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नेक्टर्स की सशक्तिकरण सफलता की कहानियाँ

N. E. S. T.
NECTAR'S EMPOWERMENT SUCCESS TALES

BY

उत्तर पूर्वी प्रौद्योगिकी अनुप्रयोग एवं प्रसार केन्द्र

NORTH EAST CENTRE FOR TECHNOLOGY APPLICATION AND REACH (NECTAR)

भारत सरकार की विज्ञान एवं प्रौद्योगिकी विभाग के अधीन एक स्वायत्त संस्था

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PRESERVING THE ANCIENT CRAFT OF CHAREI TABA POTTERY

Project Summary

NECTAR's technological support turned a rare 'Charei Taba' form of Pottery initiative by Ms. Padmini, proprietor of Riptrip, Manipur into a thriving enterprise. The main objective of the project was to strengthen the trade in cultural goods by organizing and converting this art into an enterprise offering sustainable livelihood and providing employment opportunities for local populace and promote local production. Technology intervention combined with traditional art and knowledge helped improved the quality of Charei Taba pottery and minimized production cost and time. Such interventions not only boost economy of the region but also promote green economy ecosystem.

ABOUT THE PROJECT

These aesthetic pieces are crafted by artisans involved in rare legacy of Charei Taba Pottery from Manipur. Each product is shaped completely by hand, hence making it authentically handmade and certified in food safety.

Name of entrepreneur/Firm:	RipTrip
Implementation Site:	Manipur
Budget:	Rs. 20,57,418

Beneficiaries:

25 male and 27 female all belonging to SC category

OUTCOME

1. The use of technology reduced physical labor and time.
2. The project led to increase in the production leading to a many fold increase in the direct monthly income of the Artisans and with organized sales effort it led to better pricing.
3. The loss per firing was reduced from more than 50% to less than 14% per firing.
4. The time consumed in raw materials processed by the artisans was also reduced to 1 day as against 7-10 days earlier.
5. The monthly net productive days for each artisan was increased to 26 days a month as against 10-11 days earlier.
6. Finer products were created with higher strength, durability and appeal.

THREADS OF HOPE

Transforming Lotus Stems into Sustainable Fibre

The traditional art of extracting lotus fibre has existed for generations among communities living near lakes and wetlands. This rare fibre, known for its softness, breathability, and natural sheen, has the potential to become a premium niche textile in national and international handloom markets. However, before NECTAR's intervention, the process was laborious, slow, and inefficient. Women manually pulled fibres from lotus stems using bare hands, resulting in small quantities, uneven quality, and physical fatigue.

Recognizing both the cultural significance and economic potential of lotus fibre, NECTAR initiated a structured intervention aimed at modernizing the process and empowering women artisans. The first step involved conducting a baseline assessment to understand the number of artisans involved, traditional methods used, and challenges faced. The assessment revealed key issues: lack of standardized tools, minimal production capacity, no exposure to larger markets, and limited knowledge of fibre grading.

ABOUT THE PROJECT

Project aims to create steady employment for villagers especially women in fibre extraction, spinning, and weaving. Offer an alternative livelihood during agricultural off-seasons. Increase household income through a higher value, artisanal products.

Name of entrepreneur/Firm:	M/S SANAJING SANA THAMBAL THANGA
Implementation Site:	Manipur
Budget:	Rs 24,25,000

NECTAR introduced specially designed stem-cutting knives, and ergonomic tools that significantly reduced drudgery. Training sessions covered stem selection, cleaning, fibre pulling, strand alignment, drying, and quality grading. Demonstrations showed artisans how to extract longer continuous fibres, which are more valuable in handloom weaving.

Outcomes

Within months, the output of high-quality fibre increased by nearly 60%. The artisans began bundling fibres in standardised lengths and texturess, which made them more attractive for yarn makers. The women also learnt basic record-keeping, costing, and pricing techniques, enabling them to negotiate better rates.

Market linkages were initiated with handloom clusters and designers interested in sustainable textiles. Lotus yarn samples were showcased at exhibitions and craft festivals, drawing interest from both buyers and textile researchers.

"Earlier we would work the whole day and make very little fibre. Now our hands don't hurt, and we earn more," shared one beneficiary.

The lotus fibre project has evolved into a signature livelihood activity, merging traditional knowledge with scientific techniques. With improved confidence, expanding markets, and higher earnings, the women have positioned themselves as custodians of a unique textile heritage. NECTAR's intervention has ensured that this rare craft receives.

