PERCEPTION AND PROBLEMS OF KITCHEN GARDENING IN JAMNAGAR DISTRICT OF GUJARAT

ABSTRACT

India has experienced a green revolution in cereal production, providing food security but also necessitating a shift in nutrient supplemental crop production. Kitchen garden production is a simple way to ensure access to a healthy diet with adequate macro- and micronutrients, leading to direct income through surplus production and indirect income through savings and better trade. The study on Perception and Problems of Kitchen Gardening explored the socio-economic profiles, perceptions, and problems faced by kitchen gardeners in the Jamnagar region. Surveying 210 respondents, the study utilized semi-structured schedules and analysed the data using tabular, percentage, Garrett ranking, and weighted average mean methods. Study found that 40.48% of respondents came from families with over five members, while most had families of three to five members. Researchers surveyed respondents from various income groups. Over half of the respondents (51.90%) were engaged in agriculture and dairy farming. Kitchen garden sizes generally ranged from 51-100 sq. ft. to over 150 sq. ft., with traditional backyard gardens being the most prevalent. All participants were active in kitchen gardening, motivated by self-sufficiency, healthier eating, and sustainable living. Popular vegetables growing in kitchen gardening included cluster bean, tomatoes, brinjals, and okra in the study area. Despite recognizing the benefits, respondents also reported few problems which were impeding their practice in kitchen gardening. Addressing these issues is crucial for improving productivity and promoting sustainable food production practices.

Keyword – Perception, Kitchen Garden, Vegetables, Health, Kitchen Gardener

INTRODUCTION

The green revolution in India improved food security through cereal cultivation, but concerns about nutrition security led to a shift towards horticulture crops, particularly vegetables. Over the past decade, vegetable farming has significantly contributed to sustainable agriculture, boosted farmer incomes, and improved living standards. Agricultural extension efforts have promoted the production of vegetables, which now account for 200.45 million tonnes out of 341.63 million tonnes of horticultural produce (APEDA, 2023). Hence, vegetables play a major role in improving food, income and nutritional security at household as well as at national level (Panwar *et al.*, 2019). The nutrients present in vegetables help human stay nourished. India is still largely a rural economy with 66 per cent of its population living in rural areas (World Bank, 2019). Rural consumers are important consumer as they spend about 45 per cent expenditure on food. India is now the second largest vegetables producer only next to China contributing 12.3 per cent to the world vegetable production (AICRP 2023).

Kitchen gardening is a technology which enables us to grow fresh vegetables at home providing a good use of empty tins, old utensils and clay flower pots. This activity can not only save our money and time but also can provide a healthy, useful and environment friendly hobby for whole family (Singh *et. al*. 2021).

The kitchen/home gardens have been found to play an important role in improving food security for the resource poor rural households in developing countries (Mohsin *et al.* 2017). Many people pay a higher price for food as they buy in expensive small quantities as well as travelling far to get to where the food costs relatively lower thereby losing that advantage on transport. The nutritional home garden or kitchen garden is generally located close to the house and is used for growing vegetables, fruits, and other food crops for the family. It not only saves money and time but also can provide a healthy, useful and environment friendly hobby for whole family (Singh *et. al*. 2021). Home gardens can help us in recycling of household waste especially when a compost pit is developed. One of the easiest ways of ensuring access to a healthy diet that contains adequate macro and micronutrients is to produce many kinds of foods in the home garden (Rani and Majoka 2020). Direct income is by sale of surplus production while the indirect income is by the savings achieved by not buying the same products from the market as well as better trade when produce is exchanged with others from the neighbours (Saini *et. al.* 2022).

The study on Perception and Problems of Kitchen Gardening aims to investigate the socio-economic profile of kitchen gardeners, understand their perception towards kitchen gardening, and identify the problems they face. By analysing the demographic and economic backgrounds of kitchen gardeners, the research seeks to provide insights into their motivations and constraints. Understanding the perception of kitchen gardeners towards the practice is essential for developing targeted interventions and promoting sustainable gardening practices. Additionally, identifying the problems faced by kitchen gardeners will enable the development of support mechanisms to enhance the resilience and productivity of kitchen gardening initiatives in the region.

