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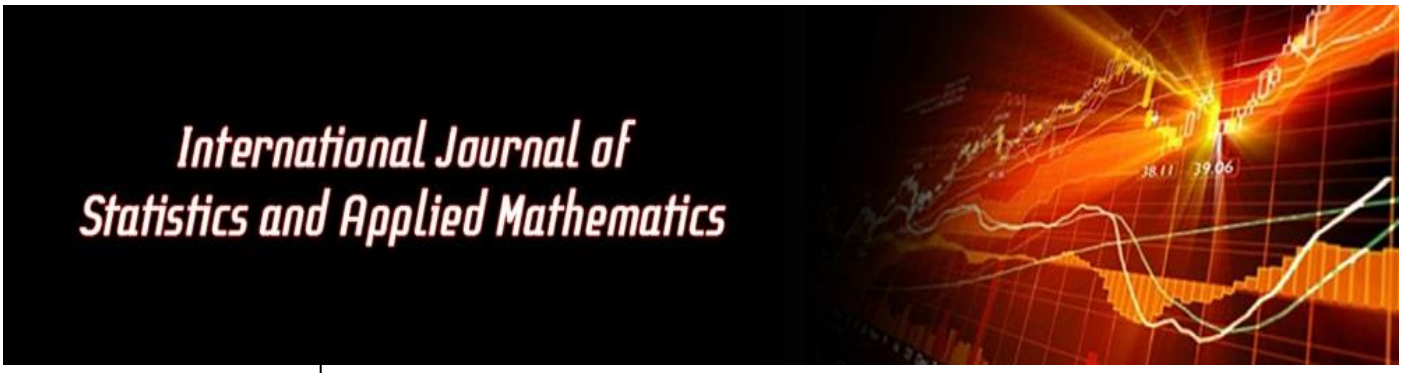

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Analysis of farmers perception on marketing strategies of major micro irrigation companies in Annamayya district of Andhra Pradesh

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Abstract
The importance of water to plant growth is multifaceted. The technique of applying large volumes of water to plants, crops, or landscapes is called Irrigation. Applying irrigation through drippers, sprinklers and foggers at high pressure is called Micro irrigation. Although farmers are rapidly becoming advocates of micro irrigation techniques, market penetration remains very low. Hence effective marketing strategies for micro irrigation are essential. The study was taken to analyse the perception of farmers on marketing strategies of major micro irrigation techniques. A multi stage stratified purposive cum convenience sampling method was employed to select the sample. Total sample size was 80 farmers. Likert scale was used to record the opinion of the farmers. Mean technique was used to analyse the recorded data. Garrett ranking was employed to rank the benefits accrued from micro irrigation system.

Keywords: Market scenario, marketing strategies, micro irrigation, perception

1. Introduction
Water is essential for a plant's survival and general health. It plays several vital roles in plant growth, development and maintenance. Some important functions are photosynthesis, nutrient uptake, transpiration, metabolic process and seed germination etc., Irrigation is the practice of supplying plants with adequate water for growth. Modern micro-irrigation techniques like drip and sprinkler systems use emitters to deliver water efficiently to plants. This conserves water by minimizing wastage. Dr. Simcha Blass, an Israeli engineer, is credited with inventing the first practical micro-irrigation system with plastic pipes and emitters, making him a key figure in the development of modern drip irrigation. The geographical area of India is 328 M ha out of which total cropped area is 140.05 M ha. The net irrigated area was 68.38 M ha. 18.80 per cent of net irrigated area was under micro irrigation i.e.,12.90 M ha during 2021-22. (India stat, 2021-22).
Per Drop More Crop is a component of Pradhan Mantri Krishi Sinchayee Yojana scheme under which micro irrigation is being implemented in all the states of India from 2015-16 (PIB,2021-22). In Andhra Pradesh the is operated through APMIP. To make farmers beneficiaries of this scheme government and private companies has been following marketing strategies. To know the effectiveness of these marketing strategies perception of farmers was collected by conducting a survey in Annamayya district of Andhra Pradesh. The main objectives of the study are:
1.To evaluate farmers perceptions on the marketing strategies used by major micro irrigation companies.

2. Materials and Methods
The present study was carried out in Annamayya district of Andhra Pradesh. The area was selected as it has more scope for micro irrigation. A multi stage stratified purposive cum convenience sampling method was employed to select Mandals, villages and farmers.

