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An analysis of marketing behaviour of pomegranate growers under National Horticulture Mission (NHM) in Karnataka

¹Pottappa K, ²C Narayanaswamy, ³Ganapathy MS, ⁴TL Mohankumar and ⁵S Ganesamoorthi

¹Ph.D. Scholar, Department of Agricultural Extension, University of Agricultural Sciences Bangalore (UASB), GKVK, Bengaluru, Karnataka, India

²Professor & Chief Instructor and Head, Farmers Training Institute, UASB, GKVK, Bengaluru, Karnataka, India

³Professor, Institute of Agriculture Business Management, UASB, GKVK, Bengaluru, Karnataka, India

⁴Assistant Professor, Department of Agriculture Statistics, Applied Mathematics & Computer Science, UASB, GKVK, Bengaluru, Karnataka, India

⁵Professor, Department of Agricultural Extension, UASB, GKVK, Bengaluru, Karnataka, India

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Corresponding Author: Pottappa K

Abstract

The present study was conducted to analyze the Marketing Behaviour of pomegranate growers under National Horticulture Mission (NHM). Overall marketing behaviour of beneficiary pomegranate growers of both districts revealed that, 100.00 per cent of respondents were selling raw form and 61.67 per cent they do grading and packing always and 75.83 per cent sold the produce at farm site.38.33 per cent they sold to village level traders and about 40.83 per cent of the selling information obtained from neighbour friends and relatives,58.33 per cent of them sold immediately after the harvest,61.67 per cent of them use tempo/lorry for transport of produce and 46.67 per cent of them sold to get ready cash. Overall marketing behaviour of non-beneficiary pomegranate growers of both district revealed that, 100.00 per cent of respondents were sold raw form and 48.33 per cent they do grading and packing always and 56.67 per cent sold their produce at farm site,41.67 per cent they sold to village level traders and about half of the respondents got (50.00 per cent) information from neighbour friends and relatives,61.67 per cent of them sold immediately after the harvest,55.00 per cent of them use tempo/lorry for transport of their produce and 36.67 per cent of them sold to get ready cash. The findings highlighted the importance of improving Marketing Behaviour and outreach efforts for to increase their participation and get benefit from NHM and improve their economic condition for better scheme implementation and spread of positive impact of the NHM.

Keywords: Marketing behaviour, pomegranate growers, National Horticulture Mission (NHM), selling, grading, transport

1. Introduction

Agriculture plays a central role in the Indian economy, being one of the largest economic sectors and the primary source of livelihood for a substantial share of the population. It continues to serve as the backbone of employment and sustenance for millions of people. As per the 2011 Census, about 54.6 per cent of India's population was engaged in agriculture and allied activities. Recognizing the importance of agriculture as a major income-generating sector, the Government of India has implemented several programmes and policy initiatives to strengthen and modernize the sector, with a dual focus on enhancing productivity and improving farmer's incomes. Over the years, the contribution of agriculture to the national economy has shown a gradual upward trend. Within agriculture, horticulture has emerged as a dynamic and significant sub-sector. States such as Karnataka, Maharashtra, Andhra Pradesh, Kerala, and West Bengal occupy leading positions in terms of area and production of horticultural crops. Karnataka accounts for 8.4 per cent of

the total horticultural area in the country, but its contribution to production is relatively lower at 6.8 per cent, placing the state 18th in terms of productivity. This highlights the need for focused interventions to improve efficiency and output. The National Horticulture Mission (NHM) was launched in 2005-06 by the Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India, with the objective of promoting the holistic development of the horticulture sector. The mission emphasizes the creation of strong forward and backward linkages among stakeholders, including farmers, institutions, and private entrepreneurs. Initially, NHM covered all states and three Union Territories like Andaman and Nicobar Islands, Lakshadweep, and Puducherry excluding the North-Eastern and Himalayan states, which were covered under a separate programme, the Horticulture Mission for North East and Himalayan States (HMNEH). At present, NHM operates in 384 districts across 18 states and three Union Territories. From 2014-15 onwards, NHM has been implemented as a sub-scheme under the Mission for Integrated Development of

