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Perceived effectiveness of drip irrigation system on turmeric growers of Hingoli district

Gore Shreyash Umesh, DD Suradkar and PG Jambhule

Abstract
The present study was undertaken in the Kalamnuri and Vasmat tehsils of Hingoli district in Maharastra's Marathwada region, with the goal of determining perceived effectiveness of drip irrigation system on turmeric growers. From each selected tehsil six villages were selected randomly, thus total 120 respondents were selected randomly from 12 villages, ten respondents from each village. This study used an ex-post-facto medium research design.

The majority of respondents had medium farming experience (68.33%), primary level of education (32.50%), semi-medium land holding (40.00%), medium annual income (68.33%), high social participation (45.00%), medium extension contact (65.83%), using medium sources of information (51.66%), medium risk orientation (55.00%) and medium market orientation (58.34%).

According to findings, the majority of respondents (45.83%) belonged to high perceived effectiveness category while, (32.50%) from medium perceived effect- iveness category and only (21.66%) respondents belonged to low perceived effectiveness category.

Independent variables like farming experience, education, risk orientation discovered to be positive and significant relationship with perceived effectiveness of drip irrigation system on turmeric growers. Variables like land holding, annual income, social participation, extension contact, sources of information, market orientation had found positive and highly significant relationship with perceived effectiveness of drip irrigation system.

Regarding multiple regression analysis selected independent variables of perceived effectiveness of drip irrigation system on turmeric growers found to the extent of (43.66%)

The major problems faced by the respondents of Hingoli district was drip irrigation system is not suitable in undulated topography (86.66%), while (69.16%) respondents reported, a small amount of Government subsidy available for drip irrigation system, whereas (54.16%) of the respondents reported information about various schemes is not available regarding the availability of drip irrigation system.

Foremost part majority of the respondents (84.16%) suggested to various spare parts of drip irrigation system should be made available at taluka level, while (74.16%) of respondents suggested to grants and loans should be provided by the government for the purchase of the drip irrigation system set.

Keywords: Perceived, effectiveness, turmeric, growers, drip irrigation system

Introduction
India is said to as the "spice bowl of the world" due to the variety of high-quality spices it produces. Since ancient times, India has been renowned for its cultivation of spices. The Vedas contain descriptions of the qualities of several spices dating back to 6000 BC. India has a long history of trading agricultural products, particularly cotton and spices, ever since the discovery of maritime routes.

Turmeric is regarded as a nourishing and warming herb for the entire body in the Indian Ayurvedic medical system. In India, it has been used for centuries to treat a variety of ailments, including better digestion, better intestinal micro flora, worm removal, gas relief, liver and gallbladder cleansing and strengthening, normalisation of menstruation, relief from arthritis and swelling, blood purification, local application on burns, cuts, bruises, insect bites, and itches, soothing action in cough and asthma, and as an antacid.

India is the largest producer and consumer of turmeric in the world and has the largest share in world exports. Top export destinations of Indian turmeric are U.A.E., Bangladesh, Malaysia, Iran, UK and USA.

India produced 10.64 lakh tonnes of turmeric in an area of 2.91 lakh ha with a productivity of 3656 kg/ha during 2020-21 (3rd Advance estimates, agricoop.nic.in).

Maharashtra state in India ranks sixth in area under turmeric cultivation. The area under crop was 11000 ha with a production of 45000 t and productivity of 4.09 t/ha during 2015-16.

(source-https://www.ijcmas.com.)

The lockdown effect and need for social distancing in wholesale markets in Maharashtra has led farmers to move on the electronic National Agriculture Market (eNAM) platform. The platform has shown trade of over ₹.16 crore, a significant increase in pandemic condition. (source-https://indian express.com/article/cities/pune/ maharashtra-farmers-move-to-enam-turmeric-sees-significant-increase-in-trade/.)

In Maharashtra the Hingoli district has a huge area for turmeric cultivation. Vasmat and Aundha tehsil of Hingoli district has major area under turmeric cultivation. These areas are come under Marathwada region where water scarcity is the major problem, region receives an annual average rainfall of 800-900 mm, so application of drip irrigation is how much useful to turmeric crop its constraints, benefits is need to understand. (source-https://www.ijcmas.com.)

The present study aims to undertake a detailed analysis of the Perceived Effectiveness of the drip irrigation system as on the turmeric growers in Hingoli district.

