

## A Test to Measure Farmers' Knowledge about Social Forestry Programme

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### INTRODUCTION

Social forestry is a programme and a mission which aims at ensuring ecological, economic and social security to the people particularly to the rural masses. Basic needs of the rural people viz. fuel, fodder, timber, raw material for cottage industries could be met through social forestry programme. It is important for generation of additional income and employment. However people do not adopt social forestry due to poor knowledge about it. Knowledge of the farmers play an important role in adoption of social forestry. Once the knowledge is acquired, it produces changes in the thinking process of an individual which would lead to further changes in the mental aptitude. Knowledge was defined in the words of Bloom *et. al.* (1955) as those behaviours and test situation which emphasise the remembering either by recognition or recall of ideas, material or phenomena. Hence, a high knowledge of the farmers about the social forestry programme would lead to a higher adoption possibly because, it is inert. Considering above, it was worth to development a test to measure the knowledge of the farmers about the social forestry programme.

### METHODOLOGY

Efforts have been made to develop a standardized knowledge test which can measure the level of knowledge regarding

social forestry programme. Initial, 44 items were selected for developing knowledge test. The collected items were administered to the 30 respondents at random from the village of the area under study. Each respondent was given the score of 1 or 0 for the dichotomized response of correct or incorrect and for yes or no answers respectively. Thus, the total score secured by an individual respondent of 44 items for correct or yes answers was the knowledge score. The scores obtained by the 30 respondents were arranged separately from highest to the lowest in magnitude.

These 30 respondents were divided into six equal groups each of five and were arranged in descending order of the total scores obtained by them. For the item analysis, the middle two groups were eliminated keeping four extreme groups with high and low scores. Selection of items for final format for the knowledge test was based on the following criteria :

**Item difficulty index** : The index of difficulty was worked out as the percentage of the respondents answering an item corrects. The items with 'p' value (item difficulty index) ranging from 25 to 84 were considered for final selection of the knowledge battery.

**Discrimination index** : The item with E1/3 value above 0.20 was considered for final selection.

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$$E1/3 = \frac{(S_1 + S_2) - (S_5 + S_6)}{N/3}$$

Where  $S_1, S_2, S_5$  and  $S_6$  are the frequencies of correct answers in the four groups ( $G_1, G_2, G_5$  and  $G_6$ ) respectively after eliminating two middle groups.

$N$  = Total member of respondents in the item analysis sample

**Biserial correlation** : The Biserial correlation ( $r_{bis}$ ) for each of the items was calculated and tested by using the formula given by Guilford.

$$r_{bis} = \frac{M_p - M_q}{\delta^t} \times \frac{P}{Y}$$

Where,  $M_p$  = Mean of X values for higher group in dichotomized variable

$M_q$  = Mean of X values of lower group in dichotomized variable

$P$  = Proportion of cases in higher group  
Proportion of cases in lower group

$Y$  = Ordinate of the unit normal distribution curve with surface equal to 1.0 of the point of division between segments containing  $P$  and porportion of the cases.

$$\delta^t = \frac{(X - \bar{X})^2}{n - 1} - \text{Standard deviation}$$

Test of significance of  $r_{bis}$  :

$$t = \frac{r_{bis}}{\frac{\sqrt{\frac{PQ}{Y} - r_{bis}^2}}{\sqrt{N}}}$$

Where  $r_{bis}$  = Biserial correlation

$$\frac{\sqrt{\frac{PQ}{Y}}}{N} = \frac{\text{Standard deviation}}{\text{error of biserial correlation}}$$

$N$  = Total no. of respondent

The items found significant at 5 per cent level of significance were retained in the final format of the knowledge test.

Thus, in light of the criteria described above, 27 items were finally selected, which formed the actual format of the knowledge test and is represented in Appendix - I.

### Reliability and Validity of Test

To know the reliability of the knowledge test, test-retest method ( $r = 0.84$ ) was used. For testing the validity, biserial correlation ( $r_{bis}$ ) was considered. Highly significant biserial correlation co-efficient ( $r_{bis}$ ) proved the validity of the items included in the test battery.

### REFERENCES

- Bloom, B.S., M. Engolhardt, E. Erust, W. Hill and D.R. Krathawal (1955) Texonomy of Educational objectives. The Cognitive Domain. New York. Orient Logmans.
- Jha, P.N. and K.N. Singh (1970). A test to measure farmers knowlege about high yielding variety programme. Inter discipline 7(1): 65-78.

## APPENDIX I

### Final Format of the test to measure farmer's knowledge about social forestry programme

1. Is there a social forestry programme going on in your area ? Correct / Incorrect
2. If yes, when did you come to know about social forestry programme ? Correct / Incorrect
3. What according to you is social forestry ? Correct / Incorrect
4. What are the objectives of social forestry programme ? Correct / Incorrect
5. Which kind of help is rendered under social forestry programme ? Correct / Incorrect
6. For the outstanding contribution in forestry, Guj. Govt./Central Govt. offers some awards. Which are these ? Correct / Incorrect
7. What is farm forestry ? Correct / Incorrect
8. Which are the species suitable for planting on farm bunds ? Correct / Incorrect
9. Which trees are useful for fuel as well as fodder purpose ? Correct / Incorrect
10. Which trees are fast growing as well as more profitable ? Correct / Incorrect
11. From where do you get seedlings for plantation ? Correct / Incorrect
12. How many seedlings are provided free of charge by forest department ? Correct / Incorrect
13. What is the price for additional seedlings ? Correct / Incorrect
14. Which tree species are free from restriction of felling and transport ? Correct / Incorrect

### KNOWLEDGE OF TREE SPECIES :

15. Which tree species are grown in your area ? Correct / Incorrect
16. What are the uses of these trees ? Correct / Incorrect
17. What is the right time for planting ? Correct / Incorrect
18. What care should be taken after planting ? Correct / Incorrect

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- 19 How much quantity of chemical ferti. is recommended to apply ? Correct / Incorrect
20. Which insecticides are used to protect the plantation from termite attack ?  
Correct / Incorrect
21. What should be the age of plantation for harvest ? Correct / Incorrect

**TRUE / FALSE :**

22. Social Forestry increases land fertility and avoids soil erosion. Correct / Incorrect
23. Social forestry conserves rain water and check drought conditions. Correct /  
Incorrect
- 24 Social forestry increases air pollution. Correct / Incorrect
25. Social forestry helps the farmers to earn money with less labour. Correct / Incorrect
26. Social forestry provides employment to rural masses in their own villages. Correct  
/ Incorrect
- 27 Social forestry is for the benefits of big farmers. Correct / Incorrect