Horticulture (MIDH), aimed at unlocking the full potential of horticulture by increasing the production of fruits, vegetables, flowers, spices, medicinal, and aromatic plants. In Karnataka, the NHM was implemented in two phases beginning on June 30, 2005. During the first phase (2004-05), the programme covered 15 districts, including Bengaluru (Urban and Rural), Tumkur, Kolar, Chitradurga, Hassan, Mysore, Kodagu, Udupi, Dakshina Kannada, Belgaum, Bijapur, Bagalkot, Gulbarga, and Koppal. In the second phase (2015-16), the mission was extended to the remaining 15 districts viz., Chikkaballapur, Ramanagara, Mandya, Chamarajnagar, Chikkamagaluru, Shivamogga, Davangere, Haveri, Uttara Kannada, Dharwad, Gadag, Bellary, Bidar, Raichur, and Yadgir, thereby bringing all 30 districts of the state under NHM coverage. The mission focuses on the development of 16 major horticultural crops, such as mango, grapes, pomegranate, banana, pineapple, cashew, cocoa, pepper, ginger, aromatic plants, and flowers, along with support for post-harvest management, processing, and marketing. Among fruit crops, pomegranate has shown remarkable growth in Karnataka. During 2017-18, pomegranate was cultivated over 25,967 hectares with a production of 268,228 metric tonnes. By 2021-22, the area increased to 27,693 hectares and production rose to 302,451 metric tonnes, accounting for 3.60 per cent of the total fruit production in the state. This sustained expansion has established pomegranate as an important perennial fruit crop in Karnataka.

Currently, pomegranate cultivation in the state covers about 28.09 thousand hectares, with a production of 328.92 thousand metric tonnes and an average yield of 11.71 metric tonnes per hectare, marginally higher than the national average of 11.70 metric tonnes per hectare. Major pomegranate-producing districts include Chitradurga, Tumkur, Koppal, Bagalkot, Bijapur, Raichur, Belgaum, Bellary, and Dharwad. Despite increases in area and output, several studies indicate significant scope for improving productivity. Constraints such as limited farmer awareness, inadequate adoption of improved technologies, and restricted market access continue to limit yield potential.

To examine the marketing behaviour of pomegranate growers, respondents were personally interviewed to gather information on aspects such as the timing of sale, place of sale, reasons for choosing a particular time or market, buyers involved, sources of market information, modes of transportation, and overall selling patterns. In this context, the implementation of the National Horticulture Mission in Karnataka assumes considerable importance, particularly in assessing its influence on the marketing behaviour of pomegranate growers. Understanding these dimensions and addressing existing challenges are crucial for enhancing productivity, profitability, and returns from pomegranate cultivation. Hence, the present study seeks to analyze the marketing behaviour of pomegranate growers in Karnataka in relation to the implementation of the NHM scheme.

2. Methodology

The present study was taken up during 2023-24 to analyse the marketing behaviour of beneficiaries and non-beneficiaries in Chikkaballapura and Chitradurga districts under the National Horticulture Mission (NHM) scheme. This study was purposively carried out in Chitradurga and

Chikkaballapura district of Karnataka State. As NHM is wide spread in all the districts of Karnataka state, Chitradurga was selected as NHM was started first in that region and Chikkaballapura district was selected based on its wide spread activities in this region because NHM was started in second phase in this district. These two districts were purposively selected for the study as the number of beneficiary pomegranate growers were more in these districts. The ex-post facto design was used. The selection of respondents was by following simple random sampling technique has been employed for the selection of respondents of pomegranate growers from Chitradurga and Chikkaballapura. From each district 60 beneficiaries and 30 non - beneficiaries were selected. Which constituted the total sample size of 180 pomegranate grower respondents. The data were collected from the respondents through personal interview method using pre-tested and well-structured schedule.

