



## Empowering Marginalized Farmers: A Five-Year Journey of Tuber Crop Interventions under the SCSP Scheme at AICRP on Tuber Crops, Dharwad

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Agriculture plays a vital role in sustaining rural livelihoods in India, particularly for small and marginal farming communities. Despite various developmental initiatives, Scheduled Caste farmers continue to face socio-economic constraints such as limited land resources, low farm income, inadequate access to quality inputs, and poor adoption of improved production technologies. These challenges often restrict their capacity to achieve stable and sustainable livelihoods. Therefore, targeted interventions that combine technological support, capacity building, and input assistance are essential for improving their socio-economic condition. In this context, the Scheduled Caste Sub Plan (SCSP) was introduced as a focused development strategy to ensure equitable benefits from government programmes for SC communities. Under this framework, agriculture-based interventions have gained importance as they directly contribute to income generation, food security, and employment creation in rural areas. Among various agricultural enterprises, tuber crops offer significant opportunities for resource-poor farmers due to their high productivity, adaptability to marginal environments, and nutritional value. Tuber crops such as sweet potato, cassava, elephant foot yam, taro, and yams are known for their ability to produce high yields with relatively low input requirements. They can be cultivated under diverse agro-climatic conditions and are considered ideal crops for climate-resilient farming systems. In addition to serving as staple and supplementary foods, tuber crops are also rich sources of carbohydrates, vitamins, minerals, and dietary fibre, making them important for household nutritional security (FAO, 2021). Their increasing demand in fresh markets, processing industries, and value-added sectors further enhances their economic potential. Recognizing these advantages, the All India Coordinated Research Project (AICRP) on Tuber Crops, Dharwad implemented a series of interventions under the SCSP Scheme over the past five years. The programme focused on supplying quality planting materials, conducting on-farm demonstrations, organizing farmer training programmes and promoting scientific cultivation practices among SC farmers in Dharwad district. These interventions aimed to enhance crop productivity, diversify farm income, and strengthen livelihood security among marginalized households. The present success story highlights the outcomes and impact of these five years of interventions, demonstrating how tuber crop-based technologies can empower disadvantaged farmers and contribute to inclusive rural development.

### Interventions

During the period from 2021 to 2026, the AICRP on Tuber Crops, Dharwad implemented a series of focused interventions under the Scheduled Caste Sub Plan (SCSP) Scheme to improve the livelihoods of Scheduled Caste farmers through tuber crop-based farming

systems. The programme emphasized quality planting material supply, skill development, field demonstrations, and promotion of scientific cultivation practices.

### **Distribution of Quality Planting Materials**

A major intervention under the programme was the supply of improved planting materials of sweet potato and cassava varieties suitable for the agro-climatic conditions of Dharwad district. During 2021–2026, planting materials were distributed as follows:

Sweet potato vine cuttings:

- Kishan: 3.65 lakh cuttings
- Sree Bhadra: 0.92 lakh cuttings
- Bhu Sona: 1.35 lakh cuttings
- Bhu Krishna: 1.45 lakh cuttings

Total sweet potato cuttings distributed: 7.37 lakh

Cassava stem cuttings:

- Sree Jaya: 55,000 stem cuttings

### **Distribution of Agricultural Inputs**

To support farmers in efficient crop management and reduce production constraints, several agricultural inputs were distributed during the programme period. These included:

- Double battery-operated sprayers: 310 units
- Laminated tarpaulins: 65 units
- Insecticides: 100 litres
- Nano urea: 150 litres
- Micronutrients: 120 litres
- Bioagents such as *Pseudomonas*, *Trichoderma*, PSB, and *Metarhizium*: distributed to beneficiary farmers as per crop requirement

These inputs improved plant protection, nutrient management, input-use efficiency, and post-harvest handling.

### **Coverage of Beneficiary Farmers**

The programme directly benefited 409 Scheduled Caste farmers during the five-year period across three districts, namely Dharwad, Kalaburagi, and Belagavi. These farmers received quality planting materials, technical guidance, training support, and regular follow-up advisory services for successful tuber crop cultivation.

### **Training and Capacity Building**

A total of 19 training programmes were conducted to improve farmers' technical knowledge and practical skills in tuber crop cultivation. Major training themes included:

- selection of improved varieties
- field preparation and planting methods
- integrated nutrient management
- irrigation and moisture conservation
- pest and disease management
- harvesting and storage methods
- value addition and processing opportunities

These programmes enhanced awareness and accelerated the adoption of improved production practices.

### **Frontline Demonstrations**

To showcase the benefits of improved technologies, 10 frontline demonstrations were conducted in farmers' fields across selected villages. A total of 149 farmers benefited directly from these demonstrations. Farmers observed higher yield potential, better crop stand, and improved returns under recommended practices.

## Promotion of Scientific Crop Management

Beneficiaries were encouraged to adopt improved agronomic practices such as proper spacing, timely planting, fertilizer application, weed control, and scientific harvesting methods. Continuous technical guidance was provided through regular field visits and farmer interactions.

