



Research Article

ASSOCIATION BETWEEN SELECTED ATTRIBUTES OF DRIP OWNERS WITH THEIR KNOWLEDGE LEVEL

SHAIK MAHAMMAD SHAFI RUPANAGUDI¹, MISTRY J.J.², KHANDAVE SWATI³ AND THAKOR NIKITA G.⁴

^{1,2,4}Department of Extension Education, C. P. Collage of Agriculture, Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar, Gujarat, 385506

³College of Agriculture, Pune, 411005, Mahatma Phule Krishi Vidyapeeth, Rahuri, Ahmednagar, Maharashtra 413722

*Corresponding Author: Email-shafiagri23@gmail.com

Received: February 21, 2018; Revised: March 06, 2018; Accepted: March 07, 2018; Published: March 15, 2018

Abstract- The study was conducted to explore the association between selected attributes of the drip owners and their knowledge level regarding drip irrigation management practices. Data were collected through personal interview during the year 2017 from purposively selected of Aravalli districts of Gujarat with the sample size of 150 respondents. The results of correlation analysis clearly indicated that the independent variables namely age, education, social participation and irrigation intensity had positive and significant association with knowledge level of drip owners.

Keywords- Association, drip irrigation system (DIS), knowledge level.

Citation: Shaik Mohammad Shafi Rupanagudi, *et al.*, (2018) Association between Selected Attributes of Drip Owners with their Knowledge level. International Journal of Agriculture Sciences, ISSN: 0975-3710 & E-ISSN: 0975-9107, Volume 10, Issue 5, pp.-5309-5310.

Copyright: Copyright©2018 Shaik Mohammad Shafi Rupanagudi, *et al.*, This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

Introduction

Agriculture forms the main base for Indian socio-economic development. Its development towards modernization has been observed since couple of decades. However, the agricultural production and productivity are yet to be boosted to meet the need in respect to the crop commodities viz., oilseeds, pulses, fibers, fruits and vegetables [1]. Water is a major natural resource and limiting factor in agriculture production. Therefore, it is necessary to adopt water management practices very carefully. The regularized and controlled irrigation increases crop production, reduce water cost, conserves soil, covers more area under irrigation and brings prosperity at home. Generally, farmers look for a method of irrigation, which is most efficient with less water, labour, fertilizer and power requirements. Among the irrigation methods the drip irrigation system is the advanced method of irrigation to overcome the various problems of water losses and other problems such as labour, money and water management. In India 33 per cent (83million ha) area is under irrigation out of the total cropped area (237 million ha) [4]. Drip irrigation system promotes the judicious utilization 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. Thus, the present study entitled "association between selected attributes of drip owners with their knowledge level" was conducted with the following objectives.

1. To know the knowledge level of drip owners towards drip irrigation management practices
2. To study association between selected attributes of drip owners and their knowledge level regarding drip irrigation management practices

Methodology

The study was conducted in purposively selected Aravalli district of Gujarat state in 2017. The district has of six talukas, out of these, Bhiloda, Dhansura, and Bayad talukas were selected randomly. From the selected talukas, five villages

were selected on the basis of more number of drip owners. Thus, total 15 villages having more number of drip owners were selected. A list of farmers who installed drip irrigation system on their farm was prepared from each selected village [6]. Ten respondents from each village were selected by using random sampling techniques making a sample of 150 drip owners. The data were collected from the selected drip owners with the help of carefully constructed structured and pre-tested interview schedule. For measurement of the knowledge level of the drip irrigation owners regarding drip irrigation practices, a knowledge quotient developed by Mayani and Kumar (1980) [2], was used with due modification. The correlation coefficient was calculated to know the association between selected attributes of drip owners and their knowledge level regarding drip irrigation management practices.

Results and Discussion

Knowledge level of drip owners towards drip irrigation management practices

The information regarding knowledge level was collected from drip owners and is presented in [Table-1].

Table-1 knowledge level of drip owners towards drip irrigation management practices (n=150)

Category	Frequency	Per cent
Low(Up to 20.99 score)	33	22.00
Medium(Between 20.99-25.30 score)	90	60.00
High (Above 25.30 score)	27	18.00
Total	150	100.00
$\bar{X} = 34.09$		S. D. = 5.07

[Table-1] clearly depict that majority of the drip owners (60.00 per cent) possessed medium level of knowledge, followed by 22.00 per cent and 18.00 per cent of drip owners possessed low and high-level of knowledge regarding drip irrigation management practices, respectively.

Hence, it can be concluded that majority of drip owners possessed medium level of knowledge regarding drip irrigation management practices.

