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Constraints faced by finger millet growers and their suggestions for improving production, processing, and marketing

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Abstract

Kolhapur district, a key region in Maharashtra, significantly contributes to finger millet production. The district's favorable climate and traditional farming methods have established finger millet as a staple crop, particularly in hilly and sloped areas where other cereals struggle. Finger millet (*Eleusine coracana*), a hardy and nutrient-rich crop, is vital to the livelihoods of small-scale farmers in Kolhapur district. This study, conducted in 2023-24, surveyed 150 randomly selected farmers to assess their prospects of finger millet's potential in production, processing, and marketing. The focus was on the prospects of finger millet cultivation as viewed by growers in the Shahuwadi, Panhala, and Karveer tahsils of Kolhapur district.

However, farmers face significant constraints in its production, processing, and marketing. Key production challenges include the negative impact of prolonged dry spells or excessive rainfall, lack of levelled lands for cultivation, and unavailability of quality seeds. Additionally, issues like damage from wild animals and limited knowledge of integrated nutrient management further reduce crop yields and hinder efficient production.

In terms of processing, farmers struggle with the absence of local processing units and insufficient training on value addition techniques. The high cost of modern equipment and reliance on traditional methods like pounding or grinding prevent small farmers from producing high-quality, value-added products. These limitations restrict their ability to generate better income and expand their market potential, making the transition to modern processing methods essential for economic growth.

To overcome these challenges, farmers have suggested several solutions. They recommend government subsidies for inputs and processing equipment, along with training programs on cultivation, processing, and marketing techniques. Establishing community-based processing centers with modern machinery could improve product quality and enhance marketability. Farmers also emphasize the need for better access to market information, the creation of procurement centers, and the establishment of export facilitation centers to increase profitability in finger millet farming. These recommendations aim to improve efficiency and empower farmers to achieve sustainable growth in finger millet production.

Keywords: Finger millet growers, production, processing, marketing, constraints, suggestions

Introduction

Finger millet (*Eleusine coracana* L.), an essential crop for food security in arid and semi-arid regions, faces numerous constraints at different stages of its value chain - production, processing, and marketing. Despite its resilience and high nutritional value, farmers encounter several obstacles in cultivating this crop, such as erratic rainfall, lack of levelled lands, and the non-availability of quality seeds. Additionally, challenges related to damage from wild animals and limited knowledge of integrated nutrient management further hinder efficient production. These constraints have limited the growth potential of finger millet in many regions.

The processing of finger millet is equally challenged by the lack of adequate facilities and modern equipment, which restricts the farmers' ability to add value to their produce. The unavailability of primary processing machinery, coupled with the high cost of modern technologies, has forced many farmers to rely on traditional and inefficient methods such as manual threshing and grinding. This not only reduces the quality of the grain but also affects their marketability. The lack of awareness and training on advanced processing techniques

further exacerbates these difficulties.

In the marketing phase, farmers often face exploitation by intermediaries and fluctuating market prices. Additionally, the absence of proper marketing facilities, lack of transportation, and poor access to timely payments diminish the profits they can realize from their efforts. To overcome these constraints, farmers have suggested interventions such as providing government-subsidized inputs, introducing modern machinery, establishing processing units, and improving market linkages through better education and training. These measures can help unlock the potential of finger millet, ensuring higher productivity, better market access, and improved livelihoods for growers.

Methodology

For the present study, 150 finger millet growers were selected from Kolhapur districts in the Shahuwadi, Panhala and Karveer tahsils were selected purposively based on having more production of finger millet in Maharashtra, respondents were selected by simple random sampling method. The present investigation was conducted to ascertain the finger millet production, processing and marketing perceived by finger millet growers in Kolhapur district. Therefore, Ex-post facto design of social research was used for the present investigation.

