



Perception of Agricultural Input Dealers and Challenges Faced by them in Selling Kitchen Garden Pouch in Anand District of Gujarat, India

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Authors' contributions

This work was carried out in collaboration between both authors. Author CK designed the study, performed the statistical analysis, conducted the literature searches, managed the analyses of the study and wrote the first draft of the manuscript. Author DBP contributed to the final revisions and preparation of the manuscript for submission. Both authors read and approved the final manuscript.

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ABSTRACT

Micronutrient deficiencies are a significant issue in countries like India, impairing physical and cognitive development. Therefore, overcoming this requires effective and efficient strategies that use available resources and have long term benefits are needed. Kitchen gardening, a traditional

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practice, is gaining popular as a solution. Kitchen garden seed pouches simplify gardening, promoting self-sufficiency and sustainability, even in limited spaces. These pouches contain quality seeds of popular vegetables and herbs. This study was conducted with three objectives, to study profile of agricultural input dealers, their perception regarding kitchen garden pouch and identify challenges faced by them for selling kitchen garden pouch. It was conducted from January 15th to April 16th 2024 in Anand district of Gujarat and 120 agricultural input dealers were surveyed with the help of semi-structured schedule. Non-Probability sampling method and Convenience sampling was used. Statistical tool like percentage and Henry Garret ranking methods were used. It reveals that the majority of dealers are middle-aged, with significant experience in the field. Educational qualifications vary, but a significant proportion holds qualifications equivalent to Diploma. The majority operate as retailers, predominantly in urban areas, specializing in seeds and agrochemicals. Despite a high level of awareness about kitchen garden pouches among dealers, a considerable percentage were not actively sold this product. Consumer demand and product quality were key factors influence the dealers' decision. Challenges faced during product ordering include credit facility and product replacement concerns, challenges at the time of selling product were customer debit behaviour and product price sensitivity.

Keywords: Kitchen garden; agricultural input dealers; vegetable seeds; kitchen garden pouch; dealers' perception; challenges.

1. INTRODUCTION

Micronutrient deficiency is a significant issue in developing countries, affecting physical and cognitive development and work productivity. In India, a nationwide survey shows that diets deficient in micronutrients are prevalent [1]. To address this, effective strategies utilizing available resources and long-term benefits are needed. Interventions targeting home gardening and household animal produce have the potential to improve household nutrition [2]. Kitchen gardens are a long-standing tradition in India, promoting diet diversity, community interaction, health, and reducing food insecurity. Since communities usually suffer from more than one micronutrient deficiency it is advisable to look at this approach more holistically [3]. A kitchen garden is a garden area where plants such as vegetables, herbs, and fruits are cultivated for use in the kitchen [4]. It is a small-scale garden typically located near the kitchen for easy access to fresh produce. Kitchen gardens are separate from ornamental gardens and are primarily used for growing edible and sometimes medicinal plants [5,6]. The plants grown in a kitchen garden are intended for domestic use, with any surplus often given away or sold. For poor households, vegetables and fruits are often the only sources of micronutrients [7]. Fruits and vegetables are major sources of vitamins, minerals and fibres; their nutritional and medicinal values in human life are well documented [8]. Establishing a kitchen garden requires quality seeds suited to local climate and soil conditions. Kitchen garden pouch, a compact and convenient solution

revolutionizing home gardening. These small-sized vegetable seed packets are specially designed to facilitate the effortless cultivation of a variety of fresh produce right at home. With each pouch containing carefully selected seeds of popular kitchen staples. Embracing the kitchen garden pouch not only promotes sustainability and self-sufficiency but also encourages a deeper connection to the food we eat. In the realm of the kitchen garden seed industry in India, various entities play pivotal roles in shaping the landscape.