TERRACOTTA AND POTTERY BUSINESS IN ASHARIKANDI

Project Summary

Asharikandi (Madaikhali) is a village in Dhubri district of Assam. It is one of the largest clusters of Terracotta and Pottery in India where male and female, young and old of 130 families' present, shape and creates a range of fascinating terracotta and pottery items. The special soil HIRAMATI is the soul of this craft which is abundantly available in surrounding areas. Despite holding an age-old tradition, the village is, however, facing many challenges due to which present generation is having limited interest in accepting it as a profession. One of the major challenges which are faced is drudgery in manual aging of the clay, one of the key steps which control the workability of clay for

ABOUT THE PROJECT

The project's goal is to continue the age-old tradition in creating terracotta and pottery items in Asharikandi through technology intervention thereby improving sustainability and establishing a healthy economic chain.

Name of entrepreneur/Firm:	Asharikandi
Implementation Site:	Dhubri, Assam
Budget:	Rs. 25,00,000

fabrication of green clay bodies. It affects both the quality and quantity of processed clay leading to unexpectedly low productivity. Secondly, a majority of the items are being fabricated or shaped by hand, which is very slow process. As a result, both productivity and consistency in quality are drastically affected. NECTAR has helped in solving the challenges faced and uplifting the innovative and artistic skills of the villagers for continuing the Traditional Terracotta and Pottery Business in Asharikandi.

Beneficiaries: 1000 (OBC) direct beneficiaries and 3000 (SC) indirect beneficiaries

OUTCOME

1. NECTAR intervention helped in improving the quality of firing and fuel efficiency, which ultimately led to reduced operational costs with more profitability.
- Quality of firing has become better as reflected in characteristic color and sound of fired body. Effective firing cycle time reduced to 22 hrs which is required minimum 72 hrs for conventional firing, so the number of firing cycles increases nearly 3 times.
- The Operating cost is lower @Rs.3600 compared to the conventional @Rs.6000/ cycle, the cost benefit analysis confirmed that there is a 50% reduction in cost of production. The annual profit margin per cluster is more than 4.5 times higher.
- Also, in terms of environmental benefit, after technical intervention around 1386 tonnes of wood will be saved, which leads to reduction of 2495 tonnes of CO2 in the environment.
- The success of pilot project by Nectar has inspired more villagers to make use of the scientific innovations and even small interventions and many of them are looking at this trade with new found zeal, especially the youth. To take this success story to the next level a project proposal with the title "Improving Sustainability of Traditional Terracotta and Pottery Business in Asharikandi" was submitted to SEED Division of Department of Science and Technology, Govt. of India, by NECTAR as the implementing agency, which was approved with a total budget of Rs. 2,81,08,381 for a period of 2 (two) years. The major targets achieved are-
  - Constructing a CFC and a display centre in the village.
  - Providing the updated machinery for mass production of high demand items.
  - Improving and empowering the citizens with the village for improving the quality of the product.
  - Improving packaging quality and providing market linkage of goods.



MADE FROM WATER HYACINTH

Project Summary

The project aims to promote natural fibre-based, eco-friendly yoga mats made from locally available water hyacinth (Eichhornia crassipes), an invasive aquatic weed that causes severe ecological disruption. Converting this abundant biomass into a value-added product provides an environmentally responsible solution that supports both resource management and sustainable livelihoods.

The intervention focuses on improving fibre extraction, processing, and weaving technologies to enhance the quality of biodegradable yoga mats. Water hyacinth fibres

ABOUT THE PROJECT

The aim of this project is to promote production and use of natural fibre-based eco-friendly yoga mats made from locally available water hyacinth.

Name of entrepreneur/ Firm:	Simang Collectives Pvt. Ltd.
Implementation Site:	Deepor beel, Assam
Budget:	Rs. 11, 70,936

are scientifically processed through optimized retting, drying, and natural softening methods to retain tensile strength, prevent microbial growth, and improve flexibility. These fibres are then woven on traditional Assamese looms using refined techniques and tool modifications to achieve superior grip, durability, and user comfort.

The outcome is a high-quality, 100% biodegradable and compostable yoga mat that meets functional standards while supporting circular economy principles. Beyond environmental benefits, the project strengthens community-based production systems, enhances artisan skills, and creates sustainable green livelihood opportunities for local communities.

