Title**:** ***Enhancing Food Security of Rural Families through Seed Production of Foxtail Millet Variety SiA 3085***

A Success Story of Mr. Kh. Samuel

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Background

Millets are among the earliest crops cultivated by humans and are gaining recognition for their resilience, nutritional benefits, and ability to adapt to various climates. Foxtail millet (Setaria italica), the third most significant millet crop worldwide after sorghum and pearl millet (bajra), belongs to the Poaceae family and is particularly well adapted for growth in dryland and hilly areas with low soil fertility.

These small grains need minimal agricultural inputs, thrive in semi-arid environments, and require significantly less water compared to traditional cereals such as rice and wheat. Their cultivation usually does not necessitate chemical fertilizers or pesticides, which makes them perfect for cost-effective and environmentally friendly agriculture.

Millets are packed with nutrients, boasting high fiber and protein content, along with micronutrients like iron and calcium. Additionally, these seeds can be stored for extended periods without risk of spoilage or pest issues, making them essential for food security and seed preservation.

Historically, millets were a crucial component of the diet and agricultural practices in numerous tribal and rural communities, including those in Chandel district, Manipur. However, since the 1960s, with the implementation of central food security initiatives primarily targeting rice and wheat, there has been a gradual decline in both millet production and consumption. Consequently, the awareness of the nutritional and economic benefits of millets has significantly diminished.

Challenges

In Chandonpokpi village, located in the Chandel district, Mr. Kh. Samuel, a marginal tribal farmer, was one of the few who persisted in cultivating a local type of foxtail millet. Nevertheless, he faced numerous challenges:

- Low Yield: The traditional variety produced low yields, rendering it economically unfeasible.
- Long Duration: The crop required a longer maturation period, which restricted the possibility of planting a second crop within the same year.
- Susceptibility to Lodging: The local variety was vulnerable to lodging, particularly during heavy rainfall or strong winds, leading to crop losses.
- Lack of Awareness and Support: Farmers had limited understanding of improved millet varieties and scientific farming techniques.
- Decline in Cultivation: Due to insufficient institutional support and market access for millets, many farmers had transitioned away from millet farming altogether.

Acknowledging these challenges and the necessity to revive millet cultivation for both nutritional and economic stability, KVK Chandel stepped in by introducing a high-yielding, short-duration, and lodging-resistant foxtail millet variety—SiA 3085—developed and provided in partnership with ICAR – Research Complex for NEH Region, Manipur Centre**.**

Initiative

KVK Chandel provided Mr. Kh. Samuel with seeds of the foxtail millet variety SiA 3085 for cultivation on 0.50 hectares of land. He received training on best agricultural practices, including seed sowing, line transplanting, and managing weeds. Since foxtail millet requires low input, he did not use any chemical fertilizers or pest control products.

The SiA 3085 variety is resistant to lodging and reaches maturity in 80 to 85 days. Because of its short growth cycle, Mr. Samuel was able to plant a Rabi crop on the same field after the millet harvest.

Output

Mr. Samuel produced a seed yield of 9.50 quintals from 0.50 ha, resulting in a gross income of ₹42,750 (at ₹45 per kg). After deducting the cultivation costs (₹16,000), he achieved a net income of ₹26,750, with a Benefit-Cost ratio of 2.67:1.

Impact

Prior to this initiative, millet farming was largely overlooked in Chandel district. The introduction of the foxtail millet variety SiA 3085, along with Mr. Samuel's successful results, has reignited interest in millet cultivation. A collaborative participatory seed production and buy-back program was launched in partnership with ICAR-RC for NEH Region, Manipur Centre. KVK Chandel also organized training sessions on value addition and raised awareness for millet-based products.

Motivated by Mr. Samuel's achievements, numerous neighboring farmers from surrounding villages have expressed interest and are now prepared to embrace the cultivation of foxtail millet variety SiA 3085, which is enhancing food security, income generation, and crop diversification in the area.

Conclusion

The successful cultivation of the foxtail millet variety SiA 3085 by Mr. Kh. Samuel exemplifies how reintroducing traditional yet enhanced crops can tackle food and nutritional insecurity while boosting farmers' incomes in rural and tribal areas. With low input costs, a short growing period, and a high market demand, foxtail millet has emerged as a sustainable alternative to regular cereal crops, especially in arid regions like Chandel district.

This initiative has not only rekindled local interest in millet farming but has also highlighted the significance of scientific intervention, capacity building, and seed support in transforming traditional agricultural practices. The participatory seed production and buy-back program set up by KVK Chandel and ICAR-RC for the NEH Region at the Manipur Centre has opened up new avenues for seed entrepreneurship, income diversification, and community resilience.

Fig: Foxtail millet var.SiA 3085 in farmer field & Seed Day on Millets on 6/11/2019

Fig: DDK interviewed Kh Samuel and Ts. Leenda SMS (Plant Breeding)KVK Chandel on Millet Cultivation

Seed Day on Millets conducted at Chandel Village

CORRESPONDENT

KAKCHING: 'Seed Day on Millets' under Indian Institute of Soil Science (IISS), NEH Component was conducted at Chandonpokpi Village, Chandel district by ICAR Research Complex for NEH Region, Manipur Centre in collaboration with Krishi Vigyan Kendra, Chandel on Wednesday.

The programme was attended by ICAR Manipur Centre joint director Dr N Prakash, ISP i/c IISS principal scientist & nodal officer Dr I Meghachandra Singh, Chandonpokpi Village chief Y Romeo Chothe and KVK Chandel Sr scientist and head Dr Deepak Singh as presidium members. Dr N Prakash, during his speech, encouraged the farmers to cultivate millets on large scale because of its important value as well as for sustaining their livelihood. Dr I Meghachandra informed the farmers about the purpose of the programme and highlighted the importance of millet, seed production and the need to introduce processing unit for millets in the district.

Scientist (Agronomy) Dr MA Ansari pointed out that millets have high nutritional and medicinal values which is important for the farmers' health and also said that value addition and processing of the millets can generate their income.

ACTO (Plant Breeding) Ts Leenda Monsang spoke on the Millets Seed Production under IISS, NEH Component programme in the district.

It was also attended by scientist (Genetics & Plant Breeding) Dr E Lamalaxmi Devi, scientist (Genetics & Plant Breeding) Bhuvaneswari S, scientist (Genetics & Plant Breeding) Dr Konsam Sarika and Staff of KVK Chandel.

Fig: Field visit of Foxtail Millet variety SiA 3085 & Newspaper coverage on Seed Day on Millets.