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Popular Article

Future Prospects of Finger Millet Cultivation at Mawkynrew C&RD Block under East Khasi Hills District, Meghalaya

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Eleusinecoracana (L.) Gaertn (Finger Millet) is a group of small seeded grasses that are grown for their edible seeds known by different names in different regions, such as madua and ragi in India, kaddo in Nepal, Koracan in Srilanka and Raitruh in Khasi, belong to the family Poaceae of the monocotyledon group. This grain holds significant importance as a staple food in various parts of eastern and central Africa, it rank fourth in global millet importance, following sorghum, pearl millet, and foxtail millet. India produces 41% of world's millets, generating 24.95 million USD, placing it in first place (FAO 2020, UN Comtrade 2020). With increased nutritious contents and exceptional qualities as a subsistence food crop, finger millet stands out among grains like barley, rye, and oats. It is abundant in calcium (0.34%), dietary fibre (18%), phytates (0.48%), protein (6%-13%), minerals (2.5%-3.5%), and phenolics (0.3%-3%). It also contains significant amounts of iron, methionine, isoleucine, leucine, phenylalanine, and other vital amino acids. Finger millet has a high concentration of nutrients that are good for health thanks to the richness of these phytochemicals. It possesses a variety of advantageous health traits, including anti-diabetic (type 2 diabetes mellitus), anti-diarrheal, anti-ulcer, anti-inflammatory, anti-tumorigenic (K562 chronic myeloid leukaemia), atherosclerogenic effects, antibacterial, and antioxidant capabilities (Chandra *et al.*, 2016). It's a crop that can thrive in a wide range of soils and climates (Kumar *et al.*, 2018), making it an invaluable asset to communities facing diverse agricultural challenges.

Historical Context of Finger Millet in the Region

Finger millet was traditionally grown in many communities of Mawkynrew Block. In



the past it served as a staple meal in place of rice, since rice was scarce and much of the region was unsuitable for paddy cultivation. However, people eventually switched to rice as their main grain due to the issues related with low yield, low production, limited productivity, and the advent of modern transportation. In addition, the people frequently made native alcoholic beverages from finger millet. To this day, the elder members of the community possess knowledge and expertise in the production of these traditional drinks.

Local varieties of finger millet are cultivated in the area through direct sowing in the months of June and July. Farmers of Pyngkya, Khapmaw, Mawlyngot, and other neighbouring villages often grow millet on jhum land, burning the area during the dry season. These villages are characterized by rocky, uneven, and steep terrain, posing a challenge for the cultivation of other crops. Remarkably till this day, farmer sow finger millets without the use manures and chemical fertilizers with farmers relying on the soil to provide all necessary nutrient requirements.

Current Status of Finger Millet Cultivation

While finger millet has been cultivated for generations at Mawkynew villages, its cultivation area has dwindled over time due to a lack of awareness about the grain's nutritional value and marketability. However, recent years have seen a resurgence of interest in finger millet, driven by a growing awareness of its numerous health advantages and adaptability to diverse environmental conditions. With the initiative of various state government departments, KVK, and non-governmental organizations, farmers are now more cognizant of the potential value addition offered by finger millet.

Government and NGO Initiatives and Support

The government has turned its attention to millet growers after realising the enormous potential of millet. Various organizations have imparted valuable scientific knowledge to these farmers regarding cultivation, crop management, Processing *etc.*, and various incentives such as seeds provisions have been undertaken by various government agencies and NGOs.

The most notable development, though, is that farmers are now more aware of the possibilities for value addition in finger millets as a result of the engagement of numerous government agencies and non-governmental organizations. Farmers are now diversifying their millet crop into a range of value-added goods. This not only holds the promise of delivering greater benefits to millet growers but also opens up exciting opportunities for entrepreneurs looking to venture into the millet production business. With the United Nations and India designating 2023 as the International Year of Millets, there is an expectation that millet



cultivation will experience a renaissance, expanding significantly in the future. In Mawkynrew, an area characterized by minimal to no use of chemical fertilizers, the potential for organic product marketing holds immense importance for the region's future prospects. This presents an opportunity for farmers and entrepreneurs to gain increased benefits and income.



