collected initially, 26 unambiguous generalized attitude statements relevant to the people's attitude towards participation in common property resources were selected.

Experts' rating of attitude statements

All the 26 statements regarding attitude of people towards common property resources were administered to a group of 40 experts comprised of extension specialists, scientists and subject matter specialists in common property resources from different agricultural institutions of India i.e. eight institutes and research Centres from Indian Council of Agricultural Research and two agricultural universities. The experts were requested to indicate their degree of agreement or disagreement towards all the statements on five-point-continuum. The five point continuum was strongly agree, agree, undecided, disagree and strongly disagree with the weightage of 5,4,3,2 and 1 scores respectively for positive statement and reverse scores for negative statement as suggested by Likert (1932). Out of the 40, 24 experts returned their statements after rating.

Item analysis

Item analysis was carried out by correlational method on the basis of difference between the means of high and low group as suggested by Murphy and Likert (1937). Under this method, the total scores obtained on the statements by all the experts were arranged in descending order. The top 25 per cent respondents and the bottom 25 per cent respondents were selected for item analysis as high and low groups respectively to select the most discriminating items. The middle group was omitted from the analysis. The items with mean difference of high and low group *i.e.* ($\Sigma\bar{X}_H - \bar{X}_L$) more than the grand mean difference of high and low group *i.e.* ($\Sigma\bar{X}_H/_n - \bar{X}_L/_n$) were selected. The statements mean differences and grand mean difference worked out between high and low groups for 26 statements are presented in Table 1.

Reliability of the scale

A test is reliable to the extent that it measures whatever it is measuring consistently. In tests that have a high coefficient of reliability, errors of measurement have been reduced to a minimum. The reliability of a test is usually expressed as a correlation coefficient (Best and Kahn, 1998). According to Kerlinger (1973) "Reliability is the accuracy and precision of measurement." In this study, the reliability of the scale was analyzed with the help of test - retest method.

The developed scale was administered twice to 30 farmers at an interval of one month. The correlation coefficient r-value of two set of data was calculated. The respondents were randomly selected from Nokha tehsil of Bikaner district of Rajasthan. The correlation coefficient was calculated and the r value 0.864 was determined, which was highly significant at 1per cent level of probability. It indicates that the scale is reliable and more degree of dependability on the scale for measuring attitude towards common property resources.

Validity of the scale

A scale possesses validity when it actually measures what it claims to measure (Goode and Hatt, 1981). The content validity method was used to measure the validity. Content validity is based upon careful examination of course textbooks, available literature and judgments of subject matter experts. The criterion of content validity is often assessed by a panel of experts in the field who judge its adequacy, but there is no numerical way to express it.

The validity of the scale was examined with the help of content validity method to determine how well the contents of the scale represented the subject matter under the study. The contents of the attitude scale were derived from available literature and discussions held with subject matter specialists. All the edited statements of the scale were given to different extension scientists and subject matter experts for their expert guidance in developing the scale. The 24 scientists and subject matter experts returned all the statements with their suggestions after checking suitability of all statements to the subject of the

study. The suggestions of the experts were incorporated in the scale. Hence, the present developed scale satisfied the content validity.

RESULTS AND DISCUSSION

Selection of statements for construction of scale:

According to Table 1, it was revealed that out of 26 attitude statements the 20 attitude statements are having mean difference values of high and low groups more than the grand mean difference value *i.e.* 1.153. Therefore, the statements having value more than 1.153 were selected for construction of final attitude scale to measure attitude towards common property resources.

Table 1: Statements showing mean scores and mean difference of high and low groups

Mean of high group (x_H)	Mean of low group (x_L)	Mean difference ($x_H - x_L$)
5	3.666	1.334 S
5	4.666	0.334
4.833	3.5	1.333 S
4	2.666	1.334 S
4.833	3.666	1.167 S
5	4.666	0.334
4.83	3.666	1.164 S
5	4.66	0.34
5	3.5	1.500 S
4.83	3.333	1.497 S
4.66	3.33	1.333 S
3.83	2.66	1.170 S
4.16	2	2.160 S
5	4.833	0.167
5	4.33	0.67
4.5	3.33	1.167 S
3	1.833	1.167 S
5	3.333	1.667 S
4.500	3.00	1.500 S
4.166	2.833	1.333 S
4.5	3.333	1.167 S
5.000	3.666	1.334 S
2.666	1.333	1.333 S
4.500	3.500	1.000
4.000	2.833	1.167 S
5.000	3.666	1.334 S
$\sum \bar{x}_H = 4.531077$	$\sum \bar{x}_L = 3.377115$	1.153962

(S = Statement selected for final scale)

Grand mean of high group:

$(\Sigma \bar{X}_H/n) = 117.808/26 = 4.531077$

Grand mean of low group:

$(\Sigma \bar{X}_L/n) = 87.805/26 = 3.377115$

Grand mean difference:

$(\Sigma \bar{X}_H/n) - (\Sigma \bar{X}_L/n) = 4.531077 - 3.377115 = 1.153962$

Final Format of the Scale:

The attitude statements finally selected have been randomly arranged in the final format of the scale. There was three-point-continuum in the final format of the attitude scale for responses of respondents as agree, undecided and disagree to the statements. The final format of the attitude scale is given below in table 2. The developed scale contains total twenty statements, comprised of thirteen positive and seven negative statements. The positive statements are 1, 2, 3, 4, 7, 8, 9, 10, 14, 15, 16, 17, 18 and negative statements are 5, 6, 11, 12, 13, 19, and 20.

