

## ICAR-SBI's Tribal Outreach in Salem Earns District Recognition: A Model Intervention for Sustainable Tribal Livelihoods

The ICAR–Sugarcane Breeding Institute (ICAR-SBI), Coimbatore, has received formal recognition from the Salem district administration of Tamil Nadu, for its structured and impactful developmental interventions in tribal hamlets under the Development Action Plan for Scheduled Tribe Component (DAPSTC). The initiative has significantly enhanced livelihood security, nutrition, and income opportunities for tribal households across five remote settlements in Salem district—home to the largest tribal population in Tamil Nadu.

### Salem: A District with a Significant Tribal Presence

Salem district is home to a tribal population of 1,19,369, of which *Malayali* tribes constitute about 91.4%. Predominantly inhabiting the Shevaroy and Kalrayan hill ranges, they depend largely on agriculture and allied activities but face constraints such as limited access to extension services, rising indebtedness, and inadequate awareness of government development programmes.

### DAPSTC-adopted tribal hamlets in DAJGUA (*Dharti Aaba Janjatiya Gram Utkarsh Abhiyan*) villages of Salem



Adopted Tribal Settlements

### From Invitation to Action

Following the successful implementation of DAPSTC project among *Malasar* and *Malamalasar* tribes in the Anamalai Tiger Reserve of Pollachi and *Urali* and *Kurumba* tribes in the Sathyamangalam Tiger Reserve of Erode the Tamil

Nadu State Rural Livelihood Mission (TNSRLM), Salem, invited ICAR-SBI to extend the initiative to Salem district in June 2023. After obtaining institutional approval, ICAR-SBI launched the project in Salem—marking a significant expansion of its tribal outreach initiatives.

### Evidence-Based Planning through Needs Assessment

A detailed baseline needs assessment was conducted through personal interactions, focus group discussions, and consultations with officials from TNSRLM, Department of Rural Development, TN and Subramaniya Siva Co-operative Sugar Mills Ltd. TN.

The following tribal hamlets were adopted in the DAJGUA (*Dharti Aaba Janjatiya Gram Utkarsh Abhiyan*) villages of Salem district.

Sl. No.	Adopted Settlements	Relative Position in Salem District	Panchayat	Number of households benefitted from DAPSTC
1	Pallikkadu	Central North	Aladipatti	52
2	Thaloor	Central North		88
3	Valoothu	Central North		29
4	Molayanoor	North East Corner	Chinnakalrayan hills - Vadakkunnadu panchayat	43
5	Vilampattu	North East Corner		30

In total, over 240 tribal households directly benefited from the interventions.

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- Recognition for ICAR-SBI's tribal outreach
- ATCETI-25
- National Science Day Celebrations

### Focus on Scientific Sugarcane Cultivation, Millet entrepreneurship and Nutrition Security

The needs assessment in these tribal hamlets clearly indicated the potential for scientific sugarcane cultivation and millet-based livelihoods as a sustainable and culturally appropriate intervention. Millet cultivation is prevalent among the tribal population in the entire region, while sugarcane farming is prevalent in over 120 ha in the Karumanthurai region. Accordingly, ICAR-SBI designed an action plan centred on:

Millet entrepreneurship development	Women's capacity building
Household nutrition improvement	Modern and environmentally responsible sugarcane farming practices

The programme was formally launched during March 2024 at the Salem District Collectorate, in the presence of the District Collector and the Director of ICAR-SBI. Tribal representatives from all the five adopted settlements participated in the launch.

Subsequently, a series of scientific sugarcane cultivation trainings and tribal nutrition awareness-cum-training campaigns were conducted directly in the hamlets, ensuring **100%** tribal household coverage.

### Tangible Support and Skill Development

Each tribal settlement received community-level and household-level support, including:

Millet pulverizers (one per settlement)	Quality sugarcane seed material of Co 14012 variety for the tribal households of Molayanoor and Vilampattu. Improved varieties of ragi (finger millet) and samai (little millet) for every tribal household;
Farm tools and battery-operated sprayers for every tribal household	Kitchen garden seed kits and coconut seedlings for every tribal household
Vermicompost, green manure seeds, and liquid biofertilizers for every tribal household	First-aid kits, household items, radios, and extension literature for every tribal household

All interventions were carefully selected to avoid ecological disturbance while maximising livelihood benefits.