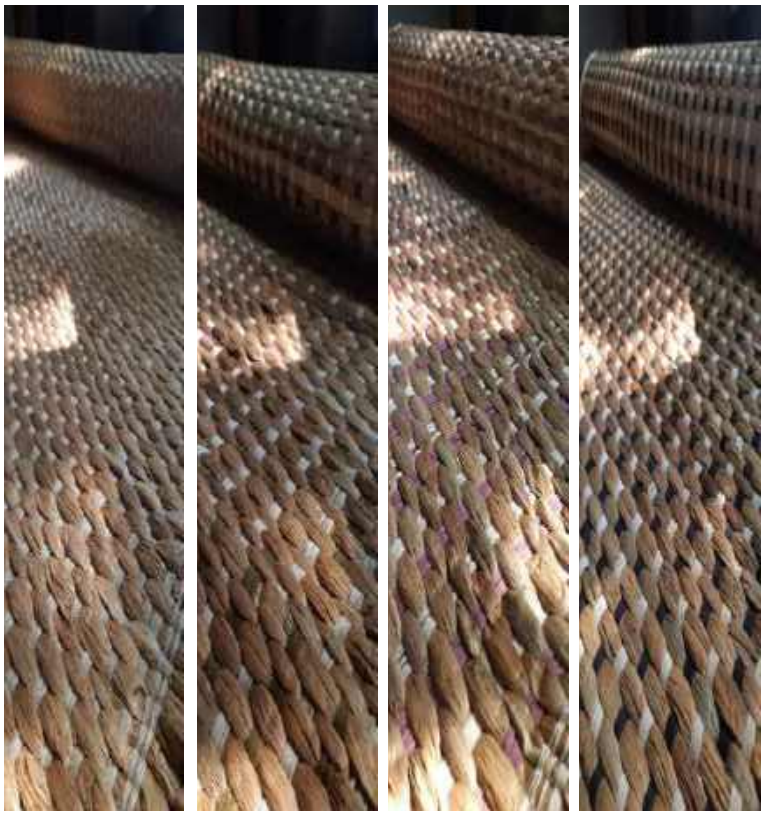
Beneficiaries:

Male: 20 (General)

Female: 38 (SC)

OUTCOME

- Continuous employment to the women from the indigenous community of Deepor beel Wildlife sanctuary, a famous wetland designated as a Ramsar Site located near the Guwahati City.
- 1,000 handwoven water hyacinth yoga mats are produced per month.
- Alternative sources of livelihood to the local community
- Conservation and sustainable management of the wetland and its ecosystems.
- Scope for converting waste to wealth.



BLENDING TECHNOLOGY WITH INDIAN BAMBOO HANDICRAFT TO PRODUCE FAUCETS

A REAL GAME CHANGER IN THE INDIAN BAMBOO ECO-SYSTEM

Project Summary

India is the world's second-largest producer of bamboo, a natural, eco-friendly, sustainable, and rapidly renewable resource. Known for its fast growth, bamboo enriches vegetation and forest cover, and its natural strength has long supported indigenous communities—used in everything from handicrafts to house construction, even for transporting water through bamboo pipes in hilly villages.

Today, bamboo's potential extends to modern sanitary fittings. Bamboo faucets require no large industrial setup and can be manufactured in small units using specially designed

ABOUT THE PROJECT

The project's goal is to manufacture bamboo faucets which can be an alternative to products developed from plastic or other materials.

Name of entrepreneur/Firm:	M/s SAN ECO Vision, Faridabad
Implementation Site:	Agartala, Tripura
Budget:	Rs. 10, 55,000

machinery and trained artisans. Each faucet is made with <80% processed bamboo, >20% ceramic and metal, plus minor rubber components, and uses a customized faucet cartridge to control flow. Being non-corrosive, bamboo offers a much longer service life than metal.

The sanitaryware industry is thriving. India's sanitary ware and bathroom fittings market was valued at US$ 7,220 million (INR 48,374 crore) in 2019, boosted further by government initiatives to improve public toilets and rural–urban cleanliness. Globally, the ceramic sanitary ware market is projected to grow from USD 32.1 billion (INR 215,070 crore) in 2020 to USD 44.6 billion (INR 298,820 crore) by 2025 at a CAGR of 6.8%.

Despite the massive demand, there is currently no global supplier of bamboo sanitary fittings, placing India in a uniquely advantageous position.

Beneficiaries:

20 direct and 30 indirect male population

OUTCOME

1. Bamboo faucets and mixers can successfully replace harmful plastic and expensive metal.
2. Engaging local bamboo artisans for faucet manufacturing will generate an alternate employment source across the country particularly in the bamboo growing regions

BAMBOO WATER TOWER

Project Summary

Water scarcity is an issue that requires urgent action. The situation is exacerbated by climate change causing erratic rainfall patterns and prolonged droughts. While many conventional engineered systems are currently available to harvest water from various sources such as through groundwater harvesting, rainwater collection and storage systems and water desalination, etc., however, for these to work, water must be readily available. But when such supplies are limited, harvesting atmospheric moisture (fog, dew, mist, etc.) can provide a way out, especially in remote areas lacking readily

ABOUT THE PROJECT

The main objective of the project is to harvest water from the atmosphere (rain, fog, dew, etc. providing an alternative water source for the communities in Cherrapunjee

Name of entrepreneur/Firm:	NECTAR
Implementation Site:	Sohra, Meghalaya
Budget:	Rs.1, 30,196

available water sources. One such alternative that can prove to be economical as well as sustainable for harvesting atmospheric moisture is the Bamboo Water Tower.

