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An analysis of constraints faced and suggestions expressed by pomegranate growers under national horticulture mission (NHM) in Chikkaballapura and Chitradurga districts of Karnataka

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Abstract

The present study was conducted to analyze the Constraints faced by pomegranate growers under National Horticulture Mission (NHM). The results were revealed that, 68.33 percent of production constraints as lack of availability of quality seedlings, 52.50 percent technological constraints as lack of knowledge on post-harvest practices, 90.00 percent of marketing constraints as fluctuation in market price and 75.83 percent of financial constraints as high initial cost for garden establishment and delay in getting subsidies were they expressed. Constraints faced by non-beneficiary pomegranate growers had revealed that, 81.67 percent said under production constraints as lack of timely availability of skilled labours, 50.00 percent technological constraints as lack of knowledge and skill in identifying diseases and pests, 75.00 percent of marketing constraints as fluctuation in market price and 86.67 percent of financial constraints as lack of credit facilities are they felt. Further, suggestions of beneficiary pomegranate growers for better implementation had revealed that, 100.00 percent of growers expressed that 'providing market information through various extension functionaries' and also 'providing comprehensive crop insurance' and suggestions of non-beneficiary pomegranate growers for better implementation had also expressed that, 100.00 percent of growers expressed that 'providing market information through various extension functionaries' and also 'providing comprehensive crop insurance'. The findings highlighted the importance of resolving different constraints faced and suggestions for better to increase their participation and get benefit from NHM and spread of positive impact of the NHM.

Keywords: Constraints faced, pomegranate growers, National Horticulture Mission (NHM), suggestions

Introduction

Agriculture sector plays an important role in India's economy and the primary source of income for the majority of the population. It remains the backbone of employment and sustenance for many Indians even today. presently approximately 54.6% of the country's population was engaged in agriculture and its allied activities. The Government of India has implemented numerous schemes and programmes and initiatives to support and develop the agriculture sector. These initiatives and programmes aim not only to enhance agricultural productivity and also to increase farmers' incomes. In terms of horticultural crops, states such as Karnataka, Maharashtra, Andhra Pradesh, Kerala, and West Bengal hold prominent positions in terms of area and production.

The National Horticulture Mission (NHM) was launched in 2005-06 by the Department of Agriculture and Cooperation under the Ministry of Agriculture, Government of India.

This scheme aims for the holistic development of the horticulture sector by establishing forward and backward linkages between all stakeholders, including farmers and private entrepreneurs. The mission covers all states and three Union Territories. Currently, NHM is operational in 384 districts of the country. The NHM scheme was implemented in Karnataka on 2005, in two phases. Initially, 15 districts were included in the first phase during 2004-05 it includes Chitradurga district. Subsequently, in 2015-16, the scheme was extended to the remaining 15 districts includes Chikkaballapur district, by this covered all 30 districts in Karnataka. NHM have focused on 16 major horticultural crops, including mango, grapes, pomegranate, banana, pineapple, cashew, cocoa, pepper, ginger, aromatic plants, and flowers. The mission supports horticultural farmers in post-harvest management, processing and marketing. Among fruit crops, pomegranate has shown remarkable progress. By 2021-22, the area increased to

27,693 hectares, with a production of 302,451 metric tonnes, contributing 3.60% to Karnataka's fruit crop output. This upward trend has made the pomegranate as important perennial fruit crop in Karnataka. Major pomegranate producing districts are Chitradurga, Tumkur, Koppal, Bagalkot, Bijapur, Raichur, Belgaum, Bellary and Dharwad. Despite these increase in area and production, the studies highlight significant potential improve in yield. Challenges in achieving optimal production include gaps in grower knowledge, technological adoption and market access. The implementation of NHM in Karnataka, to analyze their constraints and suggestions for better implementation of the scheme. This present study aimed and analyzed the constraints faced and suggestions expressed by pomegranate growers in Karnataka.