### Capacity Building through Hands-on Training

The campaigns featured demonstrations and practical training sessions on:

- Scientific Sugarcane Cultivation
- Millet cultivation and community-driven entrepreneurship

- Nutrition garden establishment
- Organic certification
- Improved animal health management

Special emphasis was placed on tribal women, strengthening their managerial and entrepreneurial capacities. Each campaign concluded with a "Pledge Against Malnutrition."

### Measurable Outcomes and Livelihood Gains

The DAPSTC project led to multiple positive outcomes:

- Increased access to farm inputs and technology
- Enhanced household income through millet value addition
- Reduced drudgery for women via improved tools
- Improved soil health through organic inputs
- Dietary diversification, with higher millet and vegetable consumption
- Improved access to information via radio sets and training
- Strengthened women's groups with market exposure and skills

### District-Level Recognition

In recognition of these achievements, Dr. R. Brindha Devi, IAS, District Collector of Salem, presented a *Certificate of Appreciation* to Dr. D. Puthira Prathap, Principal Scientist and Nodal Officer (DAPSTC), during the Republic Day Ceremony on 26 January 2025 at Mahatma Gandhi Stadium, Salem.

The Director of ICAR-SBI also commended the multidisciplinary project team comprising D.Puthira Prathap, K. Mohanraj, R. Gopi, P. Geetha, S.B.Baburaj, B.V.Santhosh, P. Sivakumar, M.B.Medegar, R.Raja, V.V.Galagali and R. Sekar for their methodical approach and sustained field engagement.



Director, ICAR-SBI, felicitating the DAPSTC team for their commendable efforts

### A Replicable Model for Tribal Empowerment

The Salem experience demonstrates that need-based planning, community participation, and locally relevant technologies can effectively transform tribal livelihoods. ICAR-SBI's DAPSTC intervention now stands as a replicable model for sustainable tribal development across India.

**D Puthira Prathap, K. Mohanraj, P. Geetha & R.Gopi,**  
ICAR - Sugarcane Breeding Institute, Coimbatore - 7

# Outreach

## Capacity building programmes for Farmers & Cane Development Personnel

### ICAR-SBI Conducts ATCETI-25 to Boost Tribal Income in Attappady!

ICAR-Sugarcane Breeding Institute (ICAR-SBI), Coimbatore, in collaboration with ICAR-Krishi Vigyan Kendra (KVK), Palakkad, organized an “Awareness cum Training Campaign for Enhancement of Tribal Income” (**ATCETI-25**) on 7 February 2025 at ICAR-SBI's Research Centre, Agali, in the Attappady hills of Kerala as part of DAPSTC (Development Action Plan for Scheduled Tribe Component) project. The campaign aimed at strengthening livelihood opportunities for tribal communities through capacity building, technology dissemination and input support.

The programme was inaugurated by Dr. V. Venkatasubramanian, Director, ICAR-ATARI, Bengaluru, who highlighted the role of ICAR-KVKs in enhancing farm incomes and urged tribals to effectively utilize the millet processing unit established in Attappady. Dr. K.V. Sumiya, Senior Scientist and Head, ICAR-KVK, Palakkad, welcomed the gathering. In his presidential address, Dr. P. Govindaraj, Director, ICAR-SBI, recalled the institute's sustained tribal development initiatives under the DAPSTC project, including nutri-garden promotion, tree plantation and organic certification, which recently earned recognition from the Salem district administration. Dr. R. Selvarajan, Director, ICAR-National Research Centre for Banana, Tiruchirappalli, delivered the special address, emphasizing the income potential of banana-based enterprises and promoting cultivation of specialty varieties such as Manoranjitham. Pamphlets on mushroom cultivation, backyard poultry and fruit and vegetable processing were released during the event.