3. Results

A. Marketing behaviour of beneficiary pomegranate growers of NHM in Chikkaballapura and Chitradurga districts

The table 1 revealed data on the marketing behaviour of beneficiary pomegranate growers in Chikkaballapura and Chitradurga districts compared to the overall group, revealed several notable patterns.

- 1. Selling Form:** Both the districts Chikkaballapura and Chitradurga as well as overall reported that all 100.00 per cent of the beneficiaries sell raw pomegranates, with no sales of processed pomegranates in either districts. This indicated a consistent approach across the two regions, as well as a uniformity in the selling form of the fruit.
- 2. Grading and Packing:** In Chikkaballapura, 70.00 per cent of farmers always engaged in grading and packing, compared to 53.33 per cent in Chitradurga district. Additionally, 25.00 per cent of farmers in Chikkaballapura district sometimes engaged in this practice, while 35.00 per cent of Chitradurga farmers do so. The overall, 61.67 per cent of farmers across both districts always grade and pack, while 30.00 per cent do so sometimes, and 8.33 per cent never engage in grading and packing. This suggested that Chikkaballapura farmers were more consistent in their grading and packing practices compared to those in Chitradurga district.
- 3. Selling Place:** In both districts, selling at the farm site was the most common practice, with 75.00 per cent of Chikkaballapura district farmers and 76.67 per cent of Chitradurga district farmers selling directly from their farms. The percentage of farmers selling at nearby markets was higher in Chikkaballapura district (23.33 %) compared to Chitradurga district (13.33 %). Whereas a higher proportion of Chitradurga district farmers (10.00 %) sold at far-off markets compared to Chikkaballapura district (1.67 %). Overall, 75.83 per cent of farmers across both the districts preferred selling at the farm site, followed by nearby markets (18.33 %) and far-off markets (5.83 %).
- 4. Selling Person:** The sellers in both the districts were primarily village-level traders, with 38.33 per cent of

farmers in both the districts sold through this channel. Additionally, 25.00 per cent of farmers in both the districts sold through commission agents, and 36.67 per cent sell to export organizations. These patterns were consistent across both the districts, showing a uniform preference for village-level traders, commission agents, and export organizations as the primary selling intermediaries.

5. Selling Information and Counselling: In Chikkaballapura district, 50.00 per cent of farmers rely on neighbors, friends, and relatives for market information, while only 31.67 per cent of Chitradurga district farmers did the same. A higher percentage of Chitradurga district farmers (25.00 %) consult progressive farmers compared to Chikkaballapura district farmers (15.00 %). Furthermore, 23.33 per cent of Chitradurga district farmers consulted extension and market agents, while 15.00 per cent of Chikkaballapura district farmers did so. Overall, 40.83 per cent of farmers across both districts sought advice from neighbors, friends, and relatives, 20.00 per cent consulted progressive farmers, and 19.17 per cent resorted to extension agents and market agents.

6. Selling Time: A greater proportion of Chikkaballapura district farmers (63.33%) preferred to sell their pomegranates immediately after harvest, compared to 53.33 per cent in Chitradurga district. Conversely, 46.67 per cent of Chitradurga district farmers sold when the price was high, compared to 36.67 per cent of Chikkaballapura district farmers. Overall, 58.33 per cent of farmers preferred to sell immediately after harvest, while 41.67 per cent choose to wait for higher

prices.

7. Transport: The most common mode of transport in both the districts was the use of lorries or tempos, with 56.67 per cent of Chikkaballapura district farmers and 66.67 per cent of Chitradurga district farmers used this mode of transport. Autos/LMVs were the second most popular option, used by 43.33 per cent of Chikkaballapura district farmers and 33.33 per cent of Chitradurga district farmers. No farmers in either district use bullock carts or two-wheelers for transport, highlighted a preference for mechanized transport. Overall, 61.67 per cent of farmers used lorries/tempos, while 38.33 per cent used autos/LMVs.