MATERIALS AND METHODS

The survey was conducted in all the seven talukas of Jamnagar district of Gujarat. Primary as well as secondary data were collected to fulfil the objectives of the study. Primary data was collected with the help of a schedule from the respondents. Secondary data was collected from literature, government publications, and web sources.

Research Design

This research is a descriptive study employing a non-probability sampling method. The purposive sampling method was used to select the sample from the study area. The sample unit consists of kitchen gardeners, with a total sample size of 210 respondents. The 30 gardeners from each Talukas of Jamnagar District. For analysis, various tools such as frequency, percentage analysis, tabular analysis, weighted average mean, and Garrett's ranking technique were utilized.

Study Area

Out of 33 districts of Gujarat, Jamnagar district was selected purposively. All the seven talukas of districts namely Jamnagar City, Kalavad, Dhrol, Lalpur, Jodiya, Jamjodhpur and Jamnagar Rural were selected for the study. Jamnagar district covers an area of 5,846 square kilometres and is bordered by the Gulf of Kutch, Devbhumi Dwarka district, Rajkot District, and Porbandar District. The district receives an average annual rainfall of 1100 mm. Key agricultural crops include groundnut, cotton, wheat, cumin, sesame and castor. The region is rich in minerals, notably bauxite and black-and-white stone. The local economy is driven by various industries such as agriculture, animal husbandry, the brass industry, oil mills, and oil refineries.

Analytical Tools

Descriptive statistics such as Frequency, Percentage, Tabular analysis were used to study socio-economic profile of kitchen gardener.

Likert scale was use to know the perception of kitchen gardener towards kitchen gardening. After gathering all the completed schedules from the respondents, total responses for each item were gathered and tabulated. Statistically, the weighted mean was calculated

Weighted Average Mean (X) = (F1X1 + F2X2 + F3X3 + F4X4 + F5X5) / Xt

Where,

F = Weight given to each response

X= Number of responses

Xt= Total number of responses

Garrett's ranking technique was used to rank the preferences indicated by the respondents on different factors. Garrett's ranking technique was used to identify problems faced in kitchen gardening.

$$\text{Percentage position} = \frac{100\ (Rij - 0.5)}{Nj}$$

Where,

Rij = Rank given for the i^{th} variable by j^{th} respondents

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

With the help of Garrett's Table, the percent position estimated will be converted into scores. Then for each factor, the scores of each individual will be added and then the total value of scores and mean values of the scores is calculated. The factors having the highest mean value will be considered to be the most important factor.

RESULTS AND DISCUSSION

To study socio-economic profile of kitchen gardener

The study was conducted in all the seven talukas of Jamnagar district. A total of 210 respondents reveals detailed demographic insights. This comprehensive data in table 1 provides thorough understanding of the demographics, family sizes, income levels, educational attainment, occupations, and kitchen garden practices among the surveyed population in

Jamnagar district. The age distribution shows that 39.53% of the respondents were aged between 21 to 40 years, 48.57% were aged between 41 to 60 years, and 11.90% were over 60 years old. Family size data indicates that 55.24% of the respondents had 3 to 5 family members, 40.48% had more than 5 family members and 4.29% had 2 family members.

Annual income distribution reveals that 48.57% of the respondents were earning between 2 to 5 lakhs, 37.14% were earning between 5 to 8 lakhs, 9.05% were earning between 8 to 10 lakhs, 3.81% of the respondents earning was less than 1 lakh rupees, and 1.43% were earning over 10 lakhs. Educational attainment shows that out of total respondents 35.71% had primary education, 27.62% had up to SSC level education, 14.29% had up to HSC level education, 15.71% were illiterate and 6.67% had a graduation or higher degree.

Occupational distribution indicates that 51.90% were engaged in both agriculture and dairy farming, 30.95% were solely associated with agriculture, 9.52% were business owners and 7.63% were employed in jobs. The respondents were having varying size of kitchen garden. Out of total respondents 11.43% had gardens ranging from 20 to 50 sq. ft., 39.52% had gardens between 51 to 100 sq. ft, 21.43% had gardens between 101 to 150 sq. ft., and 27.62% had gardens exceeding 150 sq. ft. Respondents were having several types of kitchen garden viz., traditional backyard gardens owned by 77.62% of the respondents, 12.86% had balcony gardens, and 9.52% had raised bed gardens. None of the respondents were having vertical gardens in the study area.

