



A COMPARATIVE ANALYSIS OF CONSTRAINTS FACED BY KINNOW GROWERS IN FAZILKA AND SRIGANGANAGAR DISTRICTS

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ABSTRACT:

Citrus fruit is a major crop in Punjab and Rajasthan, Punjab being a significant contributor to the overall production and acreage of citrus fruit in India. While previous studies have focused on specific regions, a comparative analysis of the constraints faced by kinnow growers in different regions is lacking. This study aims to address this research gap by analyzing the constraints faced by kinnow growers in Fazilka and Sriganganagar districts, providing a more comprehensive understanding of the challenges faced by kinnow growers in northern India. The study selected four blocks with high Kinnow production, and 480 kinnow growers were randomly selected for the study. The data analysis revealed that both districts faced challenges such as pre-harvest losses due to weather changes, high citrus decline rates, polluted canal water damaging orchards, kinnows perishing quickly, low prices, and lack of modern farm equipment and machinery for shifting large plants. The percentage of respondents reporting these constraints was slightly higher in Sriganganagar. To mitigate these issues, policymakers could consider implementing price support mechanisms, improving infrastructure, and promoting value-added products.

KEYWORDS:

CANAL WATER POLLUTION, CONSTRAINTS, KINNOW.

INTRODUCTION

Citrus cultivation, particularly kinnow, is one of the sources of income for farmers in the northern regions of India. Fazilka and Sriganganagar districts are two major kinnow-growing regions in Punjab and Rajasthan, respectively. Despite being geographically close, these two regions have similar agro-climatic conditions, which can impact the production and profitability of kinnow. Additionally, farmers in both regions face numerous constraints that impede their ability to maximize their yields and profits. Kinnow is a citrus fruit that is widely grown in the northern regions of India, particularly in Punjab, Haryana, and Rajasthan. It is a hybrid of mandarin and sweet orange and is known for its delicious taste, high juice content, and easy peeling. The kinnow industry is an essential source of income for thousands of farmers in these regions and provides employment opportunities to numerous people in related industries such as packaging, transportation, and marketing. Kaur et al., (2016) emphasize that investing in kinnow cultivation in South-Western Punjab yields substantial returns, as evidenced by a benefit-cost ratio exceeding unity and higher internal rates of return (IRR).

Despite the numerous advantages of kinnow cultivation, growers in Fazilka and Sriganganagar districts face several constraints that limit their productivity and profitability. These constraints can be broadly classified into two categories - natural and man-made. Natural constraints include factors such as soil quality, climate, and pest infestation, while man-made constraints include issues such as lack of market access, poor infrastructure, and

inadequate credit facilities.

In Fazilka, kinnow is grown on alluvial soil, which is rich in nutrients and has good water-holding capacity. However, the region is prone to water logging, which can lead to root rot and other diseases. In Sriganganagar, kinnow is grown on sandy loam soil, which is well-drained and suitable for citrus cultivation.

In both regions, growers face challenges related to market access and infrastructure. Thus, a comparative analysis of the constraints faced by kinnow growers of Fazilka and Sriganganagar districts is essential to identify the factors that hinder the growth and profitability of the kinnow industry in these regions. This analysis can provide valuable insights into the underlying issues and help policymakers and stakeholders formulate effective strategies to address the challenges faced by the kinnow growers. Kaushal & Singh (2011) argue that the adoption of drip irrigation in Kinnow crops offers several advantages, including water conservation, increased yield, reduced labor and energy costs, improved quality, and access to subsidies. However, obstacles such as the substantial initial investment and a lack of awareness hinder its widespread implementation.

Kaur & Singla (2016) identified several constraints faced by the growers, including high cost of inputs, water scarcity, pest and disease infestations, and lack of market access. The authors also found that the level of education and experience of the growers influenced their perception of the constraints. Usman et al., (2018) identified several key factors impeding the production of citrus crops,

including issues such as black marketing of fertilizers, labor shortages, insufficient technical knowledge, and financial constraints. They also highlighted obstacles in the marketing of citrus, such as the monopoly of middlemen, delayed payments by dealers, the absence of storage facilities, high storage costs, and government-set citrus prices below market value. Baloch & Thapa (2017) highlighted the need for effective extension services and credit support to promote the adoption of improved kinnow cultivation practices. They recommended the development of targeted extension programs, the promotion of farmer-to-farmer learning, and the provision of credit and financial support to encourage the adoption of improved practices. However, citrus farming also faces several challenges; including climate change, water scarcity, and pest and disease infestations.