Following training sessions, inputs including one-month-old chicks, tissue culture banana seedlings, jaggery powder, wild boar repellents and first-aid kits were distributed to tribals from ten settlements in the region. Earlier, Dr. D. Puthira Prathap, Principal Scientist of ICAR-SBI hosted a quiz for children of five tribal schools of Attappady hills on the theme 'Biodiversity'. Other activities such as millet recipe competition for women and a poster competition for tribal school children generated enthusiastic participation.

The campaign also featured technology stalls by several development agencies. Over 300 tribal farmers benefitted from the programme, which concluded with a vote of thanks by Dr. D. Puthira Prathap, Principal Scientist and Nodal Officer, DAPSTC, ICAR-SBI.



*Tribal women @ ATCETI*



*Distribution of inputs @ ATCETI*

### Training on 'Sugarcane Production' (TSP-25)

Organized a Training on 'Sugarcane Production' (**TSP-25**) for the sugarcane farmers of Ambegaon Taluk, Pune district, Maharashtra, during 09-10 January 2025.



*Participants of TSP-25*



ICAR-SBI, Regional Centre, Karnal organized a five-day training programme for 40 progressive sugarcane farmers of Bihar during 27-31, January 2025. The training was sponsored by the Sugarcane Industry Department, Govt. of Bihar, Motihari (Bihar). During the event, mini seed kits and settlings of sugarcane varieties Co 16030 & Co 17018 were distributed to the trainees.



**Training programme for the farmers of Bihar at ICAR-SBIRC, Karnal**

**Inter-state Training on 'Enhancing Sugarcane Productivity' (TESP-2025)**



Organized an inter-state Training on 'Enhancing Sugarcane Productivity (TESP-2025)' for the sugarcane farmers of Chithampur block, Chengalpattu district, Tamil Nadu, during 18-19 March 2025.



**Participants of TESP-25**



A one-day training programme was organized for the staff of the sugar mills from tropical zone, under ICAR-SBI-ISMA Collaborative project at ICAR-SBI on 09 January 2025.



Organized a six-day training, sponsored by Lal Bahadur Shastri Ganna Kisan Sansthan for farmers of Uttar Pradesh at ICAR-SBIRC, Karnal, during 17-22 March 2025.



**ISMA-sponsored training for cane staff of Tropical zone**



Organized a hands-on training programme on "Advanced tools of molecular biology and biotechnology" sponsored by the Society of Plant Biochemistry and Biotechnology, New Delhi during 20 - 25 January 2025.



ICAR-SBI-Sugarcane Edge (ABI) organized a webinar on 'Sugarcane Based Agri-Startups Ecosystem' on 03 February 2025.



A field day was organized on 14.02.2025 at Seyur, Tiruppur district of Tamil Nadu as part of AICRP on Seed Crops project.



**Director, ICAR-SBI interacting with the farmers during the Field day**



Four one-day trainings cum demonstrations were conducted on "Mechanized priming technology for healthy nursery and disease management in sugarcane" during 19- 22, February 2025 to cane officials and entrepreneurs of four sugar mills across Bihar.



Two one-day trainings and demonstrations on "Mechanized priming technology for healthy nursery programme and its role in improved production and protection in sugarcane" were conducted on 11<sup>th</sup> and 12<sup>th</sup> March 2025 for factory officials and entrepreneurs at MRK Co-op Sugar Mills Ltd., and Aignar Anna Sugar Mills.

- ICAR-SBI organized a **DAPSTC project follow-up campaign** in Mavanatham tribal settlement in Sathyamangalam Tiger Reserve of Erode district, Tamil Nadu on 7 March 2025. Dr P. Govindaraj, Director and the ICAR-SBI DAPSTC project team participated in the follow-up campaign, which included experts highlighting the importance of millet entrepreneurship & balanced nutrition and distribution of battery-operated sprayers, powder jaggery, ragi seed material, and extension pamphlets on 'Profitable mushroom farming. Towards the end, the tribals shared their experiences on the specific changes that happened in their lives after DAPSTC project implementation as a result of the awareness & training campaigns distribution of millet & vegetable seeds, extension literature, drudgery-reducing farm tools & household items and its overall impact. The tribals then took the Director and the DAPSTC team to their areca nut groves, developed out of the 'Mangala' areca seedlings provided by the Institute and informed that by saving and reusing the vegetable seeds supplied through DAPSTC, they could earn extra income.