Bamboo Water Tower is designed to harvest water from the atmosphere (rain, fog, dew, etc. providing an alternative water source for communities that face challenges in accessing drinkable water.

Cherrapunjee in Meghalaya is often known worldwide as the world's wettest place with the highest rainfall annually, yet during the winter seasons, it suffers from acute water shortage and scarcity. Hence, the region offers ample scope for undertaking water harvesting projects of various kinds with the present one currently being proposed as a sustainable and economic solution.

Taking this into aspect, NECTAR had constructed a Bamboo Water Tower in Ramkrishna Mission School Campus, Cherrapunjee.

Beneficiaries:

Male 4 (ST)

OUTCOME

1. Bamboo Water Tower is designed to be owned and operated by the villagers and the local community.
2. The project's goal is also to empower the local economy based on people training, construction, and manufacturing, monitoring, water management and maintenance, and applications to agriculture, etc in order to meet the various water needs of the community.
3. At present the amount of water collected due to fog and new is being monitored so that the exact amount of water collected on a daily/ monthly basis can be estimated.

ECO-FRIENDLY COW DUNG DIYAS

Project Summary

After a successful pilot project on production of cow dung pots, NECTAR initiated another environment friendly venture involving cowdung. At Dharitree Nursery in Sonapur, cow dung was

ABOUT THE PROJECT

The main objective of the project is to make eco-friendly cow dung earthen lamps (Diyas), an alternative to Chinese lamps

Name of entrepreneur/Firm:	NECTAR
Implementation Site:	Guwahati, Assam
Budget:	Rs.22,400/-

being molded into a wide range of value-added products such as diyas, dhoop sticks, sambrani cups. Among the various items developed, eco-friendly cow dung earthen lamps (diyas) emerged as a particularly impactful product, especially during the festive season. These diyas offer a natural, locally produced alternative to imported Chinese lamps, directly supporting the Government of India's Make in India initiative and contributing to the vision of Prime Minister Narendra Modi's Atma Nirbhar Bharat Abhiyan. Scientifically, the diyas are advantageous because cow dung decomposes rapidly, leaving no toxic residues in the environment. When discarded post-festivities, the diyas break down quickly, act as organic manure, and support soil health—making them an ideal choice for sustainable celebrations.

Through NECTAR' initiative, high-quality diyas were produced and made available in the market during Diwali. This initiative demonstrates how traditional materials, when combined with scientific processing and innovative thinking, can offer scalable, green alternatives while strengthening community-based economies.

BENEFICIARIES:

30 male and 15 female

OUTCOME

1. Introduction of high-quality diyas in time for Diwali which were made available in the market.
2. Rural livelihood generation by involving local farmers, women's groups, and small entrepreneurs in the production process.

STEM Education Hub

Objectives

1. A 'STEM Education Lab'- The STEM Lab developed in NECTAR Headquarters, Shillong in collaboration with the Smart Village Movement (SVM), Meghalaya, Curiosity Gym, Mumbai and Indian Institute of Science Education and Research (IISER), Pune marks a transformative step towards advancing STEM (Science, Technology, Engineering, and Mathematics) education in Meghalaya.
2. The project aims to expand outreach to schools and colleges and students in the Shillong area through the NECTAR STEM facility.
3. Establish a self-sustainable model by implementing minimal fees for students, youth or teacher participants - so that on an ongoing basis it can cover salaries, maintenance, and consumable costs, and ensuring long-term viability.
4. Create an engaging and visually appealing lab environment to stimulate students' curiosity and maintain high retention rates.
5. Empowering teachers with STEM skills and curriculum to implement in their classroom.
6. Creating STEM education awareness and engagement through school management and administration.

Implementing Agency	NECTAR
Implementation Site	East Khasi Hills, Meghalaya
Budget	Rs. 24,30,200

7. Develop exclusive high-tech courses and program offerings featuring advanced technologies such as drones, robotic industrial arms, and virtual reality experiences, diversifying learning opportunities and enhancing the hub's appeal.