A list of farmers who produces finger millet was prepared with the help of Agriculture assistants, Gramsevak who conducts the training of farmers regarding improved finger millet production technologies. Total sample of 150 finger millet growers were taken for study randomly. The data from selected 150 finger millet growers were collected by contacting them directly utilizing an interview schedule.

Research Findings

1. Constraints faced by the finger millet growers

Data pertaining to the constraints experienced by finger millet growers in the production, processing and marketing as perceived by finger millet growers were gathered and

subsequently analyzed. The findings are detailed in Table 1, providing insights into the challenges faced in the production, processing and marketing.

According to the data showcased in Table 1, the main challenge faced by 86.66% of respondents was difficulties in crop production due to either prolonged dry spells or excessive rainfall. The second issue, reported by 80.66%, was the lack of leveled lands for cultivation, as rice and sugarcane occupy such areas. Non-availability of quality seeds was the third major constraint, affecting 78.66% of respondents. Damage from wild animals was the fourth issue, faced by 65.33%, while 54% struggled with a lack of knowledge about integrated nutrient management.

The study revealed that the primary constraint for 85.30% of respondents was the lack of a processing unit for finger millet, making it the top challenge. The second issue, affecting 82.00% of respondents, was the unavailability of training and awareness about the value addition of finger millet. The third challenge, reported by 82.66%, was the lack of primary processing machinery and the difficulty in maintaining grain quality. Lastly, 76.00% of respondents noted that modern processing technologies are often too expensive for small farmers, leading to the continued use of inefficient traditional methods like pounding or grinding, which affect 60.00% of them.

The study found that 83.30% of respondents faced a major constraint due to a lack of local marketing facilities, making it the top challenge. Close behind, 82.66% reported issues with fluctuations in the prices of finger millet and exploitation by middlemen, ranking second and third, respectively. Additionally, 82.00% of respondents noted a lack of transportation facilities, while 81.33% cited the inconvenience of marketing finger millet due to the absence of cluster-based marketing. Untimely payments affected 74.66% of respondents, and 68.00% faced constraints due to limited grain production from small cultivation areas, which made it difficult to cover market transportation costs.

Table 1: Constraints faced by the finger millet growers regarding Production, processing and marketing

Sr. No.	Constraints	Respondents (N = 150)		Rank
		Frequency N=150	Percentage (%)	
A. Constraints regarding Production				
1.	Difficulties in crop production due to prolonged dry spells during the growth period or excessive rainfall.	130	86.66	I
2.	Leveled lands are not available for cultivation	121	80.66	II
3.	Non-availability of quality seeds	118	78.66	III
4.	Damage due to wild animals.	98	65.33	IV
5.	Lack of knowledge of integrated nutrient management	81	54.00	VI
B. Constraints regarding Processing				
1.	There is a lack of processing units for finger millets in the locality.	128	85.30	I
2.	Training and awareness regarding the value addition of finger millet are unavailable.	126	84.00	II
3.	Unavailability of primary processing machinery and maintaining the quality of the grain	124	82.66	III
4.	Modern processing technologies are often too expensive for small farmers.	114	76.00	IV
5.	Traditional methods like pounding or grinding are still common but inefficient	90	60.00	V
C. Constraints regarding Marketing				
1.	Lack of marketing facilities at the local level.	125	83.30	I
2.	Exploitation by middleman	124	82.66	II
3.	Fluctuations in the prices of finger millet	124	82.66	III
4.	Lack of transportation facilities for marketing and processing	123	82.00	IV
5.	Lack of cluster-based marketing of finger millet.	122	81.33	V
6.	Untimely payment for the produce from the traders	112	74.66	VI
7.	High market transportation costs.	102	68.00	VII

2. Suggestions given by Finger Millet growers regarding Production, Processing and Marketing

Finger millet growers provided valuable suggestions to improve production, processing, and marketing practices. Their insights highlight the need for enhanced support systems, access to quality resources, and better market linkages to boost the overall viability of finger millet cultivation.