The evolution of the kitchen garden seed industry in India has been marked by significant shifts and advancements. Both hybrid and Open Pollinated Varieties (OPVs) play a crucial role in this sector, with the public sector in India releasing these varieties. Particularly, major vegetables such as tomato, brinjal, okra, chili, and cucurbits are predominantly grown using hybrid seeds in the country, showcasing the widespread adoption of these varieties by Indian farmers. The vegetable seed market is witnessing notable shifts in consumer preferences and agricultural practices. One significant trend is the rising demand for organic and non-GMO seeds, reflecting consumers' increasing emphasis on sustainability and health. The market for hybrid seeds and OPVs in India is projected to exhibit Compound Annual Growth Rates of 5.5% and 5.7%, respectively [9]. In vegetable seed market, there contribution of kitchen garden seed pouches. For this product we conducted a research on the perception and challenges faced by the agricultural input dealers.

2. MATERIALS AND METHODS

The research includes interviewing agricultural input dealers by means of a semi-structured schedule based on objectives and analyzing their responses with the help of statistical tools. The research was covering Anand district of Gujarat. Source of the Primary Data were Agricultural input dealers and Secondary data were collected from Literature, Private and Government publications and authentic websites. The study employs a descriptive research design to investigate and describe various aspects related to study. Non-probability sampling method, specifically convenience sampling technique was utilized to select 120 Agricultural input dealers of Anand district.

The survey was conducted over a period of 60 days, employing a semi-structured schedule as the research instrument. Data analysis involved frequency, percentage analysis and the calculation of Henry Garrett's ranking method [10] to draw meaningful insights from the collected data.



Henry Garrett's ranking calculated by,

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

Where, R_{ij} = Rank given for the i^{th} variable by j^{th} respondents

N_j = Number of variables ranked by j^{th} respondents

3. RESULTS AND DISCUSSION

3.1 Profile of Agricultural Input Dealers

3.1.1 Age of the dealers

The age distribution of surveyed agricultural input dealers reveals predominant presence of individuals aged between 31 and 45, constituting 60.83% of the total sample, followed by those aged between 46 to 60, comprising 24.17% of the surveyed population. youngest demographic, aged 18 to 30, constitutes 12.5% of the total, while individuals above 60 years old represent a small fraction of 2.5%.



Fig. 1. Map of Anand District

Table 1. Research Design

Type of Research	Descriptive research
Sampling method	Non-Probability sampling
Sampling technique	Convenience sampling
Sample unit	Agricultural input dealers
Sample size	120
Sample area	Anand district
Timing of survey	60 days
Research instrument	Semi-structured schedule
Analytical tools	Frequency, Percentage and Henry Garrett's ranking technique was used to analyze the data

3.1.2 Educational qualification of the dealers

The education qualification of agricultural input dealers shown in the Table 2 reveals the largest portion of the dealers, comprising 69.17% of the total sample, possess qualifications equivalent to Diploma. Following this, 21.66% of the surveyed dealers hold a degree of Graduation. Conversely, a smaller proportion of dealers, constituting 7.5% and 1.66% of the total, have educational qualifications up to HSC and Post graduation respectively.

3.1.3 Experience of the dealers

The largest segment, comprising 39.17% of the surveyed population, has accumulated experience ranging from 6 to 10 years. Following this, 22.5% of the dealers possess experience spanning from 1 to 5 years, indicating a significant presence of relatively newer entrants into the field. Additionally, 18.33% of the surveyed dealers have experience ranging from 11 to 15 years. Smaller segments of the population have either less than 1 year or over 15 years of experience, constituting 5% and 15% of the total, respectively.

3.1.4 Type of outlet

The data on the types of outlets among agricultural input dealers indicates that the majority, accounting for 90% of the surveyed population, operate as retailers. In contrast, a smaller segment comprising 10%, engage in both retailing and wholesaling activities.

3.1.5 Type of area

The type of area of agricultural input dealers depicted in the Table 2 reveals a substantial presence in urban areas, with 78.33% of the surveyed dealers operating in urban settings. In contrast, a smaller yet notable proportion, comprising 21.66%, are situated in rural areas.