Four mandals were selected purposively from each mandal two villages were selected. From each village ten farmers were selected based on the convenience. Hence, a total of eight farmers opinions were collected.

2.1 Analytical Tools

2.1.1 Likert Scale

A Likert scale is a psychometric response scale commonly used in questionnaires to gauge participant preferences or agreement levels with statements. It assumes responses can be measured on a linear continuum from strongly agree to strongly disagree, typically offering five or seven pre-coded choices with a neutral midpoint. (Boone *et al.*, 2012) [11].

Table 1: Likert scale scores

S. No	Response	Score	Range
1	Strongly Disagree	1	1.00-1.08
2	Disagree	2	1.81-2.60
3	Neither	3	2.61-3.40
4	Agree	4	3.41-4.20
5	Strongly Agree	5	4.21-5.00

Scores were added together to find the mean for each attribute, which was then used for ranking satisfaction levels, enabling a straightforward comparison based on the mean score. The mean score was calculated using the following formula.

$$\text{Mean score} = \frac{\sum_{i=1}^{n} W_i X_i}{\sum_{i=1}^{n} X_i}$$

W_i = Weight pf the variable
V_i = Variable

2.1.2 Garrett's Ranking Technique

Garrett's ranking technique was employed to prioritize or rank the opinion of farmers on benefits accrued by micro irrigation system. (Upadhyay *et al.*, 2021) [14].

2.1.3 Garrett's formula

$$\text{Per cent position} = \frac{100*(R_{ij}-0.5)}{N_j}$$

Where, R_{ij} = rank given for i^{th} factor by the j^{th} individual
N_j = number of factors ranked by j^{th} individual

3. Results and Discussion

3.2 Evaluation of farmers perceptions on the marketing strategies used by major micro irrigation companies

3.2.1 Strategies adopted for marketing the products

Information regarding company wise marketing strategies followed to increase the sales was shown in Table 2. Different companies use different type of marketing strategies to promote their products in the market. The extent of marketing activities relies on the company's strategy. All the micro irrigation companies adopted all the listed promotional strategies. None of the company adopted testimonial and case studies and discounts and promotional offers as promotional strategy because most of the sales depends upon price fixed and subsidy provided by the government.

Table 2: Strategies adopted for marketing the products

S. No	Marketing Strategies	Skipper Metzer	Jain	Signet	Global Electro	Finolex
1	Advertising (e.g., TV's, radio, print media)	✓	✓	✓	✓	✓
2	Demonstrations and field trails	✓	✓	✓	✓	✓
3	Testimonials and case studies	×	×	×	×	×
4	Discounts and Promotional offers	×	×	×	×	×
5	Farmers meeting	✓	✓	✓	✓	✓
6	Contact through the company representative	✓	✓	✓	✓	✓
7	Online presence (websites, social media)	✓	✓	✓	✓	✓
8	Through Dealers	✓	✓	✓	✓	✓

(Primary Data, 2023)

3.2.2 Perception of the farmers towards different marketing strategies

This Table 3 provides insights into how respondents perceive the effectiveness of different marketing strategies, with varying levels of awareness and effectiveness ratings for each strategy.

The data in the figure 1 indicates how respondents rate the effectiveness of various marketing strategies, with demonstrations and field trials, contact through company representatives, and reaching customers through dealers receiving high mean scores, while testimonials and case studies have a lower rating on average.

Table 3: Perception of farmers towards marketing strategies of Micro irrigation companies

S. No	Marketing strategies	Response Pattern				
		Highly effective	Effective	Not aware	Moderately Effective	In effective
1	Advertising (e.g., TV's, radio, print media)	19	50	10	1	-
2	Demonstrations and field trails	50	26	4	-	-
3	Testimonials and case studies		17	40	22	1
4	Discounts and Promotional offers	21	47	6	6	-
5	Farmers meeting	37	37	6	-	-
6	Contact through the company representative	53	20	3	4	-
7	Online presence (websites, social media)	30	38	8	4	-
8	Through Dealers	52	23	5	-	-

(Primary Data, 2023)