In this context, it is important to note that several studies have already been conducted to understand the various constraints faced by kinnow growers in India. However, most of these studies have focused on a particular region, and there is a dearth of research that compares the constraints faced by growers in different regions. Hence, a comparative analysis of Fazilka and Sriganganagar districts can fill this research gap and provide a more comprehensive understanding of the constraints faced by kinnow growers in northern India.

This study aims to explore and compare the major constraints faced by kinnow growers in Fazilka and Sriganganagar districts. The study will also examine the impact of these constraints on the production and profitability of kinnow. By comparing the constraints faced by kinnow growers in these two regions, the study will provide insights into the specific challenges faced by the growers in each region and help formulate region-specific policies and strategies to address these challenges.

METHODOLOGY

The study collected primary data by conducting personal interviews with Kinnow growers using a structured schedule. Two districts were selected for the study, namely Sriganganagar in Rajasthan and Fazilka in Punjab, both known for their high Kinnow production. Using purposive sampling, four blocks were selected, namely Srikanpur and Sriganganagar in Sriganganagar district, and Abohar and Khuian-sarwar in Fazilka district. These blocks were selected based on their excess Kinnow production. From each block, six Kinnow-producing villages were selected through purposive sampling, resulting in a total of 24 village panchayats. To select participants for the study, 20 Kinnow growers were randomly sampled from each village, resulting in a total of 240 Kinnow growers from Rajasthan and 240 Kinnow growers from Punjab. In total, 480 Kinnow growers were selected for the study. Percentage is used for analyze the data comparatively.

TABLE-1 SAMPLING DETAILS

State	District	Block	Village panchayat	Farmer
(purposive)	(purposive)	(purposive)	(purposive)	(random)
Rajasthan	Sriganganagar	Sriganganagar	13q	20
			Daulatpura	20
			Mahiyani wali	20
			15z	20
			11q	20
			Manphool singh wala	20
		Srikanpur	14 ff	20
			Malkana khurd	20
			7s(kikkar wali)	20
			Dalpatsinghpura	20
			Fuse wala	20
			Gulabe wala (52 gg)	20
Punjab	Fazilka	Khuian sarwar	Danewala satkosi	20
			Panjikosi	20
			Patre wala	20
			Diwankhera	20

			Maujgarh	20
			Kallar khera	20
		Abohar	Kullar	20
			Bhagu	20
			Waryam khera	20
			Shergarh	20
			Shere wala	20
			Patti sadiq	20
Total				480

RESULTS AND DISCUSSION

PRODUCTION CONSTRAINTS:

Comparison of the constraints faced by Kinnow growers in Fazilka, Punjab, and Sriganganagar, Rajasthan presented in table-2. The study found that both districts faced similar constraints in terms of production, input, infrastructure, and other factors. In terms of production constraints, the majority of the respondents in both districts cited difficulties in obtaining specialist services and the lack of training programs for orchard management as major issues. In Fazilka, 50% of the respondents identified

difficulty in obtaining specialist services, while in Sriganganagar, it was 83.75%. Similarly, 68.75% of the respondents in Fazilka and 92.5% in Sriganganagar identified the lack of training programs for orchard management as a constraint. Regarding input constraints, high input prices were a significant concern for Kinnow growers in both districts, with 93.75% of respondents in Fazilka and 97.92% in Sriganganagar identifying this as a constraint. Other input constraints identified included high investment, high interest rates on finance, irregularity of irrigation water, and timely non-availability of fertilizers.

