Attitude of Onion Growers Towards Drip Irrigation System in Tamil Nadu, India

ABSTRACT

Drip irrigation is the technique capable of ensuring more effective water usage in modifying agricultural conditions worldwide and shifts towards precise farming. Drip irrigation is an accurate as slow distribution of water in the form of subtle continuous drops injected into the crops underground root area through mechanical instruments known as 'emitters'. Singh (1995). This study investigates the attitude of Onion growing farmers towards drip irrigation system. The survey was conducted to collect primary data from 119 cotton growing farmers in Thondamuthur block of Coimbatore district. Findings reveal that less than three-fifths (57.14%) of the respondents expressed favourable attitude level towards drip irrigation system followed by 21.85 per cent had favourable and 21.01 per cent of the respondents had un-favourable attitude level towards drip irrigation system respectively. This study recommends the implementation of an extensive agricultural institution with more prevalent and periodic visits to drip owners should be established in order to provide regular technical advice and valuable data on the maintenance and repair of the drip irrigation scheme. Such initiatives could enhance the livelihood status of the Onion growing farmers in Tamil Nadu.

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Commented [MB2]: Why the data has been collected from cotton growers, when the research is related to onion growers.

Commented [MB3]: In results and discussion section you have mentioned that 57.14 respondents expressed Neutral Attitude level, while here in Abstract it is mentioned as Favourable Attitude. Please Correct.

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1. INTRODUCTION

Water is by far the most valuable renewable resource, essential to farm and to meet the everyday activities of the people. (Kumar, 2013). The already available 'water' resource is depleted by intensive agriculture and an increase in the population. This really is a difficult scenario and therefore it takes time to preserve the ' water ' and make effective use of it because ' water ' is essential for all living organisms for their survival. Water is obligatory for divergent intents viz., agriculture, industry, domestic use, energy sector etc., Singh (2010). The demand for Onion is worldwide and it is not restricted to a specific region or nationality. China positions first in Onion production in the world, while India positions second. The small Onion is the most common type of Onion cultivated in Tamil Nadu and it is commonly propagated through bulbs. Onion is a water sensitive crop and requires water supply at frequent intervals. The farm should be irrigated in alternate days not allowing the soil to get dried out. Drip irrigation is highly suitable for Onion production as the water is directly supplied to the root zone of the crop as and when required. In line with this background, this paper deals with the main objective on the attitude of Onion growers towards drip irrigation system.

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https://worldstatistics.net/biggest-onion-producer-in-the-world/
https://en.wikipedia.org/wiki/List_of_largest_producing_countries_of_agricultural_commodities
https://www.atlasbig.com/en-us/countries-onion-production

2. REVIEW OF LITERATURE

Desai (1997) inferred that exactly two-thirds (66.86%) of the farmers possessed moderately favourable level of attitude towards drip irrigation system, trailed by 18.28 per cent respondents possessed less favourable level of attitude. Whereas, 14.86 per cent of them had highly favourable level of attitude towards drip irrigation system.

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Singh (2010) stated that more than three-fifths (62.50%) of the respondents belonged to the category of favourable attitude towards drip irrigation system while 19.17 per cent explicated most favourable attitude. Whereas, 18.33 per cent of the respondents belonged to the least favourable attitude towards drip irrigation system.

Ojha (2015) revealed that exactly three-fifths (60.00%) had medium level of attitude, followed by 30.00 per cent of the respondents had high level of attitude and 10.00 per cent had less level of attitude towards drip irrigation.

Patidar (2015) depicted that more than two-fifths (41.67%) confronted partial favourable attitude towards drip irrigation system followed by favourable attitude by 30.83 per cent and unfavourable attitude by 27.50 per cent of vegetable growers towards drip irrigation system respectively.

Patel et al. (2016) enacted that vast majority (92.00%) of the respondents possessed moderately favourable attitude regarding drip irrigation system while only a meagre of 8.00 per cent of the farmers possessed low favourable attitude.

Misra (2018) revealed in his study more than three-fifths (66.67%) of the beneficiaries had neutral attitude followed by less than one-fourth (20.00%) of the beneficiaries had favourable attitude and more than one-tenth (13.33%) of the respondents had unfavourable attitude towards drip irrigation system.

3. MATERIALS AND METHODS

The study was conducted in the Thondamuthur block of Coimbatore district, Tamil Nadu. Coimbatore ranks first in the productivity of small Onion in Tamil Nadu. Horticultural crops are predominantly grown in the Thondamuthur block, among which small Onion tops the table with high productivity. The study was conducted in five villages of the block, with maximum production viz., Devarayapuram, Ikkarai Boluvampatti, Narasipuram, Vellimalaipattinam and Pooluvampatti. The ex-post facto research design was used in the study. A sample size of 119

was selected as total, from two per cent of the Onion farmers using the drip irrigation system in that specified block by using Proportionate Random Sampling method. The statistical tools used in the study were percentage analysis and cumulative frequency method.

4. RESULTS AND DISCUSSION

4.1 Attitude of Onion Farmers Towards Drip Irrigation System

Attitude plays a vital role in assessing the impact of drip irrigation system among Onion growers. They were defined, studied and data were analysed and presented in the subsequent table. Many scientists have illustrated that attitude is a single component that is in charge of embracing or declining latest ideas. Experiences from distinct research have shown that individuals with favourable attitude towards materials express an accumulated positive impact in the form of favourable responses. The data were collected and analysed by using percentage analysis are presented in Table 1.