Association between selected attributes of drip owners and their knowledge level

The information regarding association between selected attributes and knowledge level of drip owners is presented in [Table-2]

Table-2 Association between selected attributes of drip owners and their knowledge level ($n = 150$).

Sr.No	Independent variables		Correlation coefficient ('r')
I	Personal variables		
1	Age		0.1939*
2	Education		0.1981*
3	Social participation		0.1716*
II	Agro economic variables		
1	Area under DIS		0.1049 ^{NS}
2	Irrigation potentiality		0.0868 ^{NS}
3	Cropping intensity		0.2249**
4	Annual income		0.0834 ^{NS}
III	Psychological variables		
1	Economic motivation		0.0583 ^{NS}
2	Attitude towards DIS		0.0302 ^{NS}
IV	Communication variable		
1	Extension contact		0.0075 ^{NS}

** = Significant at 1% level * = Significant at 5% level NS = Not significant

Personal variables

The data in [Table-2] revealed that age of drip owners had positive and significant association with the knowledge level of drip owners. The probable reason may be that experienced farmers were having more knowledge about drip irrigation system. Whereas the level of education of drip owners had positive and significant correlation with the knowledge level of drip owners. The reason may be that the educated drip owners would generally have the broader out look towards the drip irrigation practices. While social participation of the drip owners had positive and significant association with knowledge level. The probable reason may be that participation in various organizations motivated the drip owners and enhanced their knowledge about drip irrigation practices.

Agro economic variables

It is observed from the [Table-2] that area under drip irrigation system of drip owners had positive but not significant association with knowledge level. It implies that area under DIS did not play any role in the knowledge level of drip owners. While irrigation potentiality had positive and significant association with the knowledge level of drip owners. The cropping intensity of the drip owners had positive and highly significant association with knowledge level of drip owners. The probable reason might be that more intensity of land use and increase in area under different crops could be resulted to increase knowledge level of drip owners after the adoption of drip irrigation system. While annual income of drip owners and their knowledge level had positive and not significant association.

Psychological variables

The results from [Table-2] indicated that economic motivation had positive and not significant association with knowledge level of drip owners. Economic motivation did not influence knowledge level of drip owners. Whereas attitude had positive and not significant association with the knowledge level of drip owners.

Communication variable

The data from the [Table-2] indicated that extension contact had positive and not significant association with knowledge level of drip owners. The probable reason might be that farmers contacted the extension personal only when problem

occurred. So, the knowledge of drip owners did not increase to the satisfactory level.

Conclusion

Most of the drip owners were having medium level of knowledge. It was observed that among the 10 variables 4 variables namely age, education, social participation and cropping intensity were found to be positively and significantly associated with knowledge level of drip owners. These variables are essential in making the farmers to get more knowledge about drip irrigation management practices. While area under DIS, irrigation potentiality, annual income, economic motivation, attitude towards DIS and extension contact were found to be not significant with knowledge level. Therefore, need to be taken to increase the area under DIS, irrigation potentiality, annual income, economic motivation, attitude towards DIS and extension contact in order to achieve higher knowledge regarding drip irrigation system by providing special training programs, demonstrations, seminar, workshop and visit should be organized by the extension agency and state.

Application of research: Similar investigations may be made for other improved irrigation methods like sprinkler irrigation. A study on cost-benefit analysis of the drip irrigation system can also be undertaken.

Research Category: Drip irrigation and association

Abbreviations: DIS: drip irrigation system

Acknowledgement / Funding: Authors are thankful to Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar, Gujarat, 385506

*Major Advisor: Dr Janak J. Mistry

University: Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar, Gujarat, 385506

Research project name or number: M. Sc. Thesis, Socio economic impact of drip irrigation systems among the farmers of Aravali district

Author Contributions: All author equally contributed

Author statement: All authors read, reviewed, agree and approved the final manuscript

Conflict of Interest: None declared

Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.

References

- [1] Akshaya G. and Kishan S. (2013) *Indian Journal of Extension Education & Research Development.*, 21, 26-29.
- [2] Mayani V. V. and Kumar K. (1980) *Gujarat Agricultural Research Journal.*, 2, 25-30.
- [3] Shashidara K. K., Bheemappa A., Hevenkanagoudar L.V. and Shashidhar K.C. (2007) *Karnataka Journal Agricultural Sciences*, 20, 79 – 81.
- [4] Suthar K. D. (2010) *Socio-economic impact of drip irrigation system among the farmers of Sabarkantha district of Gujarat State. M.Sc. (Agri.) Thesis (Unpublished).* Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar.
- [5] Vermani S., K. Jatesh, Deep Punia and Rashmi (2014) *Journal of Cotton Research and Development.*, 28(1), 154-160.
- [6] <http://www.ggrc.co.in>
- [7] <http://www.gujaratindia.com>.