Deliverables/Outcomes/Success Stories

8. The STEM Lab aims to create a holistic environment to empower students from around 100 schools in Shillong with STEM components like Electronics, Robotics, 3D printing, etc. The outcomes for this initiative would be to enhance the experiential learning for both teachers and students with access to state-of-the-art equipment, modules and training to be provided round the year.
9. NECTAR in collaboration with IISER Pune and Smart Village Movement successfully conducted the STEM Fusion workshop and Student Exhibition on 18 August 2025. Bringing over 400 students and 80 teachers to showcase 95 innovative STEM projects, fostering scientific thinking and creativity, the event featured interactive workshops, expert sessions, hands-on demonstrations, and student-led exhibitions. Distinguished attendees, including the Chief Minister of Meghalaya, commended the participants and announced substantial cash prizes across three competition categories. The programme successfully promoted STEM education in the region, highlighted young talent, and strengthened collaboration among academic institutions, government bodies, and innovation-driven organisations.


STEM FUSION
EXPLORE • BUILD • INNOVATE


PROJECT NO
12

Establishment of Community Radio Station (CRS) to promote Agriculture, Rural Livelihood and Community Development

Objectives

- The basic objective of the Community Radio broadcasting would be to serve the cause of the community in the service area of the Permission Holder by involving members of the community in the broadcast of their program.
- Community radio is not-for profit and provides a mechanism for facilitating individuals, groups, and communities to tell their own

Implementing Agency	Centre for Rural Empowerment & Development organization (CREDO)
Implementation Site	Thoubal, Manipur
Budget	Rs. 24,49,143

diverse stories, to share experiences, and in a media rich world to become active creators and contributors of media.

- Community Radio intervention is to address social issues (such as poverty and social exclusion) at the community level, empower marginalized rural groups and catalyse democratic processes and ongoing development efforts.
- The urge to do community radio fulfils the basic desire for communication and self-expression and is on the forefront of today's democracy movements.
- CRS of this location will be used to improve awareness and knowledge of solutions to community development problems within various sectors including Modern agricultural practices, culture, rural development, education, hygiene and sanitation and local governance among rural people living in the Shikhong Sekmai Village under Thoubal districts in particular.
- Social Cohesion: Programs designed on topical issues have further endeared to the people. The station engages experts/ resource persons as guests on these programs and they (resource persons) are able to explain and make clear issues in their areas of expertise.
- Its role includes poverty eradication, illiteracy eradication and employment. Community radio is the common link which binds all these development factors over a common communication channel. In the years to come, it will prove to be a vital tool that Governments will use for social upliftment.

Outcomes

- Community radio as distinct from commercial and public service broadcasting, serves to bring local level small communities together, focuses on general public's day-to-day concerns and helps in realizing local demands and aspirations.
- Enlightening and rising the communities around development initiatives and strategies that will result in a better life for listeners (agriculture, education, health and gender issues, disaster and environmental degradation, issues of local government, peace keeping etc.)
- As community radio prepares and broadcasts programs for the rural particular community, so it can also be specified to a target population.
- Community radio broadcasts programs that cater to vulnerable and marginalized groups in the community and encourage them to share their ideas and views on air.
- The programs of community radio encourage wide diversity of thoughts and views from different marginalized groups, such as women and youth or minority community.
- Sustainable development and positive social change of minority groups can be facilitated by community radio. It is community radio which can convey the sufferings and sorrows, difficulties, and limitations of a community to the policy making authority.
- Promote Development and Social Change including the special slant on News, Entertainment and Education and Services for Oppressed Women and Unemployed Youth.

Success Story

WAHONG Radio Station|90.00 MHz, nestled in the heart of Shikhong Bazar, Nongpok Sekmai, Dist. Thoubal, Manipur stands as a beacon of community spirit and resilience. Despite its modest beginnings, the station has flourished into a vital hub for agriculture experts, local news, cultural exchange, and grassroots activism. One remarkable aspect of WAHONG Radio's success is the unwavering support it receives from villagers and listeners. Moved by the station's dedication to amplifying their voices and preserving the heritage, villagers frequently flock to Radio station, not just as listeners, but as active contributors. They donate generously, both morally and in kind, recognizing the station's pivotal role in fostering unity and empowerment within the community. This outpouring of support has enabled the Radio station to expand its reach, upgrade its information and diversify its programming, ensuring that it remains a dynamic force for positive change in the state Manipur. Through the collective efforts of villagers and station staff alike, WAHONG Radio continues to thrive as a testament to the power of community-driven media.