3.1.6 Commodities that dealers were selling

Seeds and agrochemicals, with 100% of the dealers engaged in selling both of these product categories as mentioned in the Table 2. This suggests that seeds and agrochemicals are foundational products within the agricultural input industry. Whereas, the sale of fertilizers emerges as comparatively less ubiquitous, with only 20.83% of the dealers offering this product category.

3.1.7 Types of seeds dealers were selling

The majority of dealers, comprising 70.83% of the surveyed population, sell both field crop seeds and vegetable seeds. Furthermore, 21.67% of the dealers specialize in selling vegetable seeds exclusively, suggesting a significant focus on this particular category. A smaller segment, constituting 7.5% of the total, focuses solely on field crops.

3.1.8 Source of supply

The data from the Table 2 on the sources of agricultural input products among dealers indicates a predominant reliance on distributors, with 81.67% of the surveyed retailers sourcing their products from distributors. A smaller yet notable proportion of dealers, comprising 10.83% of the total, source their products from wholesalers. However, only 7.5% of the surveyed dealers report sourcing their products directly from manufacturers.

3.1.9 Tools for the promotion of products

The most prevalent promotional tool, utilized by 89.16% of the surveyed dealers, was eye-catching store displays. This suggests a strong emphasis on visual merchandising techniques to capture the attention of customers and stimulate interest in the products offered. Point-of-purchase (POP) displays are widely utilized, with 81.67% of dealers employing this strategy. POP displays were known to influence purchasing decisions at the point of sale. Field demonstrations also emerge as a significant promotional tool, with 44.17% of dealers utilizing this method to showcase product efficacy and benefits directly to potential customers in agricultural settings. Moreover, digital displays are employed by a smaller proportion of dealers, constituting 13.33% of the total. A small percentage of dealers, representing 1.67% of the total, indicating a degree of innovation and experimentation within the industry.

Based on the analysis of section 3.1, majority of agricultural input dealers in Anand district were middle-aged (31-45 years), well-educated with qualifications equivalent to a Diploma, and possess significant experience in the field. Most operate as urban-based retailers, focusing on selling seeds and agrochemicals, predominantly sourced from distributors. This demographic and operational profile highlights their established presence and pivotal role in the agricultural input market.

Table 2. Profile of Agricultural Input Dealers

Sr. No.	Parameter	Frequency (n)	Percentage (%)
1	Age of Dealer (Years)		
	18-30	15	12.50
	31-45	73	60.83
	46-60	29	24.17
	>60	3	2.50
	Total	120	100
2	Educational qualification		
	Up to HSC	9	7.50
	Diploma	83	69.17
	UG	26	21.66
	PG	2	1.66
	Total	120	100
3	Experience (Years)		
	<1	6	5.00
	1 to 5	27	22.50
	6 to 10	47	39.17
	11 to 15	22	18.33
	>15	18	15.00
	Total	120	100
4	Type of Outlet		
	Retailer	108	90.00
	Retailer & Wholesaler	12	10.00
	Total	120	100
5	Type of Area		
	Urban	94	78.33
	Rural	26	21.66
	Total	120	100
6	Commodities that dealers were selling		
	Seeds	120	100
	Agrochemicals	120	100
	Fertilizers	25	20.83
7	Types of Seeds Dealers were Selling		
	Field Crops	9	7.50
	Vegetables	26	21.67
	Field & Vegetable Crops	85	70.83
	Total	120	100
8	Source of supply		
	Distributor	98	81.67
	Wholesaler	13	10.83
	Manufacturer	9	7.50
	Total	120	100
9	Tools for the Promotions		
	Eye-Catching Store Display	107	89.16
	Field Demonstration	53	44.17
	Point-of-Purchase (POP) Displays	98	81.67
	Digital Display	16	13.33
	Other	2	1.67

3.2 Perception of Agricultural Input Dealers Regarding Kitchen Garden Pouch

3.2.1 Awareness regarding kitchen garden pouch

The data from the Table 3 indicate complete awareness regarding kitchen garden pouches, with 100% indicating familiarity with this product. This suggests a universal understanding of kitchen garden pouches within the dealer community.