Methodology

The present study was purposively carried out in Chitradurga and Chikkaballapura districts of Karnataka State as the number of beneficiary pomegranate growers were more in these districts. The *ex-post facto* research design was used. A Simple random sampling technique has been employed for the selection of respondents and was interviewed 60 beneficiaries and 30 non-beneficiaries of Chikkaballapura as non-traditional district, interviewed 60 beneficiaries and 30 non-beneficiaries from Chitradurga district, which constitutes the total sample size of 180. The data were collected through personal interview method using pre-tested and well-structured schedule. The statistical tools used for the investigation were Frequency and Percentage were used for the study.

Results

Constraints faced by pomegranate growers

A. Constraints faced by beneficiary pomegranate growers of NHM in Chikkaballapura and Chitradurga districts

The table 1 summarizes the constraints faced by beneficiaries in Chikkaballapura district and Chitradurga district and across both regions. These constraints were categorized into four main areas: Production, Technological, Marketing, and Financial. The percentages reflect the extent to which these constraints were experienced by the beneficiaries.

a. Production Constraints

The lack of availability of quality seedlings was the most significant constraint for pomegranate growers in both the districts. A high percentage of beneficiaries reported this issue, with 70.00 percent of Chikkaballapura district beneficiaries and 66.67 percent of Chitradurga district beneficiaries facing this problem. Overall, 68.33 percent of the beneficiaries across both the districts faced challenges with obtaining quality seedlings. Other major production constraints included the lack of irrigation facilities, with 51.67 percent of Chikkaballapura district beneficiaries and 35.00 percent of Chitradurga district beneficiaries experiencing this issue. Across both districts, 43.33 percent of all beneficiaries reported facing irrigation challenges. Additionally, the lack of timely availability of inputs (66.67% in Chikkaballapura, 55.00% in Chitradurga) and skilled labor (66.67% in Chikkaballapura, 58.33% in

Chitradurga) were also significant concerns, with 60.83 percent and 62.50 percent of beneficiaries across both districts reporting these issues, respectively.

b. Technological Constraints

When it comes to technological challenges, the lack of knowledge and skill in identifying diseases and pests was the most commonly reported issue, with 45% of Chikkaballapura beneficiaries and 55.00 percent of Chitradurga district beneficiaries faced this challenge. In total, 50.00 percent of beneficiaries across both the districts struggled with pest and disease identification. Similarly, 48.33 percent of Chikkaballapura district beneficiaries and 35.00 percent of Chitradurga district beneficiaries reported difficulties in pest and disease management, which was a constraint for 41.67 percent of all beneficiaries. Additionally, 38.33 percent of Chikkaballapura beneficiaries and 40.00 percent of Chitradurga beneficiaries faced challenges in pruning practices, and 48.33 percent of Chikkaballapura district beneficiaries and 56.67 percent of Chitradurga beneficiaries have experienced difficulties with post-harvest practices. In total, 39.17 percent of beneficiaries across both districts lack pruning knowledge, while 52.50 percent faced post-harvest knowledge gaps.

c. Marketing Constraints

Marketing-related challenges were highly prominent, particularly the fluctuation in market prices. An overwhelming 80.00 percent of Chikkaballapura district beneficiaries and cent percent of Chitradurga district beneficiaries identified price fluctuations as a significant issue, with 90.00 percent of all beneficiaries faced this challenge. The lack of market information was another notable constraint, with 40.00 percent of Chikkaballapura district beneficiaries and 60.00 percent of Chitradurga district beneficiaries reported this problem, affecting 50.00 percent of all beneficiaries. Accessibility to markets was another critical issue, with 46.67 percent of Chikkaballapura district beneficiaries and 70.00 percent of Chitradurga district beneficiaries faced challenges in this area, leading to 58.33 percent of all beneficiaries reported this constraint. Furthermore, the lack of transportation facilities affected 33.33 percent of Chikkaballapura district beneficiaries and 43.33 percent of Chitradurga district beneficiaries (38.33% overall). The storage facility problem is more prevalent in Chikkaballapura district, where 28.33 percent of beneficiaries reported lacking storage, compared to no such issues in Chitradurga. The middlemen problem was reported by 35.00 percent of Chikkaballapura district beneficiaries and 26.67 percent of Chitradurga district beneficiaries, impacting 30.83 percent of all beneficiaries.