**DAPSTC follow-up campaign in Mavanatham tribal settlement**

### Academics

- A total of eleven students underwent 15/21/30 days exposure training (Internship) while 24 students had taken up the 3-month project work at ICAR-SBI during January – March 2025.

### Events Organized by/at the Institute

#### National Science Day Celebrations at ICAR–Sugarcane Breeding Institute

The ICAR–Sugarcane Breeding Institute (ICAR-SBI), Coimbatore, celebrated National Science Day 2025 on 28 February as an Open Day under the theme “*Empowering Indian Youth for Global Leadership in Science & Innovation for Viksit Bharat.*” The event aimed to promote scientific awareness and inspire young minds by showcasing the Institute's research, technologies and innovations.

The Open Day attracted over 1,000 visitors, including students and teachers from schools and colleges across Coimbatore district and institutions from Chennai, Pollachi and Kottayam, Kerala. The programme offered participants an immersive learning experience through visits to the Science Exhibition, Institute Museum, Tissue Culture Laboratory, institute-developed product demonstrations and the sugarcane-based farming system unit. Visitors also

witnessed drone (UAV) demonstrations, interacted with scientists, participated in impromptu quizzes, viewed institutional videos and enjoyed fresh sugarcane juice.

The afternoon session featured the National Science Day Lecture held at the Institute's Centenary Seminar Hall. Welcoming the gathering, Dr. D. Puthira Prathap, Principal Scientist, highlighted the wide participation and outreach of the celebrations. In his presidential address, Dr. P. Govindaraj, Director, ICAR-SBI, recalled the significance of National Science Day, first observed on 28 February 1987, and emphasized the pivotal role of science and technology in achieving the vision of *Viksit Bharat@2047*. He also outlined the Institute's contributions towards national development through agricultural research and innovation. The National Science Day Lecture on “**Remote Sensing Applications in Agriculture**” was delivered by Dr. Balaji Kannan, Professor and Head, Department of Physical Sciences and Information Technology, TNAU, Coimbatore. His lecture covered applications of remote sensing and GIS, including soil moisture estimation, evapotranspiration assessment using machine learning, sensor characteristics and digital image classification for water resource inventory.

The programme concluded with a vote of thanks by Dr. A. Ramesh Sundar, Head, Division of Crop Protection, ICAR-SBI. The event was broadcast live by *Akashvani*, Coimbatore, through FM and the NewsOnAir app.



**School students participating in ICAR-SBI's National Science Day**

- Organized a 'Seed Day' on 12<sup>th</sup> March 2025 at ECC Farm of the Institute.



**Seed day**

- ICAR-SBI & AICRP on Sugarcane organized the Zonal Breeders and Plant Protection Scientists Meet-2025 at ICAR-SBIRC, Kannur on 17<sup>th</sup> January 2025, which was addressed by Dr.T.R.Sharma, DDG (CS), ICAR.



**DDG (CS), ICAR speaking at the Zonal Breeders and Plant Protection Scientists Meet - 2025**



**Director, ICAR-SBI, addressing the staff during the Republic Day Ceremony**

- An interactive division-wise meeting held on 24<sup>th</sup> February 2025 was chaired by Dr.Prasanta Kumar Dash, ADG (CC), ICAR.
- International Women's Day was celebrated at the Institute on 10<sup>th</sup> March 2025. Ms.Pradeepa Saravanan, Dietitian, graced the occasion as the chief guest and delivered a lecture.



**International Women's Day at the Institute**

### Awards and Recognitions

- ICAR-SBI received the "Certificate of Appreciation" from Dr. R.Brindhadevi, I.A.S., District Collector of Salem on 26<sup>th</sup> January 2025 during the Republic Day Ceremony held at Mahatma Gandhi Stadium in Salem recognizing the efforts of ICAR-SBI towards enhancing the quality of life of the tribals in the district through the DAPSTC project.