8. Selling Terms and Conditions: In both the districts, 46.67 per cent of farmers received ready cash for their sales, and 26.67 per cent settle loans or sold on credit under similar terms. No farmers in either district engaged in sales on pledge loans. The overall trend across both the districts showed that ready cash was the most common selling term, followed by settlements for loans or credit sales.

The marketing behaviors of pomegranate growers in Chikkaballapura and Chitradurga districts were quite similar, with only minor variations in practices like grading and packing, selling places, and reliance on different sources for selling information. The overall trend showed consistency in selling raw pomegranates, grading and packing practices, choice of intermediaries, and transport methods across both the districts. The major differences lie in the extent of reliance on neighbors for information in Chikkaballapura district and the choice of selling time based on price fluctuations in Chitradurga district.

Table 1: Marketing behaviour of beneficiary pomegranate growers of NHM in Chikkaballapura and Chitradurga districts

(n=120)

Sl. No.	Marketing behavior	Category	Chikkaballapura Beneficiaries (n1=60)		Chitradurga Beneficiaries (n2=60)		Overall Beneficiaries (n=120)	
			f	%	f	%	f	%
1.	Selling form	Raw	60	100.00	60	100.00	120	100.00
		Processed	0	0.00	0	0.00	0	0.00
2.	Grading and packing	Always	42	70.00	32	53.33	74	61.67
		Sometimes	15	25.00	21	35.00	36	30.00
3.	Selling place	Never	3	5.00	7	11.67	10	8.33
		Farm site	45	75.00	46	76.67	91	75.83
4.	Selling person	Nearby markets	14	23.33	8	13.33	22	18.33
		Far off markets	1	1.67	6	10.00	7	5.83
5.	Selling information counselling	Far off markets	23	38.33	23	38.33	46	38.33
		Village level traders	15	25.00	15	25.00	30	25.00
6.	Selling time	Commission agents	22	36.67	22	36.67	44	36.67
		Export organisation	12	20.00	12	20.00	24	20.00
7.	Transport	No counselling	30	50.00	19	31.67	49	40.83
		Neighbour friends & relatives	9	15.00	15	25.00	24	20.00
8.	Selling terms and conditions	Progressive farmers	9	15.00	14	23.33	23	19.17
		Extension and Market agents	38	63.33	32	53.33	70	58.33
6.	Selling time	Immediately after harvest	0	0.00	0	0.00	0	0.00
		After initial storage	22	36.67	28	46.67	50	41.67
7.	Transport	Whenever price is high	34	56.67	40	66.67	74	61.67
		Lorry / Tempo	26	43.33	20	33.33	46	38.33
8.	Selling terms and conditions	Auto/LMV	0	0.00	0	0.00	0	0.00
		Bullock cart	0	0.00	0	0.00	0	0.00
9.	Selling terms and conditions	Two-wheeler/ Cycle	28	46.67	28	46.67	56	46.67
		Ready cash	16	26.67	16	26.67	32	26.67
10.	Selling terms and conditions	To settle the loan	16	26.67	16	26.67	32	26.67
		On credit	0	0.00	0	0.00	0	0.00
11.	Selling terms and conditions	On pledge loan	0	0.00	0	0.00	0	0.00

B. Marketing behaviour of non-beneficiary pomegranate growers of NHM in Chikkaballapura and Chitradurga districts

The table 2 presented data on the marketing behavior of non-beneficiary pomegranate growers in Chikkaballapura and Chitradurga districts, compared to the overall group, revealed several notable patterns.