d. Financial Constraints

Financial constraints were also significant. A major issue for pomegranate growers in both the districts was the high cost of inputs, affecting 71.67 percent of Chikkaballapura district beneficiaries and 73.33 percent of Chitradurga district beneficiaries, with 72.50 percent of all beneficiaries reporting this issue. The lack of access to credit facilities was another major concern, with 70.00 percent of Chikkaballapura district beneficiaries and 60.00 percent of Chitradurga district beneficiaries experiencing difficulties in

securing credit. In total, 65.00 percent of beneficiaries across both the districts reported this constraint. Establishing the garden itself was a significant financial burden, with 80.00 percent of Chikkaballapura beneficiaries and 71.67 percent of Chitradurga beneficiaries faced challenges with the high initial cost. This impacts 75.83 percent of all beneficiaries. Furthermore, delay in receiving subsidies were a concern for 80.00 percent of Chikkaballapura district beneficiaries and 71.67 percent of Chitradurga district beneficiaries, leading to a total of 75.83 percent of beneficiaries across both districts reported delay in subsidy disbursement.

B. Constraints faced by non-beneficiary pomegranate growers of NHM in Chikkaballapura and Chitradurga districts

The table 2 presented constraints faced by non-beneficiary pomegranate growers in Chikkaballapura and Chitradurga districts were also varied, with significant challenges across production, technological, marketing, and financial aspects. A detailed comparison of the non-beneficiary farmers in both districts reveals some key patterns.

a. Production Constraints

The lack of availability of quality seedlings was a common issue, with 60% of Chikkaballapura district non-beneficiaries and 56.67 percent of Chitradurga non-beneficiaries reported this problem, affecting 58.33 percent of all non-beneficiaries. Additionally, 56.67 percent of

Chikkaballapura district non-beneficiaries and 36.67 percent of Chitradurga district non-beneficiaries faced issues with irrigation facilities, leading to 46.67 percent of all non-beneficiaries reporting irrigation challenges. The lack of timely availability of inputs also stands out as a challenge for 50.00 percent of Chikkaballapura non-beneficiaries and 60.00 percent of Chitradurga non-beneficiaries, resulting in 55.00 percent of all non-beneficiaries facing this issue. Furthermore, the lack of timely availability of skilled labor was a major concern for cent percent of Chikkaballapura district non-beneficiaries, and 63.33 percent of Chitradurga district non-beneficiaries, which impacts 81.67 percent of all non-beneficiaries.

b. Technological Constraints

In terms of technological challenges, 46.67 percent of Chikkaballapura district non-beneficiaries and 53.33 percent of Chitradurga district non-beneficiaries reported a lack of knowledge and skills in identifying diseases and pests, leading to 50.00 percent of all non-beneficiaries faced this issue. Pest and disease management difficulties were less common, with no Chikkaballapura district non-beneficiaries faced this problem, but 30.00 percent of Chitradurga non-beneficiaries reported difficulties, affecting 15.00 percent of all non-beneficiaries. Additionally, 40.00 percent of Chikkaballapura non-beneficiaries and 53.33 percent of Chitradurga district non-beneficiaries report a lack of knowledge about pruning practices, leading to 46.67 percent of all non-beneficiaries faced this issue.

Table 1: Constraints faced by beneficiary Pomegranate growers of NHM in Chikkaballapura and Chitradurga districts (n=120)

Sl. No.	Constraints	Chikkaballapura Beneficiary (n ₁ =60)		Chitradurga Beneficiary (n ₂ =60)		Overall Total Beneficiary (n=120)	
		f	%	f	%	f	%
a.	Production constraints						
1	Lack of availability of quality seedlings	42	70.00	40	66.67	82	68.33
2	Lack of irrigation facilities	31	51.67	21	35.00	52	43.33
3	Lack of timely availability of inputs	40	66.67	33	55.00	73	60.83
4	Lack of timely availability of skilled labours	40	66.67	35	58.33	75	62.50
b.	Technological constraints						
1	Lack of knowledge and skill in identifying diseases and pests	27	45.00	33	55.00	60	50.00
2	Difficulty in pest and disease management	29	48.33	21	35.00	50	41.67
3	Lack of knowledge about pruning practices	23	38.33	24	40.00	47	39.17
4	Lack of knowledge on post-harvest practices	29	48.33	34	56.67	63	52.50
c.	Marketing constraints						
1	Lack of transportation facilities	20	33.33	26	43.33	46	38.33
2	Fluctuation in market price	48	80.00	60	100.00	108	90.00
3	Lack of market information	24	40.00	36	60.00	60	50.00
4	Lack of market accessibility	28	46.67	42	70.00	70	58.33
5	Lack of storage facilities	17	28.33	0	0.00	17	14.17
6	Middlemen problem	21	35.00	16	26.67	37	30.83
d.	Financial constraints						
1	High cost of inputs	43	71.67	44	73.33	87	72.50
2	Lack of credit facilities	42	70.00	36	60.00	78	65.00
3	High initial cost for garden establishment	48	80.00	43	71.67	91	75.83
4	Delay in getting subsidies	48	80.00	43	71.67	91	75.83