## Nutritional Security and Household Welfare

Farm households were encouraged to utilize tuber crops for family consumption in addition to market sales. Sweet potato and cassava contribute significantly to household food security due to their high carbohydrate content and adaptability under low-input conditions.

## Income Enhancement and Livelihood Improvement

The adoption of improved varieties and scientific cultivation practices resulted in increased productivity and better marketable surplus. Additional income generated from tuber crops supported household expenses, education, and farm reinvestment, thereby strengthening livelihood security among marginalized farmers.

## Impact and Outcomes

The SCSP interventions implemented during 2021-2026 at AICRP on Tuber Crops, Dharwad created measurable socio-economic benefits for Scheduled Caste farmers through technology support, input distribution, and capacity building across Dharwad, Belagavi, and Kalaburagi districts of Karnataka. A total of 409 farmers were benefited through the programme. To strengthen technical knowledge and promote scientific farming practices, 19 training programmes and 10 frontline demonstrations were conducted, directly benefiting 149 farmers. Farmers adopted improved varieties, scientific planting methods, integrated nutrient management, use of bioagents, and effective pest management practices through regular training and demonstrations. Distribution of quality planting materials significantly improved crop establishment and yield performance. A total of 7.37 lakh sweet potato vine cuttings were distributed, comprising Kishan (3.65 lakh), Sree Bhadra (0.92 lakh), Bhu Sona (1.35 lakh), and Bhu Krishna (1.45 lakh), along with 55,000 cassava stem cuttings of Sree Jaya. Higher productivity and increased marketable surplus generated additional income for beneficiary farmers through sale of produce in local markets. To improve input use efficiency and reduce production constraints, 310 double battery-operated sprayers, 65 laminated tarpaulins, 100 litres of insecticides, 150 litres of nano urea, and 120 litres of micronutrients were distributed, along with bioagents such as *Pseudomonas*, *Trichoderma*, PSB, and *Metarhizium*. These inputs reduced labour costs, improved crop health, and enhanced productivity. Household consumption of sweet potato and cassava improved food availability and nutritional diversity among farm families. Women actively participated in cultivation, harvesting, processing, and marketing activities, contributing to household income, labour efficiency, and family decision-making. Overall, the programme significantly improved productivity, income, technical knowledge, food security, and livelihood resilience of marginalized farmers in the three target districts.

## Key Achievements

- Successfully benefited 409 Scheduled Caste farmers under the SCSP Scheme during 2021-2026.
- Conducted 19 training programmes on improved tuber crop production and management practices.
- Organized 10 frontline demonstrations benefiting 149 farmers directly.
- Distributed 7.37 lakh sweet potato vine cuttings to farmers.
- Variety-wise sweet potato distribution:
  - ✓ Kishan: 3.65 lakh cuttings
  - ✓ Sree Bhadra: 0.92 lakh cuttings
  - ✓ Bhu Sona: 1.35 lakh cuttings
  - ✓ Bhu Krishna: 1.45 lakh cuttings

- Distributed 55,000 cassava stem cuttings of Sree Jaya variety.
- Supplied 310 double battery-operated sprayers to improve crop protection efficiency.
- Distributed 65 laminated tarpaulins for post-harvest handling and drying purposes.
- Supplied 100 litres of insecticides for pest management.
- Distributed 150 litres of nano urea for efficient nutrient management.
- Supplied 120 litres of micronutrients to correct nutrient deficiencies.
- Distributed bioagents such as Pseudomonas, Trichoderma, PSB, and Metarhizium for eco-friendly crop management.
- Enhanced adoption of improved technologies, resulting in better crop productivity and income.
- Strengthened food and nutritional security through household consumption of tuber crops.
- Promoted women participation in cultivation, processing, and marketing activities.
- Established a successful and replicable model for livelihood enhancement of marginalized farmers through tuber crop interventions.



Impact of SCSP Interventions on Livelihood Enhancement of Scheduled Caste Farmers through Sweet Potato Cultivation in Dharwad, Belagavi and Kalaburagi Districts



**Five-Year Impact of SCSP Programme: Input Distribution, Capacity Building and Field Success in Tuber Crops**

### Conclusion

The five-year implementation of the SCSP interventions under AICRP on Tuber Crops, Dharwad clearly demonstrated the potential of tuber crop-based technologies in improving the livelihoods of Scheduled Caste farmers in Dharwad, Belagavi, and Kalaburagi districts. Through the distribution of quality planting materials, agricultural inputs, training programmes, and frontline demonstrations, the programme successfully benefited 409 farmers and enhanced their knowledge, productivity, income, and nutritional security. The active participation of farm families, including women, further strengthened household resilience and socio-economic empowerment. The success of this initiative highlights that targeted agricultural interventions can serve as an effective and sustainable model for inclusive rural development and upliftment of marginalized communities.