Beneficiaries: Male (5) and Female (2)

Mobile Processing Unit (MPU) for Fruits & Vegetables

Project Summary

The Mobile Processing Unit (MPU) was developed to address post-harvest losses due to inadequate storage, transport constraints, and lack of processing infrastructure in the Northeast. The MPU brings "processing on wheels" to farming communities, demonstrating technologies for juices, jams, pickles, dried fruits, and spice powders. It enables doorstep value addition and serves as a hands-on training centre for small and marginal farmers during glut seasons.

Implementing Agencies	CSIR CFTRI
Budget	Rs. 1.20 Crore

OUTCOMES

1. Demonstrations conducted on multiple food processing techniques.
2. Farmers trained in the operation of processing equipment.
3. MPU supported farmers during peak harvest to reduce wastage and create value-added products.
4. Enabled community-level processing of fruit & vegetable products such as squash, jams, pickles, dried fruits, and spices.

Formation and Promotion of 21 FPOs in Arunachal Pradesh

Project Summary

Under the CSS "Formation & Promotion of 10,000 FPOs," NECTAR—acting as CBBO under NERAMAC—formed 21 FPOs across seven districts of Arunachal Pradesh. The initiative strengthens collective farmer organizations, enhances market access, and promotes income growth through structured business planning and value-chain development.

Baseline surveys identified local crops, market gaps, and intervention opportunities. Boards of Directors were elected, CEOs and accountants appointed, and offices established for all FPOs. Continuous training and capacity building ensured operational and financial sustainability.

Implementing Agencies	Sushila Foundation, APRINS, Kaviyasri Foundation, Entrepreneurs Associates, COLKS
Budget	Rs. 5.25 Crore

OUTCOME

1. 21 FPOs registered with elected Boards, CEOs, and accountants appointed.
2. Baseline survey was completed to identify crops, market potential, and intervention areas.
3. Capacity-building and training conducted for farmers and FPO management.
4. Initial market linkages and value chain development initiated.
5. Enhanced awareness on collective marketing and income generation.

Community Radio for Rural Empowerment and Development in Mawkynrew, Meghalaya

Objectives

- Community radio is a short-range, not-for-profit radio station or channel that caters for the information needs of people living in a particular locality, in the languages and formats that are most adapted to the local context.
- Community Radio is intended to bring about social and economic development.
- The focus is to highlight relevant social issues, sharing the latest information with the community, providing a platform to the community to express their opinions and problems and to provide a platform to explore their own creative potentials.
- There are varieties of programs that can be developed and aired on Community Radio addressing some of the following aspects like providing access to information to villagers, creating radio enabled literacy programs, providing a platform to students and the community at large to exploit the potential of this creative media, social development of the area by focusing on relevant social issues, creating programs on Health Care, Counselling, Vocational Training.

Implementing Agency	NECTAR
Implementation Site	East Khasi Hills, Mawkynrew, Meghalaya
Budget	Rs. 70,00,000

Outcomes

- NECTAR has launched a Community Radio Station (CRS) named as "Mawkynrew 89.60 FM Community Radio" at Jongksha village, Mawkynrew Block, East Khasi Hills, Meghalaya.

- The CRS will help in promoting Agriculture, Rural Livelihood & Community Development benefitin more than 100 isolated villages with a population of approximately 35,000 people.
- It is the first Community Radio Station in Meghalaya. The proposed programs are focused on issues related to education, health, environment, agriculture, local folk, art, culture, traditional knowledge, rural and community development.
- It will also encourage the voice of the disadvantaged group by broadcasting programs related to problems and limitations, issues etc, promote the cultural perspectives and interests of the minority groups and also popularize the tradition of Indigenous rural peoples with improved social participation and improved education and knowledge of self-employment.

Beneficiaries: Male (2) and Female (1)

Large-Scale Saffron Cultivation in Northeast India (NEC-Funded)

Project Summary

NECTAR successfully demonstrated that the Northeast region has strong potential for saffron cultivation through a rigorous two-year pilot in Meghalaya, Arunachal Pradesh, Sikkim, and Mizoram. With high corm survival rates (up to 90%), strong flowering, and active daughter-corm multiplication across 16 sites, the pilot proved that the region could emerge as a new saffron hub. Encouraged by the success, NEC sanctioned a large-scale expansion project in 2024–25. The initiative is expected to benefit over 500 farmers, diversify livelihoods, and reduce India's dependence on imported saffron—opening new economic opportunities for remote hill communities.