Table 2: Constraints faced by non-beneficiary Pomegranate growers of NHM in Chikkaballapura and Chitradurga districts (n=60)

Sl. No.	Constraints	Chikkaballapura Non-beneficiary (n1=30)		Chitradurga Non-beneficiary (n2=30)		Overall Total Non-beneficiary (n =60)	
		f	%	f	%	f	%
A	Production constraints						
1	Lack of availability of quality seedlings	18	60.00	17	56.67	35	58.33
2	Lack of irrigation facilities	17	56.67	11	36.67	28	46.67
3	Lack of timely availability of inputs	15	50.00	18	60.00	33	55.00
4	Lack of timely availability of skilled labours	30	100.00	19	63.33	49	81.67
B	Technological constraints						
1	Lack of knowledge and skill in identifying diseases and pests	14	46.67	16	53.33	30	50.00
2	Difficulty in pest and disease management	0	0.00	9	30.00	9	15.00
3	Lack of knowledge about pruning practices	12	40.00	16	53.33	28	46.67
4	Lack of knowledge on post-harvest practices	14	46.67	15	50.00	29	48.33
C	Marketing constraints						
1	Lack of transportation facilities	16	53.33	12	40.00	28	46.67
2	Fluctuation in market price	15	50.00	30	100.00	45	75.00
3	Lack of market information	18	60.00	19	63.33	37	61.67
4	Lack of market accessibility	13	43.33	17	56.67	30	50.00
5	Lack of storage facilities	9	30.00	0	0.00	9	15.00
6	Middlemen problem	11	36.67	14	46.67	25	41.67
D	Financial constraints						
1	High cost of inputs	22	73.33	18	60.00	40	66.67
2	Lack of credit facilities	22	73.33	30	100.00	52	86.67
3	High initial cost for garden establishment	22	73.33	16	53.33	38	63.33
4	Delay in getting subsidies	14	46.67	15	50.00	29	48.33

The lack of knowledge on post-harvest practices is another challenge, with 46.67 percent of Chikkaballapura district non-beneficiaries and 50.00 percent of Chitradurga district non-beneficiaries affected, resulting in 48.33 percent of all non-beneficiaries reporting this constraint.

a. Marketing Constraints

Marketing-related constraints were prominent among non-beneficiaries. The lack of transportation facilities affected 53.33 percent of Chikkaballapura district non-beneficiaries and 40.00 percent of Chitradurga district non-beneficiaries, leading to 46.67 percent of all non-beneficiaries faced this challenge. Fluctuation in market prices was a major issue, affecting 50.00 percent of Chikkaballapura district non-beneficiaries and cent percent of Chitradurga district non-beneficiaries, with 75.00 percent of all non-beneficiaries faced this constraint. Additionally, 60.00 percent of Chikkaballapura non-beneficiaries and 63.33 percent of Chitradurga non-beneficiaries reported a lack of market information, affected 61.67 percent of all non-beneficiaries. The lack of market accessibility was another constraint, affecting 43.33 percent of Chikkaballapura non-beneficiaries and 56.67 percent of Chitradurga non-beneficiaries, resulting in 50.00 percent of all non-beneficiaries faced this issue. The lack of storage facilities was particularly notable in Chikkaballapura, where 30.00 percent of non-beneficiaries report this challenge, compared to no issues in Chitradurga, leading to 15.00 percent of all non-beneficiaries faced storage constraints. The middlemen problem affected 36.67 percent of Chikkaballapura district non-beneficiaries and 46.67 percent of Chitradurga district

non-beneficiaries, with 41.67 percent of all non-beneficiaries reported this issue.

