



FACTORS INFLUENCING THE KNOWLEDGE AND ADOPTION OF LAND RECLAMATION PRACTICES AMONG THE FARMERS OF MALAPRABHA COMMAND AREA

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ABSTRACT

The problem of over irrigation for high water consuming crops in the upstream resulting in emergence of water logging and salinization in the downstream of the low lying areas in early stages and subsequently spread to adjoining elevated lands. These problems have not only threaten the sustainability of irrigated agriculture but also have far reaching socio-economic ill-effects both for the farmers and the society at large. The present investigation was under taken in Belgaum and Gadag districts of Malaprabha command area of Karnataka where highest area is under problematic soils, viz. saline and waterlogged. A significant relationship was found between education and knowledge level of respondents at 5 per cent probability, indicating that higher the education more will be the possession of knowledge regarding land reclamation practices. However a significant relationship was found between mass media exposure and knowledge level of respondents at one per cent of probability, indicating that higher the mass media exposure more will be the possession of knowledge regarding land reclamation practices. While the association between knowledge and extent of adoption about land reclamation practices was highly significant.

KEYWORDS: Malaprabha Command Area, land reclamation, saline soil.

INTRODUCTION

Massive irrigation infrastructure facilitated spectacular changes in Indian agriculture. Some of these changes are desirable, while others are undesirable. It is desirable because it richly contributed to commercialization of agriculture. Large-scale irrigation coupled with introduction of high yielding varieties and fertilizers (HYVs) in the mid 1960s led to "green revolution" which paid rich dividends in terms of food production and brought many-fold increase in agricultural production. This enabled the country to achieve self-sufficiency in food grain production as about 55 per cent of the total agricultural production is contributed by irrigated land. The intensive agriculture accompanied by subsidies on crucial inputs like irrigation, electricity, fertilizer and a support price policy stimulated 'the farmers to adopt new technologies without much consideration on long-term implications of exploitative processes at the aggregate level. In the absence of adequate drainage and other management practices inevitably resulted in disturbance to the groundwater balance that existed prior to irrigation. Because of seepage from water conveyance systems and deep percolation losses from farms during irrigation, the rate of recharge to the groundwater increased resulting in the progressive rise of the water table which when unchecked led to water logging in the irrigated commands. Rising water table brought salts to the surface causing secondary salinization. These problems are evident in most of the irrigated commands causing severe negative externalities. Effect of this on agricultural production is dramatic hampering not only the productivity and food security but also the soil health and bio-diversity. This prediction is directly attributed to the problem of over

irrigation for high water consuming crops in the upstream resulting in emergence of water logging and salinization in the downstream of the low lying areas in the early stages and subsequently spread to adjoining elevated lands. These problems have not only threaten the sustainability of irrigated (umali, 1993) agriculture but also have far reaching socio-economic ill-effects both for the farmers and the society at large.

Water related degraded soils differ considerably in distribution. Among the states, the highest area affected by salinity were Uttar Pradesh (11.51 lakh Ha) followed by Gujarat (9.11 lakh Ha), Punjab (4.90 lakh Ha) and Bihar (2.24 lakh Ha). As far as the water logging problem is concerned, Bihar is severely affected followed by Uttar Pradesh, Andhra Pradesh and Haryana, which have canal systems as the major source of irrigation.

However, Karnataka is no exception as the canal command areas of its irrigation projects are afflicted by the problems of water logging and salinity, the affected area in Malaprabha Project was identified as 8,999.52 Ha of which, 1149.59 Ha is saline and 7849.93 Ha is water logged. Although degradation problem is not that serious in Karnataka, compared to other states nevertheless, the situation does not provide for complacency. The problem is very specific to vertisols in various irrigation project areas. In India vertisols occupy about 7.3 million hectares out of which Karnataka accounts for 31 per cent. However of late, accumulation of salts in these soils owing to over use of canal water for irrigation has rendered them degraded and this has become an obstacle in realizing potential productivity. With this background, The present investigation was under taken in Belgaum and Gadag districts of Malaprabha command area of Karnataka to

study the factors influencing the knowledge and adoption of land reclamation practices among the Farmers of command area.

METHODOLOGY

The present investigation was under taken in Belgaum and Gadag districts of Malaprabha command area of Karnataka where highest area is under problematic soils, viz. saline and waterlogged. Three taluks namely Naragund, Ramdurg and Saundatti were purposively selected based on highest area under problematic soils. The same procedure was adopted for selection of three villages from each taluka. In each selected village 15 farmers were selected by simple random sampling. Thus, 135 farmers formed the sample for the study. Keeping in view the objectives and the variables selected for the study, a structured interview schedule was developed. The interview scheduled was pre-tested in non-sample area for

its practicality and relevancy. Based on the discussions with soil science experts, the interview schedule was modified wherever necessary and finalized. Using the final schedule, the respondents were interviewed individually and required data were collected.

