

## A Scale to Measure Attitude of Farmers towards Well Recharging

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### ABSTRACT

*The present research was confined to develop a scale which can scientifically measure attitude of farmers towards well recharging. From 57 statements, 36 statements were selected according to the fourteen criteria suggested by different scientists. Thus, the final attitude scale constitutes 22 statements. The calculated Reliability co-efficient is 0.863. In the final scale, against each of the statement, there are five columns representing a five-point continuum of agreement and disagreement to the statements.*

### Introduction

In Saurashtra, Kutch and North Gujarat regions of Gujarat state, groundwater has already emerged as a single most critical factor responsible in development. The pressure of increasing demand of water has resulted over exploitation of this vital source. The ground water availability is being limited, judicious management of this source is rapidly becoming key issue to solve the problems that have arisen due to over exploitation. The artificial recharge of groundwater through existing wells is found to be technologically feasible approach to augment the depleted groundwater table.

The success or failure of any social reforms or development programmes would mainly depend upon the people's attitude towards it. Thurstone (1946) defined that "attitude is the degree of positive or negative effect associated with some psychological object like symbol, person, institute, ideal or

idea towards which people can differ in varying degrees." An individual who has associated positive effect or feeling with some psychological object is said to like the object or to have favorable attitude towards the object. Such a favorable attitude helps in better adoption of the technology. With this in view, an attempt has been made to develop a scale which can scientifically measure attitude of farmers towards well recharging.

### Methodology

Among the techniques available for construction of scales, the Thurstone's equal appearing interval technique (1946) and Likert's summated rating technique (1932) are quite well known. But both methods suffer from limitations in getting discrimination rating and in selecting items. Thus, the technique chosen to construct the scale was of the scale product method which combines the Thurstone's technique of equal

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appearing interval scale for selection of items and Likert's technique of summated rating for ascertaining the response on the scale as proposed by Eysenck and Crown (1949).

#### (A) Item collection

In initial stage of developing the scale 57 attitudinal statements about well recharging were collected from relevant literature. The list was further added and refined by consulting experts and holding interviews with the farmers. From 57 statements, 36 statements were selected according to the fourteen criteria suggested by Thurston and Chave (1928), Wong(1932), Edward and Kilpatric(1948).

#### (B) Judges' rating on attitudinal statement

In order to judge the degree of unfavourableness-favourableness of each statement on the seven-point equal appearing interval continuum, a panel of 72 judges was selected. The judges selected for the study comprised of extension experts, agronomists, agricultural engineers, postgraduate students and volunteers- cum experts in well recharging activities. The letter of instructions was sent along with statements to the judges. The responses of those fifty judges who replied were considered for analysis.

#### (C) Determination of scales value and Q. values

The response of judges was obtained on the seven points of rating scale. The responses were assigned scores ranging from 1 (for most unfavorable) to 7 (for most

favorable). Based on the judgments, the scale values and Q values for each statement were calculated. The following formula was applied to calculate the scale values and Q value.

$$S = L + \left( \frac{0.50 - pb}{pw} \right) \times i$$

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 proportions below the interval in which the median falls

pw = The proportions within the interval in which the median falls

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

The inter-quartile range  $Q = Q_3 - Q_1$  for each statement was also worked out for determination of ambiguity involved in the statement.

#### (D) Final statements for attitude scale

Those items were selected whose scale values (s) were greater than inter – quartile range (Q) values. Thus, 22 statements were finally selected to constitute attitude scale.

#### (E) Reliability of the scale

The split half technique was used to measure the reliability of the scale. The 22 statements were divided into equal halves

with 11 odd numbered in one half and 11 even numbered statements in the other. These were administered to 30 respondents. Having obtained the two scores for each of the 30 respondents, co-efficient of reliability between the two sets of scores was calculated by Spearman Brown formula. The calculated Reliability co-efficient is 0.863.

**(F) The scoring system**

The selected 22 statements for the final format of the attitude scale are randomly arranged to avoid response bias, which might contribute to low reliability and direction from the validity of the scale. Against each of 22 statements there are five columns

**APPENDIX – I**

Sr.	Statements	SA	A	UD	DA	SDA
1.	Well recharging is a real boon to farmers (5.5)	5	4	3	2	1
2.	The well recharging increases the knowledge of farmers about efficient use of water (3.7)	5	4	3	2	1
3.	Well recharging is practicable to adopt (2.5)	5	4	3	2	1
4.	The well recharging has established greater rapport between farmers and officials (4.0)	5	4	3	2	1
5.	Well recharging is not relevant to the need of most of the farmer (5.5)	1	2	3	4	5
6.	Money spent on well recharging is sheer waste (4.5)	1	2	3	4	5
7.	Well recharging increases the employment opportunities to people in rural areas (3.2)	5	4	3	2	1
8.	Well recharging helps to improve socio-economic condition of farmers (2.1)	5	4	3	2	1
9.	Only educated farmers can adopt well recharging practice (2.8)	1	2	3	4	5
10.	Well recharging create conflicts among neighboring farmers (4.3)	1	2	3	4	5
11.	Well recharging develops self reliance among farmers for irrigation water (2.3)	5	4	3	2	1
12.	Special training programme on well recharging will not make any difference (5.1)	1	2	3	4	5
13.	Well recharging programme is only for the benefits of big farmers (4.5)	1	2	3	4	5
14.	Well recharging conserves rain water and check drought condition (2.3)	5	4	3	2	1
15.	Due to recharging, well becomes dead (4.5)	1	2	3	4	5
16.	After recharging well natural flow of water is disturbed or ceased due to sitting (4.0)	1	2	3	4	5
17.	After all well recharging practices is profitable (4.0)	5	4	3	2	1
18.	There is no proved well recharging practice (3.2)	1	2	3	4	5
19.	Well recharging practice does not provide good return every year (4.5)	1	2	3	4	5
20.	Salinity of the water in the well is decreased due to recharging well (2.8)	5	4	3	2	1
21.	Subsidy is not motivating force for well recharging (3.1)	1	2	3	4	5
22.	Well recharging is self inspiring activity (2.0)	5	4	3	2	1

SA : Strongly agree

A: Agree

UD: Undecided

DA: Disagree

SDA: Strongly disagree

representing a five-point continuum of agreement and disagreement to the statements. The points on the continuum are strongly agreed, agree, undecided, disagree and strongly disagree with weights of 5, 4, 3, 2 and 1 respectively for favorable statement and of 1, 2, 3, 4 and 5 respectively for unfavorable statement.

The weights of Likert's technique and scale values of Thurstone's technique were combined in form of a product and the total score for an individual was the sum of the product. The final format of the scale is presented in Appedix-I.

#### REFERENCES

- Edwards, A. L. and Kilpatric, F. P. (1948) A technique for the construction of attitude scale. *Journal of Applied Psychology*, 32 : 374-384.
- Eysenck, H. J. and Crown, S. (1949) An experimental study in opinion attitude methodology. *International Journal of Opinion Attitude Research*, 3 : 47 – 86.
- Likert, R. A. (1932) A technique for the measurement of attitude scales. *Pshcol*, New York No. 140.
- Thurstone, L. L. (1946) The measurement of Attitude. *Americam Journal of Sociology*, Chicago Uni. Press: 39-50.
- Thurstone, L. L. and Chave, C. J. (1928) The measurement of attitude. Chicago Uni. Press, Chicago.
- Wong, K. A. (1932) Suggested criteria for writing attitude statements. *Journal of Social Psychology* 3: 367-373.