TABLE-2: PRODUCTION CONSTRAINTS FACED BY RESPONDENT KINNOW GROWERS

Constraints	Fazilka (Punjab)		Sriganganagar (Rajasthan)	
Production constraints	No. of responses	Percentage	No. of responses	Percentage
1. Information				
Difficulty obtaining specialist services.	120	50	201	83.75
Lack of training programmes for orchard management	165	68.75	222	92.5
2. Input				
High investment	107	44.58	109	45.42
High interest rates on finance	125	52.08	147	61.25
Irregularity of irrigation water	187	77.92	231	96.25
High input prices	225	93.75	235	97.92
Timely non availability of fertilizers	222	92.5	238	99.17
losses due to low quality pesticides	99	41.25	81	33.75
Shortage of reliable nursery plants.	24	10	195	81.25
3. Infrastructure				
Non-availability of modern farm equipment on rent	65	27.08	83	34.58
unavailability of machinery for shifting large plants	83	34.58	73	30.42
4. Other constraints				
Pre-harvest losses due to rapid weather changes	190	79.17	196	81.67

High rate of citrus decline in recent years	165	68.75	161	67.08
Polluted water supply in canals damaging orchards	166	69.17	167	69.58

Source: Primary data collected between June to December 2022

Regarding infrastructure, the unavailability of modern farm equipment on rent was identified as a constraint by 27.08% of respondents in Fazilka and 34.58% in Sriganganagar. Additionally, Kinnow growers in both districts faced constraints in machinery for shifting large plants. Regarding production constraints, the majority of the Kinnow growers in both districts faced difficulties obtaining specialist services. However, the percentage of growers facing this constraint was higher in Sriganganagar 83.75% compared to Fazilka 50%. The lack of training programs for orchard management was also a significant constraint, with a higher percentage of growers facing this issue in Sriganganagar 92.5% compared to Fazilka 68.75%. Regarding input constraints, the high input prices and timely non-availability of fertilizers were the most significant constraints faced by the Kinnow growers in both districts. However, the percentage of growers facing these constraints was slightly higher in Sriganganagar compared to Fazilka. Irregularity of irrigation water was also a significant issue faced by the Kinnow growers in both districts, with a higher percentage of growers facing this issue in Sriganganagar 96.25% compared to Fazilka 77.92%.

Regarding infrastructure constraints, the non-availability of modern farm equipment on rent and unavailability of machinery for shifting large plants were significant constraints faced by the Kinnow growers in both districts. However, the percentage of growers facing these constraints was slightly higher in Fazilka compared to Sriganganagar.

Regarding other constraints, the pre-harvest losses due to rapid weather changes, high rate of citrus decline in recent years, and polluted water supply in canals damaging orchards were significant constraints faced by the Kinnow growers in both districts. However, the percentage of growers facing these constraints was slightly higher in Fazilka compared to Sriganganagar.

Finally, in terms of other constraints, both districts faced issues such as pre-harvest losses due to rapid weather changes, high rates of citrus decline in recent years, and polluted water supply in canals damaging orchards. Addressing these challenges could help improve the productivity and profitability of Kinnow orchards in the

region. Similar views on the challenges faced by Kinnow growers: A study conducted in Pakistan by Ghafoor et al., (2010) identified high input costs, limited access to credit, and poor infrastructure, including inadequate road networks and storage facilities, as the main constraints faced by Kinnow growers. To address these challenges, the study recommended that the government provide support in the form of subsidies, credit access, and infrastructure improvement.

Studies conducted by Ghafoor et al., (2010), Kaur et al., (2016), Priyadarshini, et al., (2020) indicate that Kinnow growers encounter comparable obstacles in various regions, such as high input costs, insufficient infrastructure, and insufficient access to credit and markets. To enhance productivity and profitability of Kinnow orchards, it is recommended to tackle these challenges by providing support and technical assistance.

MARKETING CONSTRAINTS:

Marketing constraints faced by Kinnow growers in two different regions of India - Fazilka in Punjab and Sriganganagar in Rajasthan, presented in table-3. The constraints are grouped into four categories: information, input, infrastructure, and other constraints. In terms of information, the majority of respondents in both regions reported a lack of real-time price volatility information and non-access to export information as major constraints, with percentages ranging from 78.33% to 84.58%.