According to Table 2, the study found that majority of (83.30%) of respondents recommended the government provide subsidized inputs, making it the top suggestion. Following closely, 81.33% advocated for training in finger millet cultivation for farmers. The third suggestion, supported by 78.66%, was for the government to introduce advanced agricultural techniques developed by agricultural universities. Additionally, 61.33% of respondents emphasized the need for small equipment developed by agricultural universities, KVKs, and FPOs to enhance productivity.

The majority of respondents (83.30%) suggested providing training for installing finger millet processing units and offering subsidized equipment, ranking it first. Second, 81.33% recommended that local cooperatives or government programs

establish community-based processing centers with modern machinery to improve cleaning, milling, and packaging. The third suggestion, made by 76.66%, was for agricultural cooperatives and local businesses to promote value addition by producing finger millet-based products like flour and snacks to diversify markets and boost income. Additionally, 60% supported training on postharvest handling and processing to minimize losses, while 66.66% advocated promoting farmer groups and women's self-help groups for creating value-added products.

The study revealed that 78.66% of respondents prioritized training in marketing finger millet grains and by-products, making it the top suggestion. Following this, 76% advocated for the establishment of export facilitation centers, while 74.66% emphasized the need for training in marketing and value addition. Additionally, 68.66% supported the creation of government procurement centers for finger millet marketing. Finally, 66.66% suggested that timely information about finger millet MSP prices and market information services should be made available. This aligns with the findings of Sul (2018) and Dodiya (2020) [9].

Table 2: Suggestions given by the finger millet growers regarding production, processing and marketing

Sr. No.	Suggestions	Respondents (N = 150)		Rank
		Frequency N=150	Percentage (%)	
A. Suggestions regarding Production				
1.	Government should provide Inputs on subsidized rates.	125	83.30	I
2.	The farmers may be given training in finger millet cultivation	122	81.33	II
3.	The seed of improved varieties of finger millet may be easily available at village level	118	78.66	III
4.	Introduce /implement small equipment developed by agricultural universities, KVK's, FPO's etc.	92	61.33	IV
B. Suggestions regarding Processing				
1.	Training for installation of processing units of finger millet may be given and subsidized equipment should be given.	125	83.30	I
2.	Local cooperatives/ government programs should establish community-based processing centers with modern machinery to enhance the cleaning, milling, and packaging of finger millet	122	81.33	II
3.	Agricultural cooperatives/ local businesses should promote value addition by producing finger millet-based products like flour, porridge mixes, snacks, and beverages to diversify markets and boost income opportunities.	115	76.66	III
4.	Offering training and technical assistance on postharvest handling and processing techniques for minimizing losses and preserving product quality	114	76	IV
5.	Farmer producing group and women's self-help groups should be promoted for the preparation of value-added products of finger millet	100	66.66	V
C. Suggestions regarding Marketing				
1.	Training may be given in marketing of grains and by-products of finger millet.	118	78.66	I
2.	The export facilitation center should be established	114	76	II
3.	Provide training for marketing and value addition	112	74.66	III
4.	Procurement centers should be established by the government for marketing of finger millet.	103	68.66	IV
5.	Information about finger millet MSP prices should be made available at proper time with market information services.	100	66.66	V

Conclusion

The constraints faced by the growers during production are prolonged dry spells or excessive rainfall, levelled lands are not available, non-availability of quality seeds, damage due to wild animals etc., the processing having constraints like no processing units, unavailable trainings and awareness regarding value addition, unavailability of primary processing machineries. Lack of marketing facilities at the local level, exploitation by middleman, fluctuation in prices, lack of transportation facilities and cluster based marketing.

The suggestions offered by finger millet growers regarding production, processing and marketing are government should

provide inputs in subsidized rates, trainings for cultivation, seeds have to available at local level, introducing small equipment's also for processing, the trainings for installation of processing units and subsidized equipment should be given, promote value addition and for marketing of grains and value added products. Procurement centers should be established by government, inform and aware farmers about MSP prices.

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