b. Financial Constraints

Financial constraints were also prevalent among non-beneficiaries. The high cost of inputs was reported by 73.33 percent of Chikkaballapura district non-beneficiaries and 60.00 percent of Chitradurga district non-beneficiaries, affecting 66.67 percent of all non-beneficiaries. The lack of credit facilities was a significant challenge for 73.33 percent of Chikkaballapura non-beneficiaries and cent percent of Chitradurga non-beneficiaries, with 86.67 percent of all non-beneficiaries facing this issue. High initial costs for garden establishment were another financial challenge, reported by 73.33 percent of Chikkaballapura district non-beneficiaries and 53.33 percent of Chitradurga district non-beneficiaries, affected 63.33 percent of all non-beneficiaries. Additionally, 46.67 percent of Chikkaballapura non-beneficiaries and 50.00 percent of Chitradurga non-beneficiaries reported delay in receiving subsidies, affecting 48.33 percent of all non-beneficiaries.

Suggestions expressed by Pomegranate growers

Suggestions of beneficiary Pomegranate growers of NHM for better implementation in Chikkaballapura and Chitradurga districts

The table 3 depicts the suggestions provided by beneficiary pomegranate growers in Chikkaballapura and Chitradurga districts for improving the implementation of the National Horticulture Mission (NHM) highlighted several key areas for intervention, with comparisons between the districts and

overall results providing insights into their priorities. These suggestions encompass aspects related to technical support, access to quality inputs, market access and financial assistance.

For providing technical know-how on improved cultivation practices of pomegranate, a significant proportion of the beneficiaries, 73.33 percent in Chikkaballapura district and 68.33 percent in Chitradurga district, emphasize the importance of providing technical know-how on improved cultivation practices of pomegranate, with 70.83 percent of all beneficiaries highlighted this need. This suggested that a strong demand exists for better guidance on best agricultural practices to enhance yields and quality.

The high quality grafts/seedlings should be made available by the Department of Horticulture through registered nursery, the availability of high-quality grafts and seedlings was another major suggestion. In Chikkaballapura district, 58.33 percent of beneficiaries feel this was crucial, compared to 45.00 percent in Chitradurga district, with 51.67 percent of all beneficiaries emphasizing this need. This suggested that access to better planting material was essential to improve the productivity of pomegranate farming.

For providing technical know-how on post-harvest practices was a concern for 51.67 percent of Chikkaballapura district beneficiaries and 43.33 percent of Chitradurga district beneficiaries, with 47.50 percent of all beneficiaries supporting this initiative. This indicates a recognition of the importance of proper handling after harvest to reduce losses and enhance the quality of pomegranates for the market.

By provision of storage facilities at village level, the need for storage facilities at the village level was also

highlighted. While 51.67 percent of Chikkaballapura district beneficiaries and 18.33 percent of Chitradurga district beneficiaries expressed interest in this, a total of 35.00 percent of all beneficiaries identify storage as a critical area that needs attention. Improved storage infrastructure would allow farmers to store their produce for longer periods, thereby avoiding losses due to spoilage or market price fluctuations.

By technical advice regarding integrated pest and disease management was the most commonly mentioned suggestion, with 81.67 percent of beneficiaries from both regions agreeing on its importance. This showed a strong consensus on the need for expert guidance to tackle pest and disease problems, which can significantly impact crop yield and quality and ensure production and productivity.

By providing market information through various extension functionaries were universally recognized as vital, with cent percent of beneficiaries in both Chikkaballapura and Chitradurga districts supporting this suggestion. Access to timely market information would allow farmers to make informed decisions about when and where to sell their produce, thereby improving their bargaining power and obtain better price.

The timely availability of inputs with reasonable prices, ensuring the timely availability of inputs at reasonable prices was another critical suggestion. Both Chikkaballapura and Chitradurga district beneficiaries (93.33% each) strongly support this, with 93.33 percent of all beneficiaries agreeing on the importance of this initiative. Affordable and timely access to quality inputs such as fertilizers, pesticides and irrigation materials was essential for successful cultivation.