In the input category, high transportation costs and shortage of transport facilities were reported as major constraints by a significant proportion of respondents in both regions, with percentages ranging from 82.92% to 85.42%. Regarding infrastructure, poor quality of rural roads, inadequate infrastructure to access distant markets, and less number of waxing and grading units were reported as major constraints by respondents in both regions, with percentages ranging from 37.92% to 78.75%. Finally, Kinnow's tendency to perish quickly and low prices were reported as major constraints by almost all respondents in both regions, with percentages ranging from 94.17% to 97.92%. It can be observed that the kinnow growers in Fazilka (Punjab) and Sriganganagar (Rajasthan) face similar marketing constraints, but there are some differences between the two districts.

TABLE-3: MARKETING CONSTRAINTS FACED BY RESPONDENT KINNOW GROWER

Constraints	Fazilka (Punjab)		Sriganganagar (Rajasthan)	
	No. of responses	Percentage	No. of responses	Percentage
Marketing constraints				
1. Information				
Real time price volatility information not available	195	81.25	203	84.58
Non-access to export information	188	78.33	207	84.58

2. Input				
High cost of transportation	205	85.42	199	82.92
Shortage of transport facilities	163	67.92	159	66.25
3. Infrastructure				
Poor quality of rural roads	91	37.92	176	73.33
Inadequate infrastructure to access distant markets	156	65	174	72.5
Less number of waxing and grading units	35	14.58	189	78.75
4. Other constraints				
Kinnow's tendency to perish quickly	230	95.83	226	94.17
Low price	235	97.92	237	98.75

Source: Primary data collected between June to December 2022

In terms of information, both districts face challenges related to the availability of real-time price volatility information and access to export information. However, the percentage of respondents who reported these constraints was slightly higher in Sriganganagar compared to Fazilka.

Regarding input constraints, both districts face issues related to high transportation costs and shortage of transport facilities. Again, the percentage of respondents reporting these constraints was slightly higher in Fazilka compared to Sriganganagar.

In terms of infrastructure, the most significant difference between the two districts is the poor quality of rural roads. Sriganganagar has a higher percentage of respondents reporting poor rural roads as a constraint compared to Fazilka. However, both districts face challenges related to inadequate infrastructure to access distant markets and a shortage of waxing and grading units. Sriganganagar faced a more noteworthy challenge in terms of the availability of waxing and grading units compared to Fazilka. Sohi, H., & Matharu, K. (2018) reported similar findings, indicating that farmers encounter challenges in embracing kinnow cultivation due to restricted land availability and inadequate infrastructure in Barnala District. Finally, both districts face similar constraints related to kinnow's tendency to perish quickly and low prices. The percentage of respondents reporting these constraints was slightly higher in Sriganganagar compared to Fazilka. A similar finding was discovered by Mavi et al., (2012) that impediments to the growth of kinnow cultivation in the state include insufficient market information and marketing infrastructure, inadequate processing and post-harvest facilities, and frequent price fluctuations. Overall, the data suggests that Kinnow growers in both regions face similar marketing constraints. Lack of information, high input costs, inadequate infrastructure, and low prices are the major challenges faced by these growers. The results highlight the need for the government and other stakeholders to provide better support and infrastructure to Kinnow growers to help them overcome

these challenges and improve their profitability.

CONCLUSIONS

In conclusion, The study highlights that Kinnow growers in Fazilka and Sriganganagar districts face similar constraints, with a slightly higher percentage of respondents reporting these constraints in Sriganganagar. The most significant constraint reported was the tendency of Kinnow to perish quickly, leading to post-harvest losses. Low prices and inadequate infrastructure were also reported as significant constraints. Policymakers could consider measures such as setting up price support mechanisms, improving infrastructure, and promoting value-added products to address these issues. The study also found that many respondents did not have access to real-time price information or export information. Policymakers could consider setting up a system to provide real-time price and export information to growers. In addition, interventions to mitigate canal water pollution, such as wastewater treatment plants and promoting sustainable farming practices, could improve the productivity of the agricultural sector. Finally, setting up nearby extension services or training programs could help growers access these services and improve their overall productivity.

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