

Association Between Selected Characteristics of the Farmers and Their Adoption of Management Practices of Drip Irrigation System

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ABSTRACT

The main idea behind this investigation is to study and describe the adoption of drip irrigation system by the farmers of NAIP jurisdiction of Banaskantha district of Gujarat. Age, education, size of family, family education and annual income had positive and non significant association with their extent of adoption of drip irrigation system. Whereas, cropping intensity, area under drip irrigation, extension contact and risk orientation had positive and significant association with their extent of adoption of drip irrigation system. Land holding had negative but significant association with their extent of adoption of drip irrigation system.

Keywords : Drip irrigation, Adoption, Management practices

INTRODUCTION

In 21st century, as we engage in perhaps one of the greatest challenge of our times to meet imperative of increasing agricultural production in a sustainable way, we are more actually aware than ever before that all of us are the members of the vast common wealth of nature and as we continue our search for paths to human progress that meet the needs and aspirations of the present generation without compromising the ability of future generations to meet their needs.

Irrigation has played a decisive role in India to available increased agricultural production. The success of agriculture is extricable linked with development of irrigation since rainfall is concentrated essentially only in four months of the year and irrigation facilities are critical to cultivate more than one crop in year.

Drip irrigation is an effective and efficient method of providing water directly to the root zone of plant. Drip irrigation represents one of the fastest expanding technologies in modern irrigation agriculture. Water is applied at low rate under pressure to keep soil moisture within the desired range for plant growth. This system saves 40.00 to 70.00 per

cent of irrigation water. A well drip irrigation system also promotes the efficient use of fertilizer, pesticides and other water soluble chemicals along with irrigation water. Research studies conducted worldwide have shown that this method leads not only to appreciable water saving, but also achieving high crop yield as compared to surface irrigation methods. This system is adaptable to most of the crops, under most of the soils and particularly suited to soil under condition of water scarcity. Crops like sugarcane, fruits, vegetables, oilseeds and cotton are ideally suited crops for drip irrigation.

METHODOLOGY

The present study was undertaken in Banaskantha district of North Gujarat purposively as the district rank first in the state so far area under drip irrigation is concerned. Two talukas viz., Danta and Amirgadh were selected purposively because both the talukas are covered under NAIP-III. Three villages were selected purposively from each taluka as are covered under National Agriculture Innovation Project. Thus, total six villages were purposively selected. From each selected village, 20 farmers were selected randomly making a sample of 120 respondents.

RESULTS AND DISCUSSION

Table 1 : Association between the selected characteristics of the farmers and their extent of adoption drip irrigation system n = 120

Sr. No.	Independent variables	Correlation co-efficient ('r' value)
X1	Age	0.00879NS
X2	Education	0.08415NS
X3	Size of family	0.00730NS
X4	Land holding	-0.28432**
X5	Family education	0.09091NS
X6	Annual income	0.00847NS
X7	Cropping intensity	0.21341*
X8	Area under drip irrigation	0.29629**
X9	Extension contact	0.20951*
X10	Risk orientation	0.22468**

* = Significant at 0.05 level of probability

** = Significant at 0.01 level of probability, and

NS = Non Significant.

Personal Characteristics

Age

The data presented in Table 1 clearly indicate that the age of the farmers had positive and non-significant association with their extent of adoption of drip irrigation system. The probable reason might be that the rate of adoption is less among the old aged individual than young one.

Education

The data presented in Table 1 clearly indicate that the Education of the farmers had positive and non-significant association with their extent of adoption of drip irrigation system. Thus, it can be concluded that adoption is independent of education. The probable reason for non-significant association may be that majority of the farmers were either illiterate or had primary education.

Socio-economic characteristics

Size of family

The data presented in Table 1 show that the size of family of the farmers was found having positive and non-significant association with their extent of adoption of drip irrigation system. The probable reason of non-significant relationship can be attributed to the reason that majority of the farmers were belonged to medium size of family with the size of 5 to 7 members.

Land holding

It can be seen from the data presented in Table 1 that there was highly significant but negative association between land holding of the farmers and their extent of adoption of drip irrigation system. The probable reason for significant but negative association that a small farmer has to invest less amount for installing drip in their small land.

Family education

The data presented in Table 1 clearly indicate that the family education of the farmers had found positive and non-significant association with their extent of adoption of drip irrigation system. The probable reason for non-significant association may be that generally, the most of the farmers decision about installation of drip irrigation system is being taken only by husband and there is no role of other family members.

Annual income

The data presented in Table 1 portray that the annual income of the farmers had positive and non-significant association with their extent of adoption of drip irrigation system. The probable reason for having non-significant association may be due to reason that Government of Gujarat is giving 90.00 per cent subsidy to the tribal farmers for installation of drip system and hence farmers have to bear little amount.

Cropping intensity

The data presented in Table 1 show that there was positive and significant association between cropping intensity of the farmers and their extent of adoption of drip irrigation system. Thus, it can be concluded that there is positive and significant association between cropping intensity and extent of adoption. The probable reason might be that more intensity of land use and increase in area under different crop could be possible after the adoption of drip irrigation system by the drip owners of Banaskantha district. These facts might have resulted in such type of relationship between these two attributes.

Area under drip irrigation

The data presented in Table 1 clearly indicated that there was positive and highly significant association between area under drip irrigation of the farmers and their extent of adoption of drip irrigation system. The probable reason might be that recently government have approved the different subsidy scheme for the farmers to adopt the drip irrigation

system as the drip irrigation system is new, beneficial and advanced technology. So drip owners were involving with this technology. That might be the probable reason behind significant relationship between area under drip irrigation system and extent of adoption. The

Communication characteristics

Extension contact and extent of adoption : The data presented in Table 1 clearly mention that there was positive and significant association between extension contact of the farmers and their extent of adoption of drip irrigation system. The probable reason for positive and highly significant association between extension contact and extent of adoption may be due to interaction between extensions personnel and NAIP personnel with the farmers.

Psychological characteristics

Risk orientation and extent of adoption

The data presented in Table 1 show that there was positive and highly significant association between risk orientation of the farmers and their extent of adoption of drip irrigation system. The probable reason may be due to the fact that adoption of any innovation involves risk. The farmers who are risk oriented are likely to adopt the innovation to a greater extent without any hesitation. It resulted into the significant relationship between risk orientation and extent of adoption of drip irrigation system.

CONCLUSION

The five independent variables viz., age, education, size of family, family education and annual income had non-significant association with extent of adoption of drip irrigation system. The variables viz., cropping intensity, area under drip irrigation system, extension contact and risk orientation of the farmers had positive and significant association with their extent of adoption of drip irrigation system. Land holding was found to have negative but significant correlation with the extent of adoption of drip irrigation system.

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