

EMPOWERING A YOUNG TRIBAL FARMER THROUGH ORGANIC SWEET CORN CULTIVATION

(The Success Story of Mrs. Damebantei Syiem, Meghalaya)

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INTRODUCTION

Agriculture remains the backbone of rural livelihoods in Meghalaya, where most farming households depend on small and fragmented landholdings. Despite favorable agro-climatic conditions, farmers often struggle with inadequate access to quality seed, poor market linkages, limited mechanization and insufficient technical guidance, resulting in low productivity and income. Promoting scientific crop production technologies supported by institutional interventions can substantially improve farm profitability and livelihood security.

The success story of Mrs. Damebantei Syiem, a young tribal farmer from Mawlyngkhung village in Ri-Bhoi district, Meghalaya, illustrates how the adoption of scientific cultivation of sweet corn under organic management transformed her farming enterprise into a sustainable and profitable livelihood. Her journey demonstrates the importance of technology dissemination, capacity building and continuous technical support in improving the socio-economic status of rural farm families.

Profile of the farmer

Mrs. Damebantei Syiem is a 23-year-old graduate (B.A.) belonging to the Scheduled Tribe (ST) community of Mawlyngkhung village, Ri-Bhoi district, Meghalaya (Latitude: 25°40'9" N, Longitude: 91°54'17" E). She lives in a family of five members and owns about 0.61 hectare of agricultural land.



Before adopting improved technology, the family cultivated rice, ginger and conventional maize while maintaining a small piggery unit. Agriculture and livestock were the primary sources of livelihood, generating an annual family income of approximately Rs. 45,000. Limited income and production constraints posed significant challenges to improving the family's standard of living.



Mawlyngkhung village comprises nearly 150 households with a population of about 717 people and enjoys a literacy rate of 89.35%. The region falls under the Subtropical Hill Zone and experiences a humid subtropical climate with 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 such as sweet corn.

Challenges before technology adoption

Like many smallholder farmers in the region, Mrs. Syiem faced several constraints that restricted agricultural productivity and profitability. These included:

- i. Poor market access for agricultural produce.
- ii. Limited availability of quality seed and production inputs.
- iii. Lack of mechanization.
- iv. Pest and disease incidence affecting crop performance.
- v. Low productivity and poor economic returns.

These challenges reduced farm income and increased livelihood vulnerability, discouraging many rural youths from pursuing agriculture as a viable profession.

Technology intervention

To improve farm productivity and income, the AICRP on Maize, College of Agriculture, Kyrdekulai, CAU (Imphal) introduced the scientific cultivation of sweet corn under organic management in the village.

Mrs. Syiem became aware of the technology through awareness programmes organized by the project during 2023. She further strengthened her knowledge by attending training programmes organized in August 2023 and June 2024, along with regular

participation in Frontline Demonstrations (FLDs), farmers' field visits and interaction meetings.

The project supplied quality sweet corn seed free of cost, while locally available organic manures and biopesticides provided by the project were used for nutrient and pest management. Throughout the cropping season, scientists and extension personnel offered continuous technical guidance and field supervision.

The improved package of practices included:

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

Mrs. Syiem adopted the complete package of practices without making any modification, finding the technology simple, economical, and compatible with her existing farming system.

Motivation for adoption

Several factors motivated her to adopt scientific sweet corn cultivation:

- i. Increasing market demand for organically grown sweet corn.
- ii. Availability of quality seed and technical guidance from the College of Agriculture, Kyrdekulai.
- iii. Demonstrated success of field demonstrations conducted under AICRP on Maize.
- iv. Potential to earn substantially higher income than conventional field maize cultivation.

Impact of technology adoption

The adoption of scientific cultivation practices resulted in remarkable improvements in productivity, profitability and livelihood.

Sweet corn productivity increased from 1,400 kg/ha under conventional field maize to 1,850 kg/ha, while yield also showed substantial improvement. The most significant achievement was the remarkable increase in income from Rs 11,333 to Rs 97,295, making sweet corn one of the most profitable enterprises on the farm.

The higher income enabled Mrs. Syiem to expand her cultivated area by 0.20 hectare, purchase essential farm tools and strengthen her livestock enterprise. Her poultry population increased from 50 to 150 birds, while the piggery unit expanded from two to five pigs, providing additional income sources and reducing livelihood risk.

The investment proved highly profitable, with a Return on Investment (ROI) of 463.16%, demonstrating the excellent economic viability of scientific organic sweet corn cultivation.

Improvement in livelihood

The increased farm income significantly improved the family's quality of life. Better financial security enabled greater investment in agriculture and livestock, improved access to nutritious food and enhanced the family's overall living standards.

Equally important was the improvement in Mrs. Syiem's confidence as a young farmer. The success of the enterprise encouraged her to view agriculture as a sustainable and rewarding profession rather than a subsistence activity.

Social recognition and leadership

The successful cultivation of sweet corn brought Mrs. Syiem recognition within her village and neighbouring communities. Her field became an example for other farmers interested in adopting improved production technologies.

She actively shares her experiences during farmer meetings, training programmes and field demonstrations organized by the College of Agriculture, Kyrdekulai. Many farmers now seek her guidance on organic sweet corn cultivation, making her an emerging role model among rural youth and women farmers.

Lessons learned

The experience clearly demonstrates that scientific cultivation of sweet corn under organic management can substantially improve the profitability of smallholder farming when supported by quality inputs, regular technical guidance and institutional support.

However, certain challenges still need attention, including timely availability of organic inputs, improved mechanization and stronger market linkages for organic produce. Continuous capacity building and extension support remain essential for sustaining the technology.

Future Prospects

To further enhance the impact of this intervention, the following measures are recommended:

- i. Development of reliable market linkages for organic sweet corn.
- ii. Timely supply of quality seed and organic production inputs.

- iii. Promotion of small-scale mechanization suitable for hill agriculture.
- iv. Regular training and skill development programmes for farmers.
- v. Formation of farmer groups and producer organizations for collective marketing and value addition.

CONCLUSION

The success of Mrs. Damebantei Syiem demonstrates that scientific cultivation of sweet corn under organic management can transform the livelihoods of small and marginal farmers in Meghalaya.

Through timely technical support, quality seed supply and capacity-building programmes provided by the AICRP on Maize, College of Agriculture, Kyrdemkulai, she successfully converted a low-income farming system into a profitable and sustainable enterprise. Her journey highlights the immense potential of scientific organic agriculture in empowering rural youth and women farmers while promoting sustainable agricultural development. The technology is simple, economically viable, and highly replicable, making it an effective model for enhancing income and livelihood security among farming communities across the North Eastern Hill Region.