Table 1: Socio-Economic Profile of Kitchen Gardener

Sr. No.	Parameter	Frequency (n)	Percentage (%)
1.	**Age of Respondents (Year)**		
	21 - 40	83	39.53
	41 - 60	102	48.57
	> 60	25	11.90
	Total	**210**	**100.00**
2.	**No. of Member**		
	2 Member	9	4.29
	3 - 5 Member	116	55.24
	Above 5 Member	85	40.48
	Total	**210**	**100**
3.	**Income (Rs.)**		
	<1 lakh	8	3.81
	2 - 5 lakhs	102	48.57
	5 - 8 lakhs	78	37.14
	8 - 10 lakhs	19	9.05
	More than 10 lakhs	3	1.43
	Total	**210**	**100**
4.	**Level of Education**		
	Illiterate	33	15.71
	Up to Primary	75	35.71
	≤ SSC	58	27.62
	≤ HSC	30	14.29
	Graduation and above	14	6.67

	Total	**210**	**100**
5.	**Occupation**		
	Agriculture + Dairy farming	109	51.90
	Agriculture	65	30.95
	Business	20	9.52
	Job	16	7.63
	Total	**210**	**100**
6.	**Area (Sq. ft.)**		
	20 - 50	24	11.43
	51 - 100	83	39.52
	101 - 150	45	21.43
	More than 150	58	27.62
	Total	**210**	**100**
7.	**Type of Kitchen Garden**		
	Traditional Backyard Garden	163	77.62
	Balcony/Terrace Garden	27	12.86
	Vertical Garden	0	0.00
	Raised Bed Garden	20	9.52
	Total	**210**	**100**

To Know Perception of Kitchen Gardener Towards Kitchen Gardening

Though kitchen gardening is an old age practices, kitchen gardeners were having different perception towards kitchen gardening. Perception of the kitchen gardener was studied and the data is presented below. The data in table 2 reveals a strong commitment to vegetable growing among the respondents, with 74.29% engaging in kitchen gardening every year and 25.71% were doing kitchen gardening occasionally. This highlights a significant dedication to self-sufficiency, fresh produce, and sustainable living practices.

The data also indicates that kitchen gardeners commonly grow a variety of vegetables, with tomatoes, brinjals, okra, and cluster beans being the most popular due to their versatility and ease of cultivation. Root vegetables like carrots, radishes, and onions also show substantial interest, while potatoes are less frequently grown in kitchen gardening. This diversity reflects a strong commitment to self-sufficiency, healthy eating, and sustainable living practices.

Table 2: Frequency of Kitchen Gardening and Vegetable Grown in Kitchen Gardening

Sr. No.	Parameter	Frequency (n)	Percentage (%)
1.	**Frequency of Kitchen Gardening**		
	Every Year	156	74.29
	Occasionally	54	25.71
	Total	**210**	**100**
2.	**Vegetable**		
	Tomato	189	90.00
	Brinjal	185	88.10
	Okra	196	93.33
	Chilly	101	48.10

	Carrot	142	67.62
	Reddish	156	74.29
	Potato	12	5.71
	Onion	146	69.52
	Cluster Bean	201	95.71

The perceptions of kitchen gardeners towards their practices shed light on various aspects, ranging from its economic benefits to its impact on the environment and personal well-being. Perception towards kitchen gardening was recorded and given rank as shown in table 3. The majority agree that kitchen gardening helps in saving money, with a significant portion strongly agreeing, earning it the top rank with a WAM of 4.64. Furthermore, there's a consensus that kitchen gardening provides an opportunity to access fresh vegetables throughout the year, securing the second rank with a WAM of 4.37. Additionally, respondents acknowledge the health benefits associated with kitchen gardening, with many agreeing that it promotes family fitness and contributes to greenery in residential areas, ranking third and fourth, respectively. Moreover, there's recognition of its positive environmental impact, earning it the fifth rank. Kitchen gardening was constructive approach to convert leisure time in to productive one was seventh rank with 3.59 WAM score.