Implementation Site	Meghalaya, Arunachal Pradesh, Sikkim, and Mizoram
Budget	Rs. 372.17 Lakh

Total Beneficiaries: 500 (500 farmers (Arunachal Pradesh 250, Meghalaya 100, Sikkim 100, Mizoram 10, Manipur 30, Nagaland 10).

OUTCOME

1. High corm survival rates of 77%–90% were recorded across all pilot sites, confirming the region's suitability for saffron cultivation.

2. Flowering was successfully observed in every site, along with strong multiplication of daughter corms, indicating long-term sustainability.
3. Farmers adopted scientific cultivation practices after awareness and mobilization programs conducted by NECTAR.
4. Sites in Meghalaya and Arunachal Pradesh showed particularly high flowering percentages, proving their potential for commercial production.
5. A total of 27 quintals of corms were planted across 16 locations during the pilot phase.
6. The successful pilot directly led to NEC sanctioning the large-scale expansion project for 2024–25 onward.
7. The initiative is projected to benefit more than 500 farmers across six Northeastern States.
8. Overall, the pilot established saffron as a viable high-value crop for the Northeast, reducing dependency on imports and opening new livelihood avenues.

PMKVY 4.0
Skill Development Program

Project Summary

NECTAR implements the Pradhan Mantri Kaushal Vikas Yojana (PMKVY 4.0) across the Northeastern states to provide free, industry-relevant skill training and certification to youth. The programme covers Short-Term Training (STT), Recognition of Prior Learning (RPL), and Special Projects, focusing on imparting market-driven skills, promoting reskilling/upskilling, and ensuring inclusivity (SC/ST/Women).

Implementing Agencies	NECTAR
Implementation Site	Meghalaya, Assam, Nagaland, Mizoram, Tripura, Sikkim, and Arunachal Pradesh
Budget	Rs. 36.32 lakh

Training is conducted in collaboration with various institutes across Meghalaya, Assam, Nagaland, Mizoram, Tripura, Sikkim, and Arunachal Pradesh, following a structured workflow including mobilization, enrolment, training, assessment, certification, and livelihood support.

Total Beneficiaries:

1. STT (2023–24): 573
2. RPL Industry Premises (2024–25): 308
3. RPL Camps (2023–24): 145

OUTCOME

4. Skill training across sectors: food processing, textiles, drones, beekeeping, agriculture.
5. Youth participation and leadership development enhanced.
6. Training fostered entrepreneurship, hands-on skills, and job creation.
7. Empowered beneficiaries to generate sustainable income and employment opportunities.

Compostable Bioplastic Bag from Cassava Starch (Manihot esculenta)

Entrepreneur/Firm	Ecostarch
State	Nagaland
Budget	Rs. 23,50,000

Our government efforts to ban single use plastic has made no significant improvement mainly due to widespread usage, easily available, lack of alternative material and light weight. Keeping these factors in mind, North East Centre for Technology Application and Reach (NECTAR) has supported a project on "Manufacturing of Compostable Bioplastic Bag from Cassava Starch (Manihot esculenta)", to M/s Ecostarch in Mokokchung, Nagaland; with the objective to eventually set up a biodegradable films/bags manufacturing unit suitable for food packaging and carry bags made of cassava starch sourced locally from farmers.

Through this work model, "cassava village" is promoted to boost local economy, facilitate the formation of farmers groups, and provided with an alternative livelihood opportunity through cassava farming. In the current work, farmers are trained on cassava cultivation and are equipped with useful farming inputs. The women SHGs (Self Help Groups) operating in all the targeted villages are also strengthened and bought under the project umbrella and encouraged to take up cassava cultivation as their IGA (Income Generation Activities)

The work sparked an environment friendly plastic economy in the region, creating a greener economy. It is expected to act as a potential employment generation activity as Nagaland suffers from serious unemployment problems (Nagaland has the highest unemployment rate of 21.4%, according to the Periodic Labour Force Survey for 2017-18). This project hopes to transform each village into an enterprising

hub, create a greener cyclic economy and bring about much needed economic freedom among the farmers in the rural areas.

OUTCOME

1. Through NECTAR's supported grant, appropriate technologies for the initial bioplastic bags making machine were procured.
2. A total are of 200 × 200 sq.ft was also donated by the communities of Changtongya new village to set up the unit and construction of 30 × 20sq.ft hall was also completed.
3. The installation of a separate 63kva 11/.4kv sub-station transformer was also completed with the help of power department, Changtongya division at a discounted cost.
4. With the help of respective village council, farmers were mobilized in each village. Consensus pricing was agreed upon for marketing of raw materials.

Beneficiaries: 6 local youths were provided with employment opportunities and nearly 15 local youth are anticipated to be benefited with the project in the upcoming years.