Fig. Finger millet growing in Mawkynrew, East Khasi Hills of Meghalaya; **A.** Emergence of seedlings; **B.** Crops at Maturity; **C.** Harvesting of Finger millet **D.** Winnowing of Finger millet; **E.** Sieving of the Crop **F.** Finger millet seeds.

Problem faced by farmers

Environmental challenges lead to hindered growth and significant losses in crop yield. Therefore, a primary breeding objective is to enhance the resistance of crops to both individual and multiple stresses. Various techniques have been implemented to increase stress tolerance, (Calanca, 2017). Globally the most prominent biological stressors limiting finger millet productivity are pests and diseases. Finger millet blast, caused by the filamentous fungus *Magnaporthe oryzae*, emerges as the most detrimental disease due to its destructive nature under favorable conditions and its widespread presence in all finger millet-growing regions.



This disease profoundly impacts the output and productivity of finger millet, affecting almost all growth stages of the plant and resulting in a potential 100% reduction in crop grain yield (Mbinda and Masaki, 2021). In Mawkyntrew, farmers also encounter substantial challenges from cutworms, white grubs, rodents, and bears at various stages of crop growth.

Future Prospects and Opportunities

Growing Finger Millet in the Mawkyntrew villages offers the potential to make a significant impact on the local community as well as the larger agricultural landscape. The potential and future prospects for growing finger millet in this area are highlighted by the following points:

1. Nutritional Awareness: The remarkable nutritional benefit of finger millet has come to light more and more in recent times. As more people seek healthier food options, finger millet stands out as a notable example of a nutrient-dense, healthful grain. Farmers in Mawkyntrew may have the chance to take advantage of this growing market as a result of the potential growth in demand for finger millet products based food.

2. Diverse Environmental Adaptability: Finger Millet is known for being robust and flexible in a variety of environmental conditions. This adaptability is a huge benefit in Mawkyntrew, where weather is unpredictable and the terrain is challenging which makes finger millet a dependable crop unlike other crops which may struggle in such conditions.

3. Organic Farming Potential: Mawkyntrew is known for minimal to no use of chemical fertilizers. Given the rising demand for organic products, this is a significant advantage for farmers of the area. Finger Millet cultivation in the region can align with organic farming practices, making it a valuable source of organic millet and millet-based products.

4. Cultural Heritage: Finger Millet has deep rooted cultural importance in the region. It has been a part of the local diet for generations. Leveraging this cultural connection can lead to a resurgence of interest in finger millet, not just as a crop but as a symbol of tradition and heritage.

5. International Recognition: The importance of millet cultivation is acknowledged worldwide, as evidenced by the United Nations and India's declaration of 2023 as the International Year of Millets. Finger Millet growers in Mawkyntrew may be able to expand their consumer base and boost exports as a result of this designation, which may also open doors to national and worldwide markets and partnerships.

6. Value Addition: The trend of turning Finger Millet into various processed products, such as cakes, bhujia, snacks etc., has gained momentum. Farmers and entrepreneurs in Mawkyntrew can explore value addition by diversifying their millet produce, creating a range of marketable



products for both local and high end customers thus enhance immense source for their livelihood and wellbeing.

7. Entrepreneurial Ventures: The increased awareness of Finger Millet's potential and the availability of support from Agriculture Department, Meghalaya State Rural Livelihood Society, Krishi Vigyan Kendras (KVK), and NGOs create fertile ground for entrepreneurial ventures. Individuals interested in agribusiness can explore opportunities in millet production and processing, thereby stimulating economic growth in the region.

Conclusion

The future of Finger Millet cultivation in Mawkyntew C&RD Block holds immense promise and potential. With its remarkable nutritional value, adaptability to variable conditions, cultural significance, and alignment with organic farming practices, finger Millet is poised to take centre stage in the region's agricultural and economic development. As regional and national recognition of the significance of millets continues to grow, farmers of the area find themselves in a prime position to capitalize on these opportunities, ushering in an area of sustainable growth and prosperity. To fully unlock this potential, it is essential for government departments, KVKs, and NGOs to spearhead awareness campaigns and provide incentives that empower farmers to embrace this nutritious and climate-resilient crop. The involvement of marketing agencies can amplify the reach of rural farmers, ensuring the successful promotion and sale of finger millet and its value-added products, thereby enhancing the income and livelihoods of the community.

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