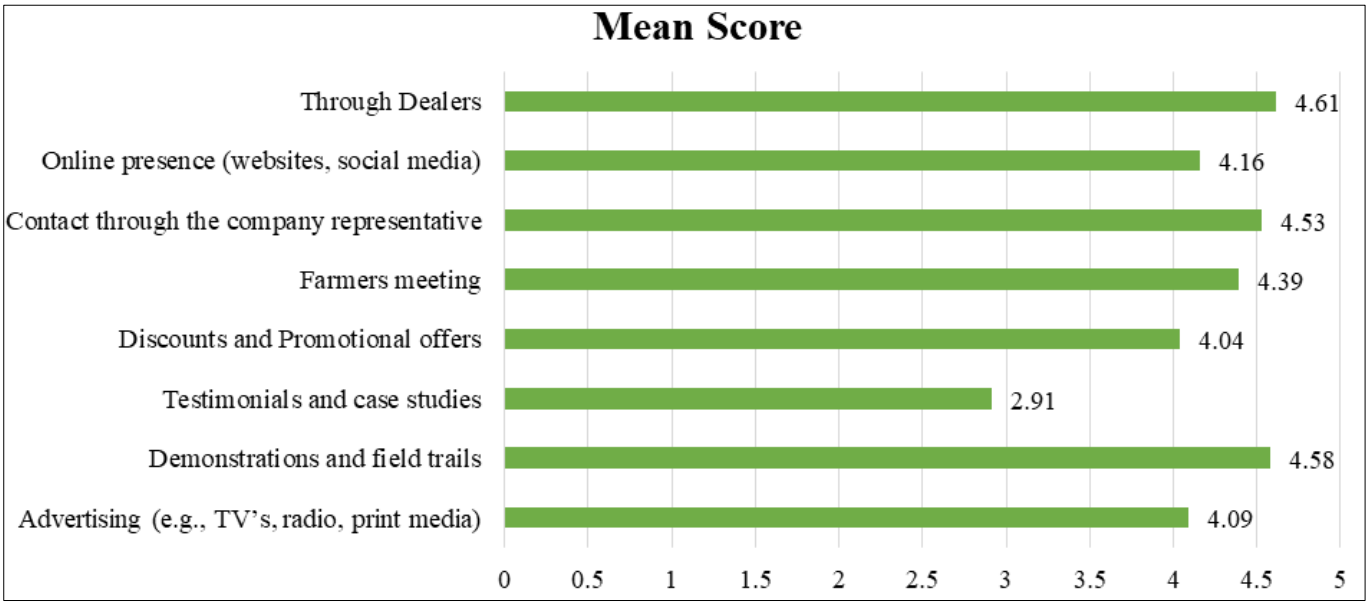

Fig 1: Mean scores of Marketing activities

3.2.3 Farmers opinion on benefits accrued from Micro irrigation system

The data reveals the prioritization of factors influencing agricultural practices, with a strong emphasis on weed control, water-saving measures, and expanding irrigated areas as the top-ranked factors. Reduction in crop failure, disease incidence and insect damage rank last. These rankings provide insights into the perceived importance of various agricultural practices among respondents. Ranking was given using garretts ranking method.

Table 4: Opinion of farmers on benefits of Micro irrigation system

S. No	Factor	Total Score	Average Score	Rank
1	Reduces weed growth	5577	69.17	I
2	Water Saving	5420	67.75	II
3	Irrigated area expansion	5109	63.86	III
4	Increases yield	4717	58.96	IV
5	Extends irrigation timing	4518	56.48	V
6	Convenient irrigation timing	4163	52.04	VI
7	Reduces soil erosion	4098	51.23	VII
8	Reduces labour cost	4088	51.10	VIII
9	Efficiency in fertilizer use	3910	48.88	IX
10	Improves quality of produce	3547	44.34	X
11	No need of levelling	3289	41.11	XI
12	Power saving	3260	40.75	XII
13	Reduces crop failure	3081	38.51	XIII
14	Reduces disease incidence	2702	33.78	XIV
15	Reduces insect damage	1797	22.46	XV

(Primary data,2023)

4. Conclusion

- Top five micro irrigated companies have similar marketing strategies in the Annamayya district. With contact through dealers and company representative, demonstration and field trails and farmers meeting marketing strategies are having high effectiveness on the farmers.
- Reduction in the weed growth, water saving and irrigated area expansion are the major benefits farmers getting from micro irrigation.

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