**Recognition for ICAR-SBI's tribal outreach efforts in Salem district, TN**

- Dr.M.Alagupalamuthirsolai, SS, was awarded the Innovation Excellence Award 2025 in the international conference AGRI INNOVA 2025 on 10th January 2025 by Prosper Foundation & Western Ghat Researcher Association of Agricultural Sciences and Technology.
- Dr.M.Alagupalamuthirsolai, SS, received the best oral presentation award for the paper entitled “Effect of Co-occurrence of high night temperature and Water Deficit Stress in sugarcane” at the International Conference on “**Advances in Plant Health Improvement for Sustainable Agriculture (APHISA 2025)**” organized by VOC Agricultural College and Research Institute (TNAU), Killikulam during 14-16 February 2025

### Media efforts

For the first time, the happenings of National Science Day event at the Institute was broadcast live by **Akashvani**, Coimbatore, through FM and was livestreamed through NewsOnAir app on 28 February 2025



**News on Training programme for the farmers of Bihar at ICAR-SBIRC, Karnal; Punjab kesri daily, 1.02.2025**

- A feature “Awareness cum Training Campaign for Enhancement of Tribal Income” (ATCETI-25) was broadcast through the FM 103 Channel and Primary channel MW 300.3 of All India Radio, Coimbatore on 23.2.2025 (Part-1) and 24.02.2025 (Part-2). The same was streamed live on Newsnair App.
- A feature on DAPSTC project follow-up campaign in Mavanatham tribal settlement in Sathyamangalam Tiger Reserve of Erode district was broadcast through **Akashvani** (All India Radio), Coimbatore, on 11.03.2025 (Event) and on 16.03.2025 (Interaction).

### Appointment / Transfer/Promotion/Retirement

- Dr.T.Subramani, Senior Scientist (Agronomy) was transferred from ICAR-Central Inland Agricultural Research Institute, Sri Vijaya Puram and joined ICAR-SBI, Coimbatore on 03.02.2025
- Sh.M.Balachandran, Lower Division Clerk promoted as Upper Division Clerk w.e.f. 01.01.2025
- Smt.A.Sindhu, Lower Division Clerk was granted 1st MACP in Level-3 w.e.f. 23.03.2025
- Smt.S.K.Anumalaviga, Lower Division Clerk was granted 1st MACP in Level-3 w.e.f. 25.03.2025
- Smt.P.Seema, Skilled Support Staff was granted 1st MACP in Level-2 w.e.f. 01.10.2024
- Sh.P.Chinnaswamy, Skilled Support Staff was granted 1st MACP in Level-2 w.e.f. 21.01.2025
- Sh.R.Thimmappan, Skilled Support Staff was granted 1st MACP in Level-2 w.e.f. 22.01.2025
- Sh.K.Praveen Kumar, Technician promoted as Senior Technician w.e.f. 17.12.2023
- Sh.R.Nithiyantham, Senior Technician promoted as Technical Assistant w.e.f. 03.03.2024
- Sh.K.Selvamuthu, Senior Technical Assistant promoted as Technical Officer w.e.f. 24.07.2024
- Sh.R.Raja, Senior Technical Assistant promoted as Technical Officer w.e.f. 14.03.2024.
- Sh.K.Muraleekrishnan, Technician promoted as Senior Technician w.e.f. 08.02.2024.
- Smt.V.Rafee Viola, Senior Technical Assistant promoted as Technical Officer w.e.f. 14.05.2024
- Sh.M.Balachandran, Upper Division Clerk, retired on Superannuation on 31.01.2025
- Smt.V Indirani, Skilled Support Staff, retired on Superannuation on 31.01.2025.
- Smt.R.Rajamani, Skilled Support Staff, retired on Superannuation on 31.01.2025.
- Smt.C.Sundaral, Skilled Support Staff, retired on Superannuation on 31.01.2025.
- Smt.S.Dhanabhagam, Skilled Support Staff, retired on Superannuation on 31.01.2025.
- Sh.Fateh Singh, Skilled Support Staff (SBI-RC, Karnal), retired on Superannuation on 28.02.2025.
- Sh.A.Shanmugavel, Skilled Support Staff, retired on Superannuation on 31.03.2025.
- Sh.Rambir, Skilled Support Staff (SBI-RC, Karnal), retired on Superannuation on 31.03.2025.