Table 3: Suggestions of beneficiary Pomegranate growers for better implementation of NHM in Chikkaballapura and Chitradurga districts (n=120)

Sl. No.	Suggestions	Chikkaballapura Beneficiary (n ₁ =60)		Chitradurga Beneficiary (n ₂ =60)		Overall Beneficiary (n=120)	
		f	%	f	%	f	%
1	Providing technical know-how on improved cultivation practices of pomegranate	44	73.33	41	68.33	85	70.83
2	High quality grafts/seedlings should be made available by the Department of Horticulture through registered nursery	35	58.33	27	45.00	62	51.67
3	Providing technical know-how on post-harvest practices	31	51.67	26	43.33	57	47.50
4	Provision of storage facilities at village level	31	51.67	11	18.33	42	35.00
5	Technical advice regarding integrated pest and disease management	49	81.67	49	81.67	98	81.67
6	Providing market information through various extension functionaries	60	100.00	60	100.00	120	100.00
7	Timely availability of inputs with reasonable prices	56	93.33	56	93.33	112	93.33
8	Encouraging forming of commodity-based organisations	44	73.33	44	73.33	88	73.33
9	Providing comprehensive crop insurance	60	100.00	60	100.00	120	100.00
10	Disease resistant varieties of pomegranate should be made available	47	78.33	47	78.33	94	78.33
11	Providing guidance on account keeping	25	41.67	11	18.33	36	30.00
12	Direct selling of pomegranate through co-operative organizations	30	50.00	28	46.67	58	48.33

By encouraging forming of commodity-based organizations, was suggested by 73.33 percent of beneficiaries in both the districts. This would likely enhance collective bargaining power, improve access to resources, and strengthen marketing channels, ultimately benefiting the farmers.

By providing comprehensive crop insurance was another widely supported suggestion, with cent percent of beneficiaries in both districts agreeing. Crop insurance would offer financial protection to farmers against risks such as pests, diseases, and adverse weather conditions,

ensuring their economic security.

The disease resistant varieties of pomegranate should be made available, the availability of disease-resistant pomegranate varieties was also highly recommended, with 78.33 percent of beneficiaries from both the districts supporting this. Disease-resistant varieties would reduce crop losses and the need for intensive pest management.

By providing guidance on account keeping, was a suggestion for improving financial management. While 41.67 percent of Chikkaballapura district beneficiaries and

18.33 percent of Chitradurga district beneficiaries support this, only 30.00 percent of all beneficiaries see this as a necessity. This suggested that while some farmers recognized the importance of financial management skills, it might not be a universal priority.

The direct selling of pomegranate through co-operative organizations, was supported by 50.00 percent of Chikkaballapura district beneficiaries and 46.67 percent of Chitradurga district beneficiaries, with 48.33 percent of all beneficiaries backing this idea. Cooperative selling or collective selling could help farmers avoid middlemen, secure better prices, and improve market access.

Overall, the beneficiaries have provided a comprehensive list of suggestions aimed at improving various aspects of pomegranate cultivation from production to marketing. The most common suggestions focus on providing technical knowledge, ensuring access to quality inputs and seedlings, improving market access and offering crop insurance. Addressing these suggestions would help enhance the productivity, profitability and sustainability of pomegranate farming in both the regions.

B. Suggestions of non-beneficiary Pomegranate growers of NHM for better implementation in Chikkaballapura and Chitradurga districts

The table 4 presented suggestions provided by non-beneficiary pomegranate growers in Chikkaballapura and Chitradurga districts highlighted several key areas where they believe improvements could be made to better implement of National Horticulture Mission (NHM). These suggestions were similar to those offered by beneficiaries but also emphasized certain aspects that non-beneficiaries felt were critical for enhancing the productivity and

profitability of pomegranate cultivation.

For the statement Providing technical know-how on improved cultivation practices of pomegranate, over half of the non-beneficiaries, 53.33 percent in both Chikkaballapura and Chitradurga districts, emphasized the need for providing technical know-how on improved cultivation practices of pomegranate. This showed a strong desire for guidance on better agricultural practices to enhance crop productivity and quality.