1. **Selling Form:** Similar to the beneficiaries, all non-beneficiaries in both Chikkaballapura and Chitradurga district farmers sold and also overall raw pomegranates, with no sales of processed pomegranates in either district. This indicated that processed pomegranate sales were not a common practice among either group of growers.
2. **Grading and Packing:** In Chikkaballapura, 40.00 per cent of non-beneficiaries always engage in grading and packing, while 46.67 per cent in Chitradurga do so. A notable proportion of Chikkaballapura district non-beneficiaries (46.67 %) only sometimes engaged in grading and packing, compared to 43.33 per cent in Chitradurga. Additionally, 13.33 per cent of Chikkaballapura district non-beneficiaries never grade or pack their produce, a practice not observed in Chitradurga district. Overall, 48.33 per cent of non-beneficiaries across both the districts always engaged in grading and packing, 45.00 per cent did so sometimes, and 6.67% never engaged in the practice.
3. **Selling Place:** Selling at the farm site was the most common practice among non-beneficiaries in both districts, with 56.67 per cent of growers in both Chikkaballapura and Chitradurga selling directly from the farm. However, 40.00 per cent of non-beneficiaries in Chitradurga district preferred selling at nearby markets, while only 20.00 per cent of Chikkaballapura district non-beneficiaries did so. The proportion of non-beneficiaries selling at far-off markets was higher in Chikkaballapura (23.33 %) compared to Chitradurga district (3.33 %). Overall, 56.67 per cent of non-beneficiaries sold at the farm site, 30.00 per cent sold at nearby markets, and 13.33 per cent sold at far-off markets.
4. **Selling Person:** Village-level traders were the most common selling intermediaries, with 50.00 per cent of Chikkaballapura district non-beneficiaries and 33.33 per cent of Chitradurga district non-beneficiaries selling through this channel. Commission agents were more frequently used by Chitradurga district non-beneficiaries (43.33 %) compared to Chikkaballapura district non-beneficiaries (26.67 %), while 23.33 per cent of non-beneficiaries in both the districts sold to export organizations. Across both districts, 41.67 per

cent of non-beneficiaries used village-level traders, 35.00 per cent use commission agents, and 23.33 per cent use export organizations.

5. **Selling Information and Counselling:** A significant proportion of non-beneficiaries in both the districts (43.33 % in Chikkaballapura and 56.67 % in Chitradurga) rely on neighbors, friends, and relatives for selling information. Progressive farmers were consulted by 23.33 per cent of non-beneficiaries in both districts. Chikkaballapura district non-beneficiaries (20.00 %) rely more on extension and market agents for advice compared to Chitradurga district non-beneficiaries (6.67 %). Overall, 50.00 per cent of non-beneficiaries sought advice from neighbors, friends, and relatives, 23.33 per cent consulted progressive farmers, and 13.33 per cent consulted extension and market agents.
6. **Selling Time:** Half of Chikkaballapura district non-beneficiaries (50.00 %) prefer to sell immediately after harvest. Whereas a larger proportion of Chitradurga district non-beneficiaries (73.33 %) opt for this approach. Additionally, 50.00 per cent of Chikkaballapura district non-beneficiaries and 26.67 per cent of Chitradurga district non-beneficiaries preferred selling when the price was high. Overall, 61.67 per cent of non-beneficiaries across both the districts sold immediately after harvest, and 38.33 per cent wait for a higher price.
7. **Transport:** Lorries or tempos were the most commonly used mode of transport among non-beneficiaries, with 60.00 per cent of Chikkaballapura district non-beneficiaries and 50.00 per cent of Chitradurga district non-beneficiaries depended on this option. Autos/LMVs were used by 36.67 per cent of Chikkaballapura district non-beneficiaries and 46.67 per cent of Chitradurga district non-beneficiaries. The use of two-wheelers or cycles was minimal (3.33 % in both districts). Overall, 55.00 per cent of non-beneficiaries use lorries/tempos, while 41.67 per cent used autos/LMVs.