In the study there was concerns about its perceived difficulty, limited scope, and income generation potential. The majority of participants find it tedious, ranking it seventh overall with a lower WAM. Additionally, a significant portion of the participants perceive limited scopes for kitchen gardening, ranking it eighth. The potential for generating supplemental income through selling surplus vegetables is also a significant concern, ranking it lowest. The study suggests that addressing these concerns through education, support, and community engagement could further promote the practice and its benefits among kitchen gardeners.

Table 3: Perception Toward Kitchen Gardening

Sr. No.	Statements	WAM	Rank
1.	I think kitchen gardening helps in saving money.	4.64	1
2.	Kitchen gardening provides opportunity to get fresh vegetables in all the seasons.	4.37	2
3.	Kitchen garden helps in promoting family fitness.	4.17	3
4.	Kitchen garden promotes greenery near residential areas.	3.96	4
5.	Kitchen garden provides an opportunity to make a positive environmental impact.	3.73	5
6.	Kitchen gardening is constructive approach to convert leisure time in to productive one.	3.59	6
7.	I think kitchen gardening is tedious job	2.42	7
8.	I visualize limited scopes of kitchen gardening.	2.01	8

9.	Generate Supplemental Income by selling surplus vegetables	1.54	9
10.	Lake of knowledge	1.09	10

To Identify Problem Faced in Kitchen Gardening

Kitchen gardeners were facing a range of problems in kitchen gardening as shown in table 4. Several problems were identified and ranks were given by the respondents. Problem of pest and disease was the given the first rank as major problem. Monitoring, timely interventions, and the implementation of integrated pest management strategies are essential for mitigating these threats and safeguarding crops. Following closely behind is the problem of planting material availability, with a score of 57.68, emphasizing the importance of ensuring a steady supply of quality seeds and seedlings for successful cultivation. Birds and animal hazards, scoring 55.43 and ranking third, pose a significant risk to crops and necessitate protective measures such as netting or scare tactics to deter them effectively.

Unpredictable weather conditions, with a score of 53.94, further compound the problems faced by kitchen gardeners, requiring adaptable gardening practices to mitigate their effects and ensure crop success. Time constraints, ranking fifth with a score of 47.84, underscore the importance of efficient planning and utilization of available gardening windows to maximize productivity. Water scarcity, although ranking sixth with a score of 43.12, remains a significant problem that can be managed through efficient water usage strategies and conservation practices.

Lastly, high input costs, scoring 39.65 and ranking seventh, highlight the financial burden of gardening and may require cost-saving strategies or alternative inputs to alleviate. By addressing these problems systematically and implementing appropriate solutions, kitchen gardeners can enhance productivity, reduce risks, and cultivate a thriving garden for sustainable food production.

Table 4: Problem Faced in Kitchen Gardening

Sr. No	Problems	Garret Score	Garret Rank
1.	Pest and Disease	69.56	1
2.	Planting Material Availability	57.68	2
3.	Birds and Animal Hazards	55.43	3
4.	Unpredictable Weather Conditions	53.94	4
5.	Time Constraints	47.84	5
6.	Water Scarcity	43.12	6
7.	High Input Cost	39.65	7

CONCLUSION

Perception and problems in kitchen gardening were studied in the Jamnagar district of Gujarat with 210 respondents. The majority of respondents were aged between 41 and 60, with most having families of 3 to 5 family members. The income distribution varied, with the majority

earning between 2-5 lakhs rupees annually. A significant portion (51.90%) is involved in agriculture and dairy farming, with others engaged in business and employment. Kitchen garden sizes ranged from 51-100 sq. ft., with traditional backyard gardens being the most common. The practice of kitchen gardening is widespread among respondents, indicating a strong interest in sustainable living, self-sufficiency, and healthier dietary choices. Popular vegetables grown include tomatoes, brinjals, and okra, with a noted preference for cluster beans. While kitchen gardening is perceived positively for its economic, health, and environmental benefits, it also faces problems such as pest and disease management, availability of planting materials, and weather unpredictability. Addressing these issues through education, support, and community engagement can further promote kitchen gardening, enhancing productivity and contributing to sustainable food production.

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1.

2.

3.

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