For high quality grafts/seedlings should be made available by the Department of Horticulture through registered nursery, a significant proportion of the non-beneficiaries in both the districts (53.33% in Chikkaballapura and 43.33% in Chitradurga) supported the suggestion for the Department of Horticulture to provide high-quality grafts and seedlings through registered nurseries. This indicated a recognition of the importance of good-quality planting material in improving yields.

By providing technical know-how on post-harvest practices, the need for technical know-how on post-harvest practices was suggested by 46.67 percent of Chikkaballapura district non-beneficiaries and 30.00 percent of Chitradurga district non-beneficiaries with 38.33 percent overall. This showed that a notable number of farmers recognized the importance of proper handling after harvest to reduce losses and improve the quality of pomegranates.

By creating provision of storage facilities at village level was also recommended, with 43.33 percent of Chikkaballapura district non-beneficiaries and 16.67 percent of Chitradurga district non-beneficiaries supporting the idea. Overall, 30.00 percent of all non-beneficiaries agree on the importance of storage infrastructure to prevent spoilage and allow for better market timing.

Table 4: Suggestions of non-beneficiary pomegranate growers for better implementation of NHM in Chikkaballapura and Chitradurga districts (n=60)

Sl. No.	Suggestions	Chikkaballapura Non-beneficiaries (n ₁ =30)		Chitradurga Non-beneficiaries (n ₂ =30)		Overall Non-beneficiaries (n=60)	
		f	%	f	%	f	%
1	Providing technical know-how on improved cultivation practices of pomegranate	16	53.33	16	53.33	32	53.33
2	High quality grafts/seedlings should be made available by the Department of Horticulture through registered nursery	16	53.33	13	43.33	29	48.33
3	Providing technical know-how on post-harvest practices	14	46.67	9	30.00	23	38.33
4	Provision of storage facilities at village level	13	43.33	5	16.67	18	30.00
5	Technical advice regarding integrated pest and disease management	23	76.67	22	73.33	45	75.00
6	Providing market information through various extension functionaries	30	100.00	30	100.00	60	100.00
7	Timely availability of inputs with reasonable prices	24	80.00	24	80.00	48	80.00
8	Encouraging forming of commodity-based organisations	17	56.67	17	56.67	34	56.67
9	Providing comprehensive crop insurance	30	100.00	30	100.00	60	100.00
10	Disease resistant varieties of pomegranate should be made available	18	60.00	17	56.67	35	58.33
11	Providing guidance on account keeping	15	50.00	6	20.00	21	35.00
12	Direct selling of pomegranate through co-operative organisations	13	43.33	10	33.33	23	38.33

The technical advice regarding integrated pest and disease management was a key suggestion, supported by 76.67 percent of Chikkaballapura district non-beneficiaries and 73.33 percent of Chitradurga district non-beneficiaries, totaling 75.00 percent overall. This highlighted the importance of expert guidance in managing pests and diseases, which are major constraints to pomegranate

cultivation.

By providing market information through various extension functionaries, the need for market information through various extension functionaries was universally supported by 100% of non-beneficiaries from both the districts. This showed that all non-beneficiary farmers acknowledge the importance of having access to timely and reliable market

information to make informed decisions about when and where to sell their produce.

The timely availability of inputs with reasonable prices was crucial, with 80.00% of non-beneficiaries from both Chikkaballapura and Chitradurga districts supporting this suggestion. This reflects a widespread concern for ensuring that farmers have access to essential agricultural inputs such as fertilizers, pesticides, and irrigation facilities.

By encouraging forming of commodity-based organizations was supported by 56.67 percent of non-beneficiaries from both districts. This suggests that farmers see value in forming collectives that can improve their bargaining power, streamline resources, and enhance market access.

By providing comprehensive crop insurance was supported by cent percent of non-beneficiaries in both districts, reflecting its importance for financial protection against risks such as pest infestations, diseases and weather-related losses. Crop insurance would provide farmers with a safety net and ensure their economic stability.

