

ORGANIC SWEET CORN CULTIVATION IMPROVES FARM INCOME AND LIVELIHOOD

(The Success Story of Mrs. Aitijinghun Kharnaier, East Khasi Hills, Meghalaya)

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INTRODUCTION

Agriculture is the primary occupation of rural households in Meghalaya, where farming is predominantly practiced on small and medium-sized holdings under rainfed conditions. Although the state possesses favourable agro-climatic conditions for diversified agriculture, farmers often face constraints such as poor market access, limited mechanization, lack of quality planting materials, and inadequate technical support. These challenges result in low productivity and limited farm income.

The introduction of scientific crop production technologies, supported by institutional interventions, has opened new opportunities to enhance agricultural productivity and improve rural livelihoods. The success story of Mrs. Aitijinghun Kharnaier, a progressive tribal farmer from Sohpien village in East Khasi Hills district, shows how adopting scientific sweet corn cultivation under organic management transformed her farming enterprise into a profitable, sustainable livelihood.

Profile of the farmer

Mrs. Aitijinghun Kharnaier is a 46-year-old farmer belonging to the Scheduled Tribe (ST) community of Sohpien village in East Khasi Hills district, Meghalaya (Latitude: 25.38°-25.39° N; Longitude: 91.78°-91.80° E). She completed her education up to Class X and lives in a family of eight members.

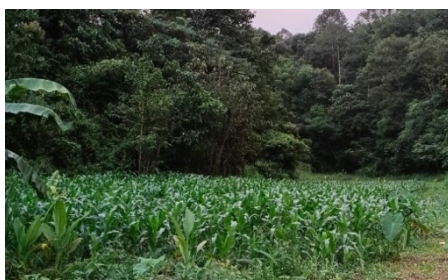
She owns 2.023 hectares of agricultural land where she traditionally cultivated rice, ginger, maize and vegetables. Along with crop cultivation, the family maintained integrated livestock enterprises comprising poultry, piggery, goats and cattle. Agriculture and livestock constituted the major sources of household income, generating an annual family income of approximately Rs 80,000 before the intervention.

Sohpien village consists of about 60 households with a population of 281 and has a literacy rate of 74.4%. The region falls under the Subtropical Hill Zone with a humid subtropical climate, annual rainfall of approximately 2,935 mm, and temperatures ranging from 10°C to 30°C, making it highly suitable for organic cultivation of high-value crops like sweet corn.

Challenges before technology adoption

Before adopting improved sweet corn cultivation, Mrs. Kharnaier faced several production and marketing constraints. The major challenges included:

- Poor market linkages for agricultural produce.
- Limited availability of quality seed and production inputs.
- Lack of mechanization for farm operations.



- iv. Pest and disease incidence affecting crop performance.
- v. Low productivity and poor profitability of conventional maize cultivation.

These constraints reduced farm income and limited opportunities for improving the family's livelihood despite favourable environmental conditions.

Technology intervention

To address these issues, the AICRP on Maize, College of Agriculture, Kyrdemkulai, CAU (Imphal) introduced scientific cultivation of sweet corn under organic management in the village during January 2025.

Mrs. Kharnaier participated in awareness programmes, farmer interaction meetings and field demonstrations organized by the project. She also attended training programmes conducted during January 2025, where she received practical knowledge on improved sweet corn production technologies.

Quality sweet corn seed was supplied free of cost by the project, while locally available organic manures and biopesticides provided through the project were used for crop nutrition and plant protection. Scientists from the College of Agriculture, Kyrdemkulai, provided continuous technical guidance throughout the crop season.

The recommended package of practices included:

- i. Scientific land preparation.
- ii. Use of quality sweet corn seed.
- iii. Seed treatment before sowing.
- iv. Timely sowing.
- v. Organic nutrient management.
- vi. Eco-friendly pest and disease management using biopesticides.
- vii. Regular crop monitoring and scientific harvesting.

Mrs. Kharnaier adopted the recommended technology without any modification because it was simple, environmentally friendly and suitable for local farming conditions.

Motivating factors

The major factors that motivated her to adopt the technology were:

- i. High market demand for organically produced sweet corn.
- ii. Continuous technical guidance from the College of Agriculture, Kyrdemkulai.
- iii. Availability of quality seed and production inputs.
- iv. Demonstrated success of frontline demonstrations.
- v. Opportunity to enhance farm productivity and household income through sustainable farming.

Impact of technology adoption

The adoption of scientific cultivation practices resulted in remarkable improvements in crop productivity and farm income.

The productivity of maize increased from 1,400 kg/ha under conventional cultivation to 1,850 kg/ha under sweet corn cultivation, while yield also improved considerably. More importantly, the income generated from sweet corn increased dramatically from Rs 11,333 to Rs 97,295, making it one of the most profitable enterprises on the farm.

The increased income enabled Mrs. Kharnaier to expand her cultivated area by 0.20 hectare, purchase farm tools and further strengthen her integrated farming system. Her poultry population increased from 20 to 50 birds, piggery from two to five pigs, goat numbers from 10 to 16, and cattle from two to five, creating multiple income sources and improving farm resilience.

The sweet corn enterprise generated a Return on Investment (ROI) of 221%, demonstrating the economic feasibility of scientific organic sweet corn cultivation under the prevailing farming conditions.

Improvement in livelihood

The enhanced farm income significantly improved the family's financial security and living standards. Additional earnings enabled greater investment in agriculture and livestock

while improving household nutrition and overall well-being.

The successful adoption of the technology also boosted Mrs. Kharnaier's confidence as a farmer and encouraged her to continue farming using scientific and environmentally sustainable production practices.

Recognition and community leadership

The success achieved through sweet corn cultivation earned Mrs. Kharnaier recognition among fellow farmers and local agricultural institutions. Farmers from nearby villages frequently visit her farm to observe the crop and learn about improved cultivation practices. She actively shares her experiences during farmer meetings, training programmes and field demonstrations, motivating many other farmers to adopt scientific organic sweet corn cultivation. Her achievements have established her as a progressive woman farmer and an inspiration for other members of the farming community.

Lessons learned

The experience demonstrates that scientific cultivation of sweet corn under organic management can substantially improve farm productivity and profitability when supported by quality inputs, technical guidance and continuous institutional support.

However, the sustainability of the intervention depends upon timely availability of organic inputs, better mechanization and stronger market linkages. Continued farmer training and extension support remain essential for maximizing the benefits of the technology.

Future scope

The impact of the technology can be further strengthened through the following interventions:

- i. Development of efficient market linkages for organic sweet corn.
- ii. Timely availability of quality seed and organic production inputs.
- iii. Promotion of appropriate mechanization for smallholder farmers.
- iv. Regular capacity-building programmes and field demonstrations.
- v. Formation of farmer producer groups for collective marketing and value addition.

CONCLUSION

The success of Mrs. Aitijinghun Kharnaier clearly demonstrates that scientific cultivation of sweet corn under organic management can significantly enhance the livelihood of small and medium farmers in Meghalaya. Through continuous technical support, quality input supply and capacity-building programmes provided by the AICRP on Maize, College of Agriculture, Kyrdekulai, CAU (Imphal), she successfully transformed conventional maize cultivation into a profitable and sustainable enterprise.

Her experience highlights the importance of integrating scientific crop production technologies with institutional support to improve farm income, strengthen integrated farming systems and promote sustainable agriculture. The technology is simple, economically viable and highly replicable, making it an excellent model for widespread adoption across the North Eastern Hill Region.