3.2.2 Dealers that were selling kitchen garden pouches

The data from the Table 3 on dealers selling kitchen garden pouches reveals a mixed landscape within the agricultural input industry. Among the surveyed dealers, 42.5% report selling kitchen garden pouches, indicating a significant portion actively involved in offering this product category to their customers. However, it's noteworthy that 57.5% of dealers did not sell kitchen garden pouches, indicating a sizable proportion of the industry that has not yet embraced this particular gardening solution.

3.2.3 Future consideration among dealer

The future consideration for selling kitchen garden pouches among agricultural input

dealers, demonstrated in the Table 3., shows that 24.64% of the dealers were considering selling these pouches in the future, indicating a subset of dealers considering the incorporation of this product category into their offerings. Conversely, a majority of dealers, comprising 75.36% of the total, did not foresee selling kitchen garden pouches in the future.

3.2.4 Dealers' expectation from the company

According to the Table 3. several key expectations stand out prominently. The most common demand, cited by 79 respondents, was for the assurance of product replacement in cases of damage or expiration, indicating a significant concern for quality assurance and customer satisfaction. Following closely, 62 dealers express a desire for increased credit limits, highlighting the importance of financial flexibility in their operations. Timely supply of products emerges as another crucial factor, with 55 respondents stressing the importance of consistent and reliable delivery schedules to maintain smooth business operations. Loyalty benefits also feature prominently, with 48 dealers emphasizing the value of rewards for their ongoing partnership. Additionally, 42 dealers emphasize the need for more margin. schemes garner a mention from 29 respondents, suggesting an interest in promotional offers or incentives to drive sales.

Table 3. Awareness of Agricultural Input Dealers and their Expectations

Sr. No.	Parameter	Frequency (n)	Percentage (%)
1	Awareness regarding kitchen garden pouch		
	Yes	120	100
	No	0	0
	Total	120	100
2	Dealers selling kitchen garden pouch		
	Yes	51	42.50
	No	69	57.50
	Total	120	100
3	Future Consideration for Selling		
	Yes	17	24.64
	No	52	75.36
	Total	69	100
4	Expectation of Dealers		
	More margin	42	35.00
	Timely Supply of products	55	45.83
	Loyalty benefits	48	40.00
	Schemes	29	24.17
	Replacement in case of damaged/expired products	79	65.83
	More credit limits	62	51.67

Table 4. Factor Influencing for Purchase of the Product

Sr No	Factors	Mean Score	Rank
1	Consumer Demand	66.70	1
2	Quality of the product	65.77	2
3	Price of the product	61.97	3
4	Company Reputation	55.38	4
5	Packaging	43.51	5
6	Gifts & Discounts	32.98	6
7	Schemes	26.67	7

Table 5. Challenges Faced at the time of Ordering Products

Sr No	Challenges	Mean Score	Rank
1	Credit facility	62.17	1
2	Replacement	62.15	2
3	Quality at the time of procurement	59.56	3
4	Timely delivery of order	56.46	4
5	Retail Margins	51.55	5
6	Payment method	45.92	6
7	Order Placing system	36.44	7
8	Exclusive consumer offers	27.75	8

Table 6. Challenges Face at the time of Selling Kitchen Garden Pouches

Sr No	Challenges	Mean Score	Rank
1	Debit Behaviour of customers	66.10	1
2	Product price	59.87	2
3	Quality of the product	57.19	3
4	Insufficient Demand	49.35	4
5	Lack of customer awareness	46.44	5
6	Timely supply of product	45.62	6
7	Negative attitude of farmers	44.28	7
8	Low quantity	33.15	8

The analysis of section 3.2 shows that while all agricultural input dealers were aware of kitchen garden pouches, only 42.5% actively sell them. Key factors influencing their sales decisions were include consumer demand, product quality, and competitive pricing. Dealers expect from the company better credit facilities, reliable product replacement, and timely supply to improve their participation in selling these pouches.