The disease resistant varieties of pomegranate should be made available, the suggestion for the availability of disease-resistant pomegranate varieties was supported by 60.00 percent of Chikkaballapura district non-beneficiaries and 56.67 percent of Chitradurga district non-beneficiaries, totaling 58.33 percent of all non-beneficiaries. This showed that disease-resistant varieties would help in reducing crop losses and managing pest outbreaks more effectively.

By providing guidance on account keeping was suggested by 50.00 percent of Chikkaballapura district non-beneficiaries and 20.00 percent of Chitradurga district non-beneficiaries, with 35.00 percent of all non-beneficiaries supporting this initiative. This suggested that some farmers value financial management skills to better handle their income, expenses and overall financial planning.

By direct selling of pomegranate through co-operative organizations was supported by 43.33 percent of Chikkaballapura district non-beneficiaries and 33.33 percent of Chitradurga district non-beneficiaries, with 38.33 percent of all non-beneficiaries backing this idea. Cooperative selling would help farmers bypass intermediaries and improve their access to markets, potentially leading to better prices for their produce.

Overall, the non-beneficiaries in both the districts have provided a clear set of suggestions aimed at improving various aspects of pomegranate cultivation, post-harvest handling and marketing. The most commonly mentioned suggestions focused on providing technical know-how, ensuring the availability of quality seedlings, improving pest management, and providing access to market information. Additionally, crop insurance, the formation of commodity-based organizations, and the availability of disease-resistant varieties were critical areas identified for intervention. These suggestions reflected the challenges faced by non-beneficiaries and the necessary steps that can be taken to improve the overall productivity and profitability of pomegranate farming.

Conclusion

The present study was concluded to understand the constraints and suggestions for better implementation of National Horticulture Mission (NHM) by pomegranate growers. The beneficiary and non-beneficiary pomegranate

growers in both Chikkaballapura and Chitradurga districts faced a range of constraints, particularly in production, technology, marketing, and finance. Production challenges, such as the lack of quality seedlings and timely availability of skilled labor, were common. Technological constraints, including knowledge gaps in pest management and post-harvest practices, were significant. Marketing constraints, particularly price fluctuations, lack of market information, and transportation issues, were widely reported. Financial constraints, such as high input costs, lack of credit facilities, and delay in subsidies also pose major barriers. Addressing these challenges has essential for improving the livelihoods and productivity of non-beneficiary pomegranate growers in these regions. Extending the NHM schemes support could help improve their horticultural productivity and economic outcomes, benefiting them.

References

1. Darsana S, Suresha SV. Determinants of farmers' welfare: A special reference to Kerala state. *Mysore Journal of Agricultural Sciences*. 2018;52(2):219-226.
2. Hasan SS, Sarmin NS, Miah MG. Assessment of scenario-based land use changes in the Chittagong Hill Tracts of Bangladesh. *Environmental Development*. 2020;34:100463.
3. Meena D. Knowledge and attitude of farmers about agricultural extension programmes in Krishna district of Andhra Pradesh [M.Sc. (Agri.) thesis]. Bapatla: Acharya N.G. Ranga Agricultural University; 2016.
4. Muttu NM. Study on forward linkage activities of groundnut growers in Chitradurga district of Karnataka [M.Sc. thesis]. Shivamogga: Keladi Shivappa Nayaka University of Agricultural and Horticultural Sciences; 2023.
5. Pandey M, Solanki D. Constraints faced in utilization of Agricultural Technology Information Centre (ATIC) facilities by farm families. *Journal of Community Mobilization and Sustainable Development*. 2015;10(1):104-107.
6. Pradhan S, Pande AK, Bisht K. Constraints confronted by small farmers in achieving livelihood security in Shahpura block of Jabalpur district (M.P.), India. *International Journal of Current Microbiology and Applied Sciences*. 2020;9(6):2108-2116.
7. Preethi YH. Performance and marketing behavior of areca growers of Totautpannagala Marata Shankara Sangha Niyamith (TUMCOS) in Davanagere district [M.Sc. (Agri.) thesis]. Bangalore: University of Agricultural Sciences; 2021.
8. Shwetha NV. A comparative analysis of livelihood security of farmers practicing different farming systems in southern Karnataka [Ph.D. (Agri.) thesis]. Bangalore: University of Agricultural Sciences; 2019.