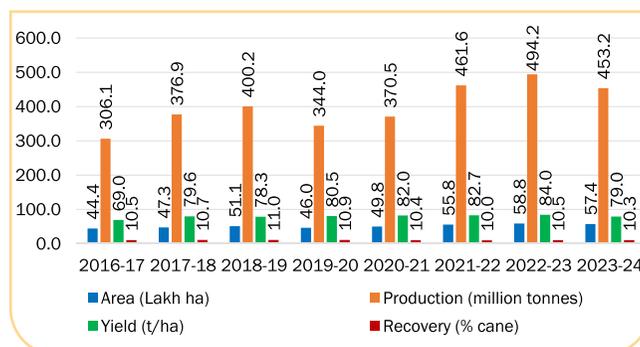
## Recent Trends in Sugarcane Cultivation, Productivity and Utilization in India

Sugarcane area in the country expanded steadily from 44.4 lakh ha in 2016-17 to a peak of 58.8 lakh ha in 2022-23, highlighting strong farmer preference supported by assured procurement and remunerative pricing. The marginal decline to 57.4 lakh ha in 2023-24 suggests emerging pressures such as climatic variability, rising input costs, or profitability concerns.

Production showed notable fluctuations, declining to 306.1 million tonnes in 2016-17, recovering to 400.2 million tonnes in 2018-19, and peaking at 494.2 million tonnes in 2022-23 before easing to 450.1 million tonnes in 2023-24. These cycles underline the combined influence of area, yield, and weather conditions, along with increasing diversion of cane to ethanol.

Yield performance improved significantly from 69.0 t/ha in 2016-17 to a record 84.0 t/ha in 2022-23, driven by improved varieties and better agronomic practices, before

moderating in 2023-24. Sugar recovery also improved, reaching a high of 11.0% in 2018-19, though it moderated to 10.3% in 2023-24 due to ethanol-oriented utilization of cane juice.



Area, production, yield and sugar recovery (%) of sugarcane

Vinayaka and P. Murali

## Heritage CORNER

### Comparative performance of Sugarcane Varieties 106 years ago!

Performance of the Varieties planted in the Restricted irrigation plot - Field No. 1. East End. S.C.C. Harvested: 1/5/35-26.

No	Name of the Variety	Number of Ridges	1	2	3	4	5	6	Average Number of Cane per Ridge	Average Weight of Cane per Ridge						
			No. of Cane													
1	Co 402	6	9	6	27	17	31	21	41	29	12	6	20.0	13.1		
2	Co 408	6	97	146	61	78	88	96	91	137	80	125	82	92	79.9	112.3
3	Co 426	6	106	162	80	80	70	89	91	112	97	106	66	60	83.0	101.1
4	Co 213	6	118	95	102	73	115	105	95	100	80	63	90	59	100.5	82.5
5	Co 290	6	86	99	103	77	117	115	114	125	100	106	112	110	105.3	105.0
6	Poovar	3	10	6	16	17	13	9							13	10.6
7	Vellai	2	-	-	-	-	-	-							na	na
8	P.O.J. 2878	3	91	135	50	83	54	86							65.0	101.3
9	H.M. 320	1	10	4											10.0	4.0

List of varieties in order of their merit; Co. 408; Co 290; P.O.J. 2878; Co 426; Co 213

Co 408 outperformed other varieties under restricted irrigation conditions during 1934-35 at ICAR-Sugarcane Breeding Institute (Sugarcane Breeding Station, then)

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☎ : 0422 - 2472621

✉ : directorsbiicar@gmail.com

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