RESULTS AND DISCUSSION

Relationship between knowledge and independent variables

The study revealed that mass media participation and education were found to be significantly associated with knowledge of land reclamation practices at 1 per cent level of probability (table 1). Whereas, other characteristics namely age, land holding, cropping pattern, organizational participation and training were found to be non-significantly associated with knowledge of land reclamation practices.

TABLE 1. Relationship between knowledge and independent variables

n=135		
Sl. No.	Variables	Correlation coefficient (r- value)
1	Age	0.031
2	Education	0.202*
3	Land holding	0.059
4	Mass media participation	0.321**
5	Cropping pattern	0.083
6	Extension contact	0.156
7	Organizational participation	0.034
8	Training	0.085

* Significant at 0.5 per cent

** Significant at 1 per cent

TABLE 2. Relationship between adoption of land reclamation practices and independent variables

N=135		
Sl. No.	Variables	Correlation coefficient (r- value)
1	Age	0.021
2	Education	0.211*
3	Land holding	0.105
4	Mass media participation	0.015
5	Cropping pattern	0.097
6	Extension contact	0.062
7	Organizational participation	0.001
8	Training	0.165

* Significant at 0.5 per cent

Education and knowledge

A significant relationship was found between education and knowledge level of respondents at 5 per cent of probability, indicating that higher the education more will be the possession of knowledge regarding land reclamation practices. Education is the production of desirable changes in human behavior. It helps the individual to go in for the right direction. It is relevant to quote that attitude change is partly a function of education by creating awareness about new technology among the farmers. Hence, those respondents who had high level of education exhibited higher knowledge. This finding is in conformity with the findings of Kanavi (2000) and Sheshrawat (2001).

Mass-media exposure and knowledge

A significant relationship was found between mass media exposure and knowledge level of respondents at 1 per cent of probability, indicating that higher the mass media exposure more will be the possession of knowledge regarding land reclamation practices. Mass media are the proven channels for quick dissemination of topical information to a widely dispersed and large number of people in a shorter period. Mass media contact enhances the ability of farmers to get more information about a technology or innovation and in turn widens the mental horizon of the farmers to accept and adopt the practices. In the present study majority of the respondents possessed mass media channels like television (80%) and radio (72%) helping the respondents to gain information. In addition, the respondents did use the mass media channels

mainly television and radio installed at community level also. The discussion followed after listening/viewing the programmes, have contributed to a greater extent in creating awareness regarding the land reclamation practices. Hence, those members who had higher exposure to mass media exhibited higher knowledge. The findings are in conformity with the results of Vipinkumar (2000) and Ranganathababu (2001).

Relationship between Adoption of Land Reclamation Practices and Independent Variables

Table 2 indicated that education was found to be significantly associated with adoption of saline and waterlogged soils reclamation practices at 5 per cent level of probability. Whereas, other characteristics namely age, land holding, mass media participation, cropping pattern, extension contact, organizational participation and training were found to be non-significantly associated with adoption of reclamation Practices of saline and

waterlogged soils. The findings of the study are in accordance with the findings of Farooqui *et al.*, (1993) Umamaheshwar and Singh, (1997).

Association between Knowledge and Adoption of Land Reclamation Practices

Analysis of data pertaining to the association between knowledge and extent of adoption about land reclamation practices detailed in table 3 revealed that, there was highly significant association between knowledge and extent of adoption. Majority (43) of farmers having low knowledge about land reclamation practices were observed under low adoption category. More than half the number (27) of farmers having medium knowledge, belonged to low adoption category. Nearly half the number of farmers having high knowledge, belonged to low adoption category and very few farmers (11) belonged to high adoption category.

TABLE 3. Association between knowledge and adoption of land reclamation practice
n=135

K/A	Adoption			Total
	Low	Medium	High	
Low	43	22	2	67
Medium	27	20	4	51
High	8	4	5	17
Total	78	46	11	135

X² - 13.63**

** - Significant At 1 Per Cent

CONCLUSION

The central and state governments have been initiating special measures to ameliorate the degraded soils with huge investments. However, there is a need to evaluate whether these investments are really rewarding. This calls for planned and careful assessment of such proposals. These measures by the governments for reclamation of problematic soils have been focusing mainly on on-farm land development, construction of field drainage channels, prevention of seepage through canal lining, promoting conjunctive use of groundwater to check rise in groundwater table. Such efforts need to be evaluated from time to time to determine whether investment decisions on such reclamation programmes are rational and economically viable.

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