Table 1. Distribution of respondents according to their attitude level (n=119)

S. No.	Category	Number	Per cent
1.	Unfavourable	25	21.01
2.	Neutral	68	57.14
3.	Favourable	26	21.85
	Total	**119**	**100.00**

From Table 1 it is evident that less than three-fifths (57.14%) of the respondents expressed neutral attitude level followed by 21.85 per cent expressed favourable attitude level and 21.01 per cent of the respondents had unfavourable attitude level respectively.

From the above result, it could be concluded that less than three-fifths (57.14%) of the respondents had neutral attitude level towards drip irrigation system. The probable reason might be that farmers might have been encouraged by colossal benefits of drip irrigation system amid acute water shortage conditions as well as the financial incentives under central and state governments sponsored schemes for drip irrigation. This, in turn, might have played a major role in creating favourable attitude among farmers towards drip irrigation system.

The above findings are on par with the findings of Misra (2018)

4.2 The statement wise attitude of farmers

The statement wise attitude of farmers as measured on three-point continuum scale has been analyzed using percentage analysis and presented in Table 2.

Table 2. Statement wise attitude of respondents towards drip irrigation system *(n=119)

S.No.	Particulars	UF		N		F	
		No	%	No	%	No	%
1.	Drip irrigation system minimizes the water consumption in the field	07	5.90	-	-	112	94.10
2.	The water flow can be conserved with the use of drip irrigation system	-	-	5	4.20	114	95.80
3.	The technology is good but its performance varies from season to season	19	16.00	27	22.70	73	61.30
4.	The soil structure and physical condition can be maintained by using drip irrigation system	01	0.80	09	7.60	109	91.60
5.	There are impact on regular growth and production of crops with drip irrigation system	-	-	05	4.20	114	95.80
6.	Recommendation of drip irrigation system towards your neighbours	06	5.00	12	10.10	101	84.90
7.	More time is required to irrigate the field through drip irrigation system	83	69.70	20	16.80	16	13.40
8.	Through drip irrigation system alone, farmers cannot improve their income	89	74.80	15	12.60	15	12.60
9.	Generally drip irrigation system is very useful	01	0.80	16	13.40	102	85.70
10.	Development of agriculture is mainly through drip irrigation system only	75	63.00	30	25.20	14	11.80

11.	Due to drip irrigation system the farmers get higher benefit over expenditure	01	0.80	18	15.10	100	84.00
12.	Drip irrigation system is good but there is less adoption due to its economic problem	66	55.50	31	26.10	22	18.50

From the above Table 2 it is inferred that, vast majority (94.10%) of the respondents favoured "drip irrigation system minimizes the water consumption in the field" and a meagre of 5.90 per cent of the respondents unflavoured the statement. It is enacted from Table 2 that nearly cent (95.80%) of the respondents favoured the statement "the water flow can be conserved with the use of drip irrigation system" and a meagre of 4.20 per cent of the respondents had neutral attitude towards the statement.

A little more than three-fifths (61.30%) of the respondents favoured the statement "the technology is good but its performance varies from season to season" followed by 22.70 per cent of the respondents chose neutral and 16.10 per cent of the respondents unflavoured the statement. Table 2 has revealed that a vast majority (91.60%) of the respondents favoured and the statement "the soil structure and physical condition can be maintained by using drip irrigation system" followed by 7.60 per cent of the respondents opined neutral and a meagre (0.80%) of the respondents unflavoured the statement.

A vast majority (95.80%) of the respondents favoured the statement "there are impact on regular growth and production of crops with drip irrigation system" and 4.20 per cent of the respondents' perceived neutral. Majority (84.90%) of the respondents favoured the statement "recommendation of drip irrigation system towards your neighbours" followed by 10.10 per cent felt neutral and a meagre of 5.00 per cent of the respondents unflavoured the statement

More than two-thirds (69.70%) of the respondents un-favoured the statement "more time is required to irrigate the field through drip irrigation system" followed by 16.80 per cent of the respondents felt neutral and 13.40 per cent of the respondents perceived favourable attitude towards the statement. Almost three-fourths (74.80%) of the respondents un-favoured the statement "through drip irrigation system alone, farmers cannot improve their income" followed by equal proportion of 12.69 per cent of the respondents had neutral and favourable attitude towards the statement, respectively.

From the above Table 2 it is also clear that for statement 9 "generally drip irrigation system is very useful" majority (85.70%) of the respondents had favourable attitude followed by 13.40

per cent had neutral and a meagre of 0.80 per cent of the respondents had unfavourable attitude. It is evident for the statement 10 that more than three-fifths (63.00%) of the respondents had unfavourable attitude with the statement “development of agriculture is mainly through drip irrigation system only” followed by 25.20 per cent had neutral and 11.80 per cent of the respondents perceived favourable attitude towards the statement.

Majority (84.00%) of the respondents favoured the statement “due to drip irrigation system the farmers get higher benefit over expenditure” followed by 15.10 per cent of the respondents chose neutral and one respondent un-favoured the statement. From the perusal of the above Table 2, it is also identified that, more than half (55.50%) of the respondents un-favoured the statement “drip irrigation system is good but there is less adoption due to its economic problem” followed by 26.10 per cent of the respondents perceived neutral and 18.50 per cent of the respondents favoured the statement.

5. CONCLUSION

An extensive agricultural institution with more prevalent and periodic visits to drip owners should be established in order to provide regular technical advice and valuable data on the maintenance and repair of the drip irrigation scheme. There is still an intense need to educate drip users about installing, maintaining and managing the drip irrigation system by arranging unique farmers training programs for drip users by Extension professionals and State Department of Agriculture.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during the writing or editing of manuscripts.

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