Table 2: A scale to measure attitude of people towards common property resources

	Statements	A	UD	DA
A	Attitude of people towards planning of CPRs:			
	Common Property Resources (CPRs) in villages are beneficial to local people.			
	Local people should participate in CPRs management planning meetings.			
	Participation of people in CPR planning and designing is essential.			
	People should suggest any point of individual or collective interest in planning of village CPRs.			
	Planning of CPRs should only be done by Gram Panchayat without consulting people.			
	Planning of CPRs should be done by government agencies only.			
B	Attitude of people towards development of CPRs			
	Local people should adopt and develop CPR practices for their benefits.			
	Local people should contribute materials or equipments in construction or development of CPRs.			
	People should contribute own labour work in development of village CPRs.			
	People should contribute money in development of their village CPRs.			
	Local people's contribution of own money in development of CPRs is not required.			
	CPRs should be constructed and developed by government money through government agencies.			
	Government is totally responsible for construction and development of CPRs in villages.			
C	Attitude of people towards maintenance of CPRs			
	People should maintain and repair village CPRs time to time by own expenses.			
	People should contribute labour work towards repair and maintenance of village CPRs.			
	People should contribute own money towards repair and maintenance of village CPRs.			
	People should inform the Gram Panchayat officials about damage in CPRs for repair.			
	People should motivate their fellows for collectively contribution labour or money in repair and maintenance of CPRs.			
	Maintenance and repair works of CPRs should be done by Gram Panchayat or government agencies.			
	People should not contribute labour or money for repair and maintenance of village CPRs.			

Where, A = Agree, UD = Undecided, DA = Disagree

Scoring pattern and attitude measurement:

Scoring pattern:

The scoring pattern for three-point-continuum attitude scale is designed as follows:

Degree of agreement	A	UD	DA
Positive statement	3	2	1
Negative statement	1	2	3

Attitude measurement:

Attitude Index (AI) was developed by the authors to measure the extent of attitude of people towards common property resources. While measuring the extent of attitude of people towards common property resources, respondents may be asked to indicate their degree of agreement and disagreement against the attitude statements and tick mark (√) in appropriate column against each statement. The scores would be assigned as per the scoring pattern as described above. Thus, the scores obtained can be calculated with the help of the developed Attitude Index (AI) as given below:

$$AI = \frac{\text{Obtained mean attitude score towards CPR (P)}}{\text{Maximum possible attitude score towards CPR}} \times 100 \quad -----(i)$$

where,

$$P = \sum_{i=1}^{N} P_i / N \quad ----------(ii)$$

where,

N = Total number of respondents

$$P_i = \sum_{j=1}^{K} (AP_j + AD_j + AM_j) \quad --------(iii)$$

where,

AP_j = Total attitude score obtained by respondent towards planning of CPR.

AD_j = Total attitude score obtained by respondent towards development of CPR.

AM_j = Total attitude score obtained by respondent towards maintenance of CPR.

K = Total number of statements on which responses of the respondents will be recorded.

The scores to be computed with the help of the developed Attitude Index (AI) would be obtained in percentage and that would indicate the per cent attitude of people towards common property resources. The index could also be useful in measuring per cent attitude towards different stages of planning, implementation and maintenance of common property resources. The higher percentage of attitude of people may indicate that there would be good people's involvement during management of common property resources. The value calculated by the Attitude Index (AI) can be categorized as shown below:

Attitude Category	AI value (%)
More Favourable	66.67 - 100
Favourable	33.34 - 66.66
Less favourable	0.00 - 33.33

CONCLUSION

The attitude scale was developed consists of twenty statement to measure attitude of people towards common property resources. The attitude scale would be quite helpful to extension personnel in analyzing the favourable or less favourable nature of attitude of people towards common property resources especially water ponds and pasture lands in rural villages. Before or at the time of planning of any development project regarding common property resources, the scale may also be helpful to the project implementing agencies to assess the attitude of people toward common property resources. Because, the success of any rural development programme is depend on the attitude of local people towards involvement and participation in development programmes.

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REFERENCES

Bagdi, G.L. & Anupama Shah. 2019. Measurement of Attitude of Academicians towards Increased Retirement Age. *Indian Journal of Extension Education,* Vol. 55 (4): 139-144.

Best, J.W. & Kahn, J.V. 1998. Research in Education, Prentice-hall of India Pvt. Ltd. New Delhi, 217-220.

Bird, C. 1940. Social Psychology. Appleton Century Crafts, Inc. New York. Crafts, Inc., *New York* pp.155.

Edwards, A.L. 1957. Techniques of Attitude Scale Construction, Appleton Century

Edwards, A.L.and Kalpatrick, F.P.A.1948. Technique for the construction of attitude scales. *Journal of Applied Psychology,* 32, 374-384.

Goode, W.J. and Hatt, P.K. 1981. Methods in Social Research, McGraw – Hill Book Co., Singapore P. 237.

Karlinger, F. N. 1973. Scientific behavioural research. A conceptual primer, New York, Holt Rinchart and Winstone.

Likert, R. 1932. A Technique for the Measurement of Attitudes, *Arch. Psychol.,* No.140.
Murphy, G. and Likert, R. 1937. Public Opinion and the Individual, New York: Harper.

Thurstone, L. L. 1946. Comment. *American Journal of Sociology,* 52, 39-50.

Thurstone, L.L. and Chave, E.J. 1929. The measurement of attitude, Chicago: Uni. Chicago press.

Wang, K.A. 1932. Suggested criteria for writing attitude statements. *Journal of Social Psychology* 3, 367-373.

Yadav, V.K., Nirmal Kumar, R.N. Padaria, Neetu Kumari and G.K. Jha. 2018. Development of Scale to Measure Attitude of People about Agricultural Biotechnology. *Indian Journal of Extension Education,* Vol. 54, (2): 236-240.