Indirectly, over 250 cassava farmers have already been mobilized from 10 villages. These are mostly small holder farmers residing within 30-40 km range of the production facility. The farmers have already started with the plantation of materials and in about a year it will be ready for harvest.

Educational Center: The current project site has also become an educational tour site for students and teachers of Government primary and middle schools around Changtongya as part of the school curriculum.

QUALITY ASSESSMENT OF KHASI MANDARIN ORANGE IN MEGHALAYA USING DRONE-BASED IMAGE DATA THROUGH AI/ ML & BLOCKCHAIN TECHNOLOGY.

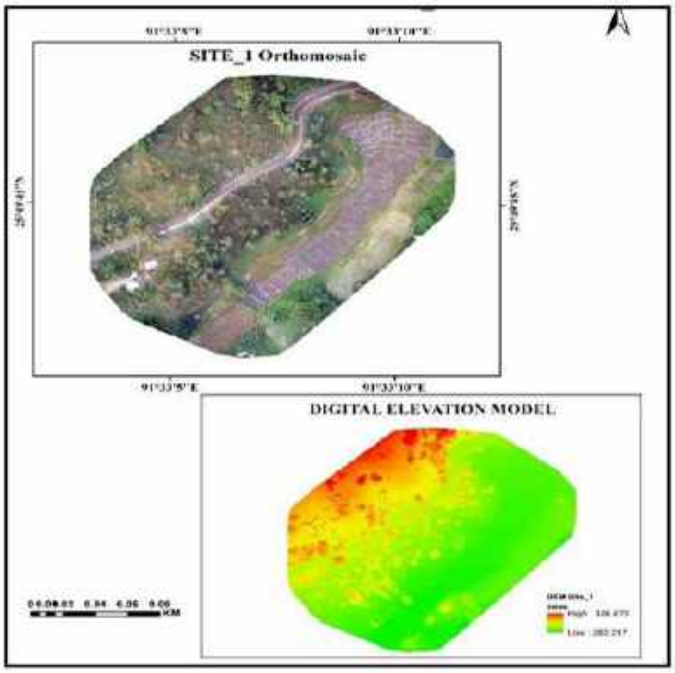
Project Summary

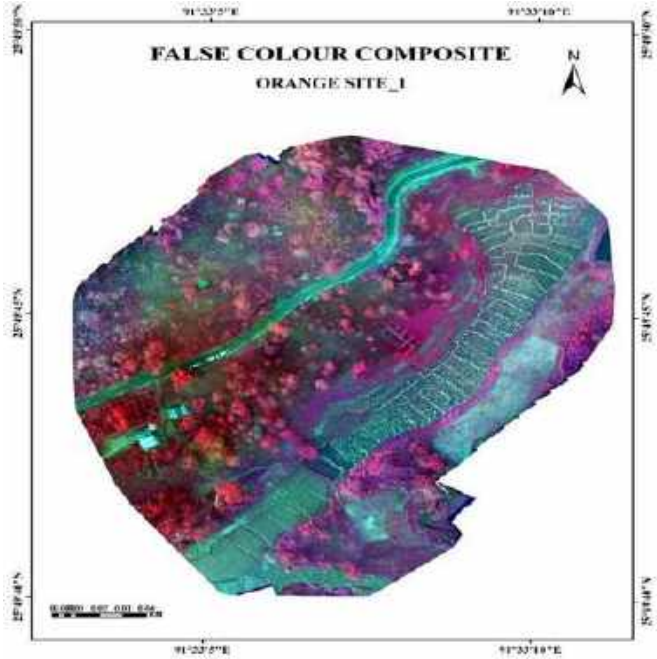
A comprehensive UAV-based survey was carried out across 20 hectares (0.2 sq. km) to support Khasi Mandarin quality assessment, agricultural mapping, and specialized MSS and RGB data collection for the Japan team. The operation used Asteria drones, equipped with multispectral and RGB sensors to capture high-quality imagery essential for evaluating crop health and productivity.

ABOUT THE PROJECT

This project conducted a UAV-based survey over 20 hectares to support Khasi Mandarin quality assessment, agricultural mapping, and MSS & RGB data collection for the Japan team. Using Asteria drones, high-resolution multispectral and RGB imagery was captured through structured grid flights, achieving a 1–4 cm GSD. The data provides detailed insights into crop health, orchard conditions, and supports advanced agricultural research and collaboration.

Project Cost: Extramural (1.25 lakhs)





Flights were conducted using single-grid and cross-grid patterns to ensure complete coverage and consistent data. The survey area, situated at an elevation of 346 m, was mapