



Research Article

Brand preference of farmers and dealers towards drip irrigations systems in Erode district of Tamil Nadu

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SUMMARY : The study was conducted in Erode district of Tamil Nadu. In the competitive world of ever increasing cost of inputs and diminishing resources, efficient utilization of water, energy, nutrients and soils is of paramount importance. Land and water are indispensable resources for agricultural production and economic development and should be judiciously managed. The large scale exploitation of water calls for the added importance of efficient utilization of available water and improved management practices and technologies which has become mandatory. In the present day, management of water through drip irrigation system is necessary. Due to intense competition, every firm doing better than the other to capture the market. The present study strives to develop a valid and reliable instrument to measure the brand preference of farmers towards drip irrigation system. This paper mainly explores the brand preference of drip irrigation, reasons for using drip irrigation, factors influencing the purchase of drip irrigation systems. Most of the farmers are using drip irrigation system mainly for labour saving. Quality and low price are the main factors influencing the farmers to purchase the particular brand of drip irrigation

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Brand preference,
Drip irrigation,
Dealers, Garrett
ranking and promotion

BACKGROUND AND OBJECTIVES

Agricultural sector is the largest water user of the country, however, the competition and conflicts for water between agriculture and other sectors has been increasing over the years. The growing challenge for agriculture development is how to grow more food for growing population with less amount of water for agriculture. Increasing water scarcity in India, together with evidence of its inefficient use and increasing competitive demand has given momentum to the call to treat water as an economic good. Out of total precipitation, around 70 million ha meter of water is lost by evaporation. Around 150 million ha meter helps in creating surface moisture and the remaining 40 million ha meter enters the ground. The rest of 180 million ha meter of water alone reaches river, which is the only source that India has been trying to control and utilize for agriculture through irrigation dams (www.jainirrigation.com).

Water resources in India and Tamil Nadu:

India is endowed with substantial water resources. The country's average rainfall about 1250 mm is slightly above compared world average of 900-1000 mm. The total surface flow is estimated about 180 million ha of which only 170 million ha can be utilized due to limitations of physiographic, topographic, technological and other institutional factors. Similarly the annual recharge of groundwater is estimated at about 50 million ha and only 30 million ha of water can only be extracted from aquifers, making up a total of 100 million ha of available supplies. This quantity is sufficient to irrigate about 113 million ha of cultivated land as against the feasible gross cropped area of about 210 million ha after meeting the demand for municipal and industrial use. (www.mowr.gov.in). Water availability and utilization in India and Tamil Nadu during 2009-10 are given in Table A.

Mishra (1990) defined that drip irrigation as

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Country/State	Availability (million ha)		Utilization (per cent)	
	Surface water	Ground water	Surface water	Ground water
India	70.00	30.00	70.00	50.00
Tamil Nadu	2.50	1.50	95.00	50.00

system, which filters the water in required quantities to the root zone of the crops by drippers. The system used every drop of water for irrigating the crop without wasting the land without affecting the root crops. Sam Tobey (1991) classically defined drip irrigation as slow process intended to deliver water and nutrients so the root area of plant in quantity matching its evaporation requirement at a rate close to what the soil will absorb. Kotler (2001) defined that brand preference as the choice of a customer for a particular brand.

Objectives:

The objectives are to study about the brand preference of farmers towards drip irrigation systems, to identify the factors influencing the preference for the use of a particular brand, to identify the effectiveness of promotional activities followed by manufacturers /dealers of different brand, to suggest strategies for promotion of drip irrigation system among farmers in Erode district.

RESOURCES AND METHODS

The study was confined to ten villages in Erode district with a sample size of 100 farmers and 25 dealers. Data were collected by survey method by using well structured

questionnaire, but it is prone to the recall bias. Simple random sampling was used for the collection of data from the sample respondents was taken up during March- June 2011. The following statistical techniques were used to analyze the data percentage analysis and Garrett ranking.

OBSERVATIONS AND ANALYSIS

The general characteristics of the sample farmers include the age, education, occupation, type of farmers and farming experience. The demographic data presented in Table 1.

From the Table 1, it could be concluded that most of the farmers were medium aged and educated people. Majority of the respondents' occupation was agriculture only and they were large farmers. The customer profile must be taken into consideration to the companies while designing the products based on market segments

Source of irrigation:

Sources of irrigation play a critical role in the selection of the crop and also the number of crops cultivated in a year. Irrigation is also a major determinant of the choice of drip irrigation decisions. Assured irrigation source encourages the farmers to use drippers. Therefore, source of irrigation in

Table 1 : Demographic characteristics

Characteristics	Particulars	No. of respondents	
		100	In %
Age	21-30	8	8.00
	31- 40	24	24.00
	41 – 50	33	33.00
	51- 60	35	35.00
	>61	0	0.00
Educational qualification	Primary School	11	11.00
	High School	67	67.00
	Under Graduates	16	16.00
	Post Graduates	6	6.00
Occupation	Agriculture only	78	78.00
	Agriculture+ Business	20	20.00
	Agriculture+ Private sector	1	1.00
Type of farmers	Agriculture+ Government	1	1.00
	Marginal (<1 ha)	19	19.00
	Small (1-2 ha)	29	29.00
	Medium (2-5 ha)	17	17.00
	Large (>5 ha)	35	35.00

Table 2 : Sources of irrigation

Sr. No.	Sources of irrigation	No. of farmers	Percentage to total
1.	Well (open)	77	77.00
2.	Bore well	7	7.00
3.	Well and bore well	15	15.00
3.	River	1	1.00
4.	Tank	0	0.00
Total		100	100.00

Table 3 : Area under different crops

Sr. No.	Farmers	Area (Avg in ha)	Different crops (in ha)						
			Cocount	Sugarcane	Turmeric	Banana	Cassava	Vegetables	Mulberry
1.	Marginal	2.15	0.21	0.72	0	0.1	0.6	0.52	0
2.	Small	4.54	1.1	1.5	0.3	0.4	0.51	0.64	0.01
3.	Medium	7.88	1.9	2.7	0.8	1	1	0.4	0
4.	Large	14.45	3.2	4.5	1.3	1.5	2.1	1.4	0.2

sample farms were analyzed and presented in Table 2.

It could be observed that the sample farmers (77 %) used open wells as their main source of irrigation, followed by both well and bore well irrigation (15 %). Hence one could infer that wells are the chief source of irrigation in the study area.

Area under different crops:

The area under different crops indicates the crop which is cultivated in a major area. The details of the crops grown in the sample farms are given in Table 3.

Table 3 showed the major crops cultivated under drip irrigation in Erode District. It could be observed from the table that Sugarcane was the major occupying crop under drip irrigation followed by turmeric, coconut, cassava, banana, vegetables and mulberry. The case firm has a lot of scope for drip irrigation in these areas.

Source of information regarding drip irrigation system:

Source of information plays a critical role in the purchase of drip and also influence the preference. Therefore, source of information for purchase of drip system among the sample farmers are presented in Table 4.

It could be noticed from the Table 4, majority (57 %) of

the sample farmers get information through sugar factory Cane Officers, followed by Agricultural Officers (16 %). The case firm should concentrate more on already existing customer and increase the company representatives.

Reasons for using drip irrigation:

There are a number of reasons for which the farmers use drip irrigation as a water scarcity measure. Therefore, the farmers were asked to rank the reasons for usage of drip irrigation by the Garret ranking method and the results are shown in Table 5.

It could be observed that most of the farmers were using drip irrigation systems as in aid of saving the labour cost. Easy irrigation ranked the second followed by water scarcity and improved yields.

Brand preference of farmers towards drip irrigation:

There are many brands of drip irrigation systems available in the market. It is important to know the farmer's choice of drip irrigation systems. The details were collected, analyzed and furnished in Table 6.

Among 100 sample farmers, 40 farmers were using Netafirm brand and 33 farmers were using Jain brand, 11 farmers

Table 4 : Sources of information regarding drip irrigation

Sr. No.	Sources	No. of farmers	Percentage to total
1.	Agricultural Officers	16	16.00
2.	Dealers	8	8.00
3.	Friends/ Relatives	2	2.00
4.	Company representative	1	1.00
5.	Sugar Factory (Cane Officers)	57	57.00
6.	Own	13	13.00
7.	Others	3	3.00
Total		100	100.00

Table 5 : Reasons for using drip irrigation

Sr. No.	Reasons	Garret Score	Rank
1.	Labour saving	76.03	I
2.	Easy irrigation	67.05	II
3.	Water scarcity	64.55	III
4.	Improved yield	60.49	IV
5.	Availability of subsidy	53.55	V
6.	Fertigation	53.53	VI
7.	Ease of operation	51.96	VII
8.	Promotions	41.97	VIII
9.	Possibility of raising extra crops	40.03	IX
10.	Neighbourhood success stories	37.12	X
11.	Electricity fluctuation	35.29	XI
12.	Others	18.86	XII

Table 6 : Brand preference of farmers towards drip irrigation

Sr. No.	Brand preference	No. of farmers	Percentage to total
1.	Netafirm	40	40.00
2.	Jain	33	33.00
3.	Flowtech	11	11.00
4.	Premier	5	5.00
5.	Nagarjuna	2	2.00
6.	Plastro	3	3.00
7.	Others	6	6.00
Total		100	100.00

were using flowtech, 5 farmers were using premier and the rest of the farmers were using Elgi, Plastro, Nagarjuna and local brands. This inference could be used by the firm to know about its own share in the market and share of its competitors. Discussion from the farmers also revealed that most of the farmers availed subsidy for their drip irrigation system.

From the Table 7, good quality was the highest influencing factor for the purchase of a particular brand followed by low price and the after sales services. Subsidy availability and

neighbours influence occupied the following ranks. Hence, it is concluded that the company should demonstrate and explain the quality and price of the particular brand.

It could be concluded from the Table 8, that majority of the farmers (47.00 %) paid the amount of drip irrigation systems to the manufactures, dealers or sugar factories through direct cash and credit followed by only cash payment (37.00 %), and the remaining 16 per cent pay the amount only through credit method.

Table 7 : Factors influencing the brand preference

Sr. No.	Factors influencing for brand preference	Garret score	Rank
1.	Good quality	73.97	I
2.	Low price	64.32	II
3.	After sales services	57.49	III
4.	Subsidy	55.9	IV
5.	Neighbors influence	53.97	V
6.	Easy availability	47.72	VI
7.	Dealers influence	53.33	VII
8.	Sugar factory	42.72	VIII
9.	By observing neighbors field	41.84	IX
10.	Sales promotion	36.92	X
11.	Mode of pay	28.4	XI

Table 8 : Mode of purchase for drip systems

Sr. No.	Mode of purchase	Farmers				Total number of farmers
		Marginal	Small	Medium	Large	
1.	Credit	1	9	1	5	16
2.	Cash	6	14	7	10	37
3.	Both cash and credit	12	6	9	20	47
	Total	19	29	17	35	100

Table 9 : Problems faced by farmers in drip irrigation

(n=36)

Sr. No.	Problems	Farmers				Total number of farmers
		Marginal	Small	Medium	Large	
1.	Late installation	0	1	5	7	13
2.	Subsidies problem	0	2	3	0	5
3.	Price of drippers	1	1	0	0	2
4.	Non availability spare parts	1	2	6	7	16
	Total	2	6	14	14	36

From the Table 9, it is inferred that 36 per cent of the farmers faced problems in drip irrigation systems. In that majority of the farmers (44 %) faced spare parts availability problem. Late installation constituted for 36 per cent and the remaining per cent of farmers faced in price of drippers and subsidies problem in drip irrigation systems. So that the case firm should concentrate more on spare parts availability and installation.

Farmers willingness to expand the areas of drip irrigation in future:

Majority of the farmers felt that drip irrigation technology increased the yield of the crops and it was good for water scarcity problems. So, most of the farmers have an idea of extension of drip irrigation for their fields. The areas of future extension were analyzed and tabulated.

The Table 10 depicts that most of the farmers have an

idea to expand the drip systems in future. Out of 100 sample respondents, sixty four farmers had an idea to expand the drip irrigation in future. Out of 64 farmers 28 farmers had an idea for extension of sugarcane crop under drip irrigation. In that 28 farmers 16 farmers had an idea to expand 1 to 2 ha of land. Followed by 16 farmers had an idea to expand the drip irrigation for coconut crop, 12 farmers had the idea to extend the banana crop under drip irrigation, 7 farmers had the idea to extend drip systems for cassava crop and remaining farmers had an idea to extend the drip systems for vegetables. It shows the lot of scope for drip irrigation systems for sugarcane and coconut crops.

Factors influencing the dealers brand preference:

The dealers were asked to indicate the factors that influenced them to prefer different brands from the highest to lowest order of influence. Garret ranking technique was

Table 10 : Farmers willingness to expand the areas of drip irrigation in future

(n=64)

Sr. No.	Area (in ha)	Crops					Total no. of farmers
		Coconut	Sugar cane	Cassava	Banana	Vegetables	
1.	<1(Marginal)	7	7	0	2	0	19
2.	1 to 2(Small)	2	6	0	5	1	9
3.	2 to 5 (Medium)	1	4	5	2	0	14
4.	>5 (Large)	6	11	2	3	0	22
	Total	16	28	7	12	1	64

Table 11 : Factors influencing the dealers brand preference

Sr. No.	Factors influencing brand preference	Garret score	Rank
1.	Credit availability	65.00	I
2.	Good brand image	62.00	II
3.	Quality	55.00	III
4.	High sales	37.00	IV
5.	Easy availability	31.00	V

Table 12 : Promotional activities done by the dealers

Sr. No.	Promotional activities	Garrett score	Rank
1.	Direct approach	76.00	I
2.	Through existing customers	68.80	II
3.	Demonstration	68.40	III
4.	Farmers meet	55.00	IV
5.	Canvas	54.40	V
6.	Enquiry	46.40	VI
7.	Tour	40.80	VII
8.	Others	33.60	VIII

Table 13 : Dealers margin

Sr. No.	Dealers margin	Number of dealers	Percentage to total
1.	< 5%	0	0.00
2.	5-10%	25	100.00
3.	10-15%	0	0.00
4.	>15%	0	0.00
	Total	25	100

Table 14 : Promotional activities done by different companies

Sr. No.	Promotional activities	Garrett score	Rank
1.	Through sugar factory	67.37	I
2.	Agri stall	65.28	II
3.	Promotional tour	51.28	III
4.	Media	43.62	IV
5.	Incentives	38.55	V
6.	Through agri departments	27.28	VI

adopted to delineate the factor which influenced the dealers.

Table 11 showed, most of the farmers felt that credit availability was the important one to influence the brand preference of drip irrigation system followed by good brand image, quality of the product, high sales and easy availability.

Table 12 showed that the most of the dealers' were doing direct approach for promotional activities followed by through existing customers, demonstration of the products and services, conduct farmers meeting, conducting canvas and tour arrangements to farmers.

Dealers margin:

An analysis of market margin would help to know whether brand preference is titled based on different in market margin. The market margin availed by the dealers for different brands are indicated in the Table 13.

From the Table 13, it is concluded that that all the dealers were getting 5-10 per cent of the margin of the sale of different brands of drip irrigation system.

Promotional activities done by different companies:

The dealers were asked about the different promotional

activities followed by different drip irrigation companies to attract more dealers.

Table 14, shows that most of the companies gave promotions through sugar factory (67.37) for drip irrigation systems followed by monthly agricultural stall, promotional tour, media promotion, providing incentives to dealers and farmers through agriculture departments.

Conclusion and recommendations:

- Due to low cost, most farmers prefer Jain brand but they feel quality was very poor compared with other brand. So considering this, company should provide good quality materials without considering price a matter.
- The company should create awareness among small farmers through direct approach.
- In drip irrigation technology, sugar factory plays major role in these blocks (Bannari amman and Sakthi sugars), case firms should make deal with these factories and through this, they can cover more farmers.
- The company should improve the promotional

measures like farmers meeting, demo in field, canvas through company reps and dealers.

- The company should make advertisement through newspapers, radio, TV channels like Pothigai, makkal TV etc.,
- The company should fix a company brand banners in the already existing farmer's field. It will create the awareness among the non users of drip irrigations.
- The firms should improve the proper after sales service which can attract more numbers of farmers and also the firms should provide free service at least for one year to increase the number of consumers.
- The company should make frequent field visits through field staff or company reps to clarify the farmer's doubts and problems. The company should give proper guidance to the farmers for maintenance of the drip system
- The availability of spare parts at a convenient time should be improved by the company.
- Best agronomical practices of drip and technical support should be given by the company through well equipped graduate staff.
- Installation must be in correct time without late which make farmers satisfaction. Installation and layout should be as per the wish of farmers.
- Most of the farmers were not getting subsidy for their drip system, so the company can assist for getting subsidy easily to farmers which attract the number of farmers.
- The company can give some margin to farmers if they make promotion and recommendation to other farmers.
- The number of dealers should be improved by the

company to cover the various places of the particular block. The company should increase the margin and incentives to encourage the dealers.

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