

*Short Communication*

ADOPTION OF SOIL AND WATER CONSERVATION PRACTICES BY GROUNDNUT FARMERS

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ABSTRACT

The study was conducted in Sira taluk of Tumkur district in Karnataka state to find out the adoption behavior of groundnut farmers with respect to soil and water conservation practices. One hundred farmers were interviewed personally with the help of a pre-tested schedule. It was found that a majority of the groundnut farmers had adopted simple and low cost soil and water conservation practices with respect to overall adoption of soil and water conservation practices, almost equal number of the farmers (33 percent) belong to high medium and adoption level. This indicates there is not much variation between the different overall adoption levels.

KEY WORDS: water conservation, oil seed crop, relationship, farmer.

INTRODUCTION

In India 75 per cent of the cultivated land is rainfed, even after full development of water resource about 55 per cent of the land will continue to be dependent on rains. The groundnut production in dryland areas can be achieved only through the adoption of proper soil and water conservation practices and other cultivation practices. Although a number of soil and water conservation technologies are recommended by the scientists and extension workers, the groundnut farmers are not adopting all the recommended practices. Therefore, the study was under taken with following objectives of studying the adoption behavior of groundnut farmers in respect of soil and water conservation practices.

METHODOLOGY

The study was conducted in Sira taluk of Tumkur district in Karnataka state. Out of 36 Grama Panchayaths, five Grama Panchayaths having maximum area under groundnut cultivation were selected for the study. From each of the Grama Panchayaths, two villages having highest area under groundnut were selected. From each village ten farmers were selected randomly. Thus, the total sample for the study was 100 farmers.

Adoption Level

Adoption level of the respondents with regard to dryland farming practices of groundnut was measured taking into consideration the recommended practices in the 'package of practices' published by University of Agricultural Sciences Bangalore, and also in consultation with the watershed development department of Karnataka. Totally, 25 soil and water conservation practices were included for the study.

The extent of adoption of each practice was measured on the basis of the response to a question as to whether the respondent used/adopted the practice or not. Based on the

responses obtained, partial adoption was possible in certain practices. The following pattern of differential weightages for each practice was followed:

Items	Scores
Full adoption	2
Partial adoption	1
Non adoption	0

The procedure followed by sengupta (1967) for the calculation of adoption quotient was used to measure the adoption level of each respondent.

$$\text{Adoption Quotient} = \frac{\text{Adoption score one has got}}{\text{Maximum adoption score one could get}} \times 100$$

The maximum and minimum score one could get is fifty and zero, respectively. Based on the total score obtained by each respondent, they were grouped into three categories namely, low, medium and high category using mean (28.62) and standard deviation (2.69) as a measure of check.

Adoption Category	Score
High ($x + \frac{1}{2}$ S.D.)	More than 29.97
Medium ($x + \frac{1}{2}$ S.D)	29.97 to 27.28
Low ($x - \frac{1}{2}$ S.D)	Less than 27.28

The information about seven independent variables (personal and socio-psychological characteristics) namely, age education, family size, sources of information, social participation, mass media use, and extension participation was collected with the help of a structured schedule and suitable scales (Byra Reddy, 1977).

Simple correlation test was used to find out the nature of relationship between dependent variable (adoption level) and independent variables.

RESULTS AND DISCUSSION

Extent of Adoption of Specific Dryfarm Practices of Groundnut Cultivation by Farmers

The recommended soil and water conservation practices of groundnut cultivation such as contour bunding, vegetative bunding, fall ploughing, deep tillage, ploughing and sowing across the slope, use of improved varieties and weeding within 45 days after sowing were followed by cent per cent of the farmer (Table 1). The reason for this might be due to the simplicity of practices and low cost involved in adopting these practices.

It is also evident that majority of the farmers had adopted seed rate, spacing deep tillage (using kolar mould board plough), mixed cropping of groundnut + redgram, recommended proportion of groundnut + redgram and rhizobium seed treatment. The practices which were not adopted by cent per cent of the farmers were, use of ridger and leveler, farm pond construction, use of seed -cum-fertilizer drill and chemical seed treatment. This may be due to the non-availability of the implements and chemicals as well as finance problems encountered by the farmers.

Majority of the farmers (65 per cent) had partially adopted the small section bunds. This situation is due to the fact that there was lack of conviction among the farmers regarding the possible benefits of this practice. The farmers still think that they would lose considerable portion of their precious cultivable portion of their precious cultivable land in the process of laying small section bunds.

Sixty eight and twelve per cent of the farmer had partially adopted land smoothing and leveling between two bunds, and opening dead furrows, respectively. The probable reason for this kind of situation might be the lack of technical know-how, non-availability of labour and finance to take up the practice for full adoption.

Majority of the farmers had partially adopted the practices of gypsum, FYM and fertilizer application. This kind of situation might be due to non-availability of above inputs, finance problem and lack of knowledge on the recommended quantity of fertilizers to be applied besides the tendency of the farmers to discount the scientist's recommendations.

Majority (60 per cent of the groundnut farmers) have not taken up the control of pests and diseases. The non-adoption of this complex practice (control knowledge about the name, their concentration and also non-availability of the required chemicals).

Overall Adoption Level of Dryfarm Practices by Groundnut Farmers

A cursory glance at Table 2 reveals that 34 per cent of the groundnut farmers fall under medium overall adoption level of dryfarm practices, while an almost equal number (33 per cent) of the farmers belong to low and high overall adoption levels. There is no wide difference between the different overall adoption levels.

Relationship Between the Adoption Level and Personal and Socio-psychological Characteristics of Groundnut Farmers.

Out of seven independent variables only two variables namely, mass media use and extension participation were found to have significant relationship with the adoption level of Dryfarm practices.

It is natural that mass media like radio, television, newspaper, farm magazines etc., carry more information on improved dryfarm technologies of groundnut cultivation. Farmers when exposed adequately to mass media will be influenced by it and adopt the same on their fields. The findings of the study is in conformity with the findings of Nagaraj (1996).

Increased participation of farmers in extension activities like training, demonstrations, discussion, field day, krishi melas etc., will make them more confident about the technology, and it will have direct effect on the farmers decision to adopt the technology. Findings of Reddy (1991) is in agreement with the present finding.

CONCLUSION

The crucial practices in groundnut cultivation like optimum doses of fertilizers and its application, plant protection measures, seed treatment with chemicals, gypsum application and some of the important soil and water conservation practices like opening dead furrows, construction of small section bunds, land smoothing and leveling, and use of seed-cum-fertilizer drill were found to be less adopted by the farmers. In this direction, extension efforts should be made to educate the farmers and also to provide necessary supply and services so as to increase the adoption level of farmers.

Training programmes, demonstrations to teach skills on complex practices like seed treatment, and application of fertilizer and gypsum, needs to be organized by the extension agencies.

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