3.2.5 Factor Influencing for purchase of the product

The provided data in the Table 4 outlines key factors influencing dealers in their decisions to purchase agricultural input products. Topping the list, consumer demand, with a Garrett's Score of 66.70, securing the first rank. Quality of the product follows closely behind, with a score of 65.77, emphasizing the significance of providing high-quality goods to attract dealers. Price of the product ranks third, with a score of 61.97,

indicating the impact of competitive pricing strategies on dealer decisions. Company reputation, with a score of 55.38, holds considerable sway, reflecting the importance of brand perception. Packaging, while influential, ranks fifth with a score of 43.51. Gifts & discounts and schemes hold lower influence, ranking sixth and seventh, respectively, with scores of 32.98 and 26.67, indicating that while incentives were appreciated, they might not be the primary drivers of dealer purchasing decisions.

3.3 Challenges Faced by Agricultural Input Dealers

3.3.1 Challenges faced at the time of ordering products

The challenges encountered by agricultural input dealers during product ordering were

multifaceted, as revealed by Garrett's Score rankings. Topping the list with a score of 62.17 is the issue of credit facility, indicating the paramount importance of financial flexibility for dealers. Following closely, replacement concerns score 62.15, underscoring the critical need for assurance regarding product quality and support in case of defects or expiration. Quality at the time of procurement emerges as the third-ranking challenge, with a score of 59.56, emphasizing the significance of ensuring consistent product standards. Timely delivery of orders, ranked fourth with a score of 56.46, highlights the crucial role of logistics in maintaining efficient operations. Retail margins pose a notable challenge as well, ranking fifth with a score of 51.55, suggesting the need for balance between profitability and competitive pricing. Additionally, challenges such as payment methods, order placing systems, and exclusive consumer offers were also identified, albeit with lower scores, indicating areas for improvement to enhance the overall ordering experience for agricultural input dealers.

3.2 Challenges Face at the time of Selling Kitchen Garden Pouches

The challenges faced by agricultural input dealers in selling kitchen garden pouches encompass a variety of factors as mention in the table. Topping the list with a significant score of 66.10 was the debit behaviour of customers, underscoring the critical impact of payment reliability on dealers' operations. Followed by product price ranks second with a score of 59.87, indicating the sensitivity of customers to pricing when purchasing these pouches. Quality of the product emerges as the third-ranking challenge, with a score of 57.19, emphasizing the importance of maintaining high standards to meet customer expectations. Insufficient demand poses a notable obstacle as well, ranking fourth with a score of 49.35, highlighting the need for effective marketing strategies to stimulate interest and uptake. Moreover, challenges such as lack of customer awareness, timely supply of products, and negative attitudes of farmers were also identified, albeit with varying degrees of impact, suggesting the importance of education and engagement efforts to address these issues. Lastly, concerns regarding low quantity were noted, albeit with the lowest score, indicating a less pronounced but still relevant challenge for dealers to navigate in the sale of kitchen garden pouch.

4. CONCLUSION

The study highlights the profile, perceptions, and challenges faced by agricultural input dealers in Anand district regarding kitchen garden pouches. Most dealers were middle-aged, well-educated holding qualifications equivalent to Diploma, and operate in urban areas as retailers specializing in seeds and agrochemicals. Although they were aware of kitchen garden pouches, a significant portion does not sell them due to factors like consumer demand, product quality, and pricing. Dealers expect the need for product replacement in case of damage or expiration, increased credit limits, and consistent product supply to ensure quality assurance and customer satisfaction. The need for better credit facilities and concerns over product replacement were the primary challenges during product ordering. And challenges during selling kitchen garden pouches included customer debit behavior, product price sensitivity, and maintaining high product standards. Addressing these issues, particularly improving financial flexibility and customer awareness, can enhance the adoption and effectiveness of kitchen garden pouches.

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 writing or editing of manuscripts.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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