Methodology

The present study was undertaken in purposively selected Hingoli district of Marathwada region of Maharashtra**.** From these district two talukas were selected purposively i.e. Vasmat and Kalamnuri to get number of respondents easily because these talukas have sufficient number of turmeric growers for research. Six villages were selected randomly from each tehsil to study. A list of turmeric growers from the selected villages was prepared randomly by using simple random sampling method to constitute sample size of 120 respondents. An interview schedule was prepared in view of the objectives of the study and data were collected by personal interview of the selected respondents.

Results and Discussion

Table 1: Distribution of respondents according to their perceived effectiveness of drip irrigation system on turmeric growers.

(N=120)

SL. No.	Category	Frequency	Percentage
1.	Low (up to 27)	26	21.66
2.	Medium (between 28 to 30)	39	32.50
3.	High (30 & above)	55	45.84
	Total	120	100.00

Table 1 revealed that nearly 45.84 percent belonged to high perceived effectiveness category, while 32.50 percent from medium perceived effectiveness category and only 21.66 percent respondents belonged to low perceived effectiveness category.

Similar findings were noticed by Lawankar (2019) [4]

Table 2: Distribution of respondents according to personal characteristics of turmeric growers with the perceived effectiveness of drip irrigation system

SL. No.	Independent variables	Coefficient of correlation (c)
1	Farming experience	0.213*
2	Education	0.244*
3	Land holding	0.368**
4	Annual income	0.346**
5	Social participation	0.419**
6	Extension contact	0.415**
7	Sources of information	0.335**
8	Risk orientation	0.217*
9	Market orientation	0.333**

** Significant at 0.01 percent level.

* Significant at 0.05 percent level.

It was observed from the table 2 that out of nine independent variable result of correlation (r) showed that the independent variables namely farming experience, education and risk orientation are positively significant relationship with the perceived effectiveness of drip irrigation system and independent variables land holding, annual income, social participation, extension contact, sources of information and market orientation showed that positively and highly significant relationship with perceived effectiveness of drip irrigation system.

Table 3: Distribution of respondents according to perceived effectiveness of drip irrigation system on the turmeric growers.

(N = 120)

SL. No.	Advantages of drip irrigation system under turmeric crop	Very useful	Percent	Useful	Percent	Not useful	Percent
1.	Awareness about the use of drip irrigation system in turmeric crop.	74	61.66	46	38.33	0	0
2.	Application of drip irrigation system in turmeric crop useful.	73	60.83	47	39.16	0	0
3.	Drip irrigation system in saving water.	72	60.00	17	40.00	0	0
4.	Fertilizer application done properly.	49	40.83	71	59.16	0	0
5.	Beneficial in controlling weed.	60	50.00	60	50.00	0	0
6.	Controlling soil salinity problem.	61	50.83	59	49.16	0	0
7.	The employment cost can be minimized.	38	31.66	65	54.16	17	14.16
8.	Drip irrigation system useful in saving time.	61	50.83	59	49.16	0	0
9.	Maintaining plant population.	46	38.33	74	61.66	0	0
10.	Drip irrigation system effective in drought situation.	72	60.00	48	40.00	0	0
11.	Minimizes evaporation.	48	40.00	72	60.0	0	0
12.	Skillful labor required while application.	53	44.16	67	55.83	0	0
13.	The air circulates well around the roots.	72	60.00	48	40.00	0	0

14.	Increases germination capacity.	71	59.16	49	40.83	0	0
15.	The distance between rows and trees remain correct.	69	57.50	51	42.50	0	0
16.	Useful in undulated topography.	50	41.66	70	58.33	0	0
17.	Knowledge is required for handling.	60	50.00	60	50.00	0	0
18.	Easy for application.	67	55.83	53	44.16	0	0
19.	Increase in production.	82	68.33	38	31.66	0	0
20.	Subsidy for drip irrigation.	79	65.83	41	34.16	0	0

Conclusion

As regard the profile of turmeric growers with the use of drip irrigation system, it was observed that majority of the respondents were having medium farming experience 68.33 percent with an education as primary school level education 32.50 percent, while 40.00 percent of the respondents were possessing semi medium size of land holding. Further, it could be concluded that majority of the respondents were from medium annual income group 68.33 percent. Further, it could be concluded that majority of the respondents were from medium extension contact 65.83 percent, Most of the respondents were in the high sources of information 51.66 percent, 55.00 percent and 58.33 percent of the respondents were in medium risk orientation and high market orientation, respectively.

It can be concluded from the above table that majority of the turmeric growers had high level of perceived effectiveness of drip irrigation system the rational analysis of selected characteristics showed that farming experience, education, land holding, annual income, social participation, extension contact, sources of information, risk orientation, market orientation influenced the perceived effectiveness of drip irrigation system on turmeric growers.

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