Selling Terms and Conditions: Ready cash was the most common selling term, with 33.33 per cent of non-beneficiaries in both the districts received immediate payment. In both districts, 33.33 per cent of non-beneficiaries also settle loans, while 26.67 per cent in Chikkaballapura district and 33.33 per cent in Chitradurga district sold on credit. No non-beneficiaries in either district engage in sales on pledge loans. Overall, 33.33 per cent of non-beneficiaries receive ready cash, 36.67 per cent settle loans, and 30.00 per cent sold on credit.

Table 2: Marketing behaviour of non-beneficiary pomegranate growers of NHM in Chikkaballapura and Chitradurga districts
(n=60)

Sl. No.	Marketing behavior	Category	Chikkaballapura Non-beneficiaries (n ₁ =30)		Chitradurga Non-beneficiaries (n ₂ =30)		Overall Non-beneficiaries (n=60)	
			f	%	f	%	f	%
1.	Selling form	Raw	30	100.00	30	100.00	60	100.00
		Processed	0	0.00	0	0.00	0	0.00
2.	Grading and packing	Always	12	40.00	17	56.67	29	48.33
		Sometimes	14	46.67	13	43.33	27	45.00
		Never	4	13.33	0	0.00	4	6.67
3.	Selling place	Farm site	17	56.67	17	56.67	34	56.67
		Nearby markets	6	20.00	12	40.00	18	30.00
		Far off markets	7	23.33	1	3.33	8	13.33
4.	Selling person	Village level traders	15	50.00	10	33.33	25	41.67
		Commission agents	8	26.67	13	43.33	21	35.00
		Export organisation	7	23.33	7	23.33	14	23.33
5.	Selling information counselling	No counselling	4	13.33	4	13.33	8	13.33
		Neighbour friends & relatives	13	43.33	17	56.67	30	50.00
		Progressive farmers	7	23.33	7	23.33	14	23.33
		Extension and Market agents	6	20.00	2	6.67	8	13.33
6.	Selling time	Immediately after harvest	15	50.00	22	73.33	37	61.67
		After initial storage	0	0.00	0	0.00	0	0.00
		Whenever price is high	15	50.00	8	26.67	23	38.33
7.	Transport	Lorry / Tempo	18	60.00	15	50.00	33	55.00
		Auto/LMV	11	36.67	14	46.67	25	41.67
		Bullock cart	0	0.00	0	0.00	0	0.00
		Two-wheeler/ Cycle	1	3.33	1	3.33	2	3.33
8.	Selling terms and conditions	Ready cash	10	33.33	10	33.33	20	33.33
		To settle the loan	12	40.00	10	33.33	22	36.67
		On credit	8	26.67	10	33.33	18	30.00
		On pledge loan	0	0.00	0	0.00	0	0.00

4. Conclusion

The present study was concluded to know the marketing behaviour of pomegranate growers under National Horticulture Mission (NHM). The overall beneficiaries trend showed consistency in selling raw pomegranates, grading and packing practices, choice of intermediaries, and transport methods across both the districts. The major differences lie in the extent of reliance on neighbors for information in Chikkaballapura district and the choice of selling time based on price fluctuations in Chitradurga district. The non-beneficiary pomegranate growers in Chikkaballapura and Chitradurga district share several similarities in their marketing behaviors, such as selling raw pomegranates, using village-level traders, and preferring farm site sales. However, there were some notable differences, such as the slightly higher reliance on nearby markets in Chitradurga district and a greater preference for selling immediately after harvest in Chikkaballapura. Grading and packing practices were less consistent among non-beneficiaries compared to beneficiaries, with a significant portion never engaged in this practice. Non-beneficiaries also tend to rely more on informal sources for selling information and have a more balanced approach to selling terms, often opting for loans or credit. Extending the NHM schemes support to non-beneficiaries could help improve their horticultural productivity and economic outcomes and marketing access results in benefiting them in

a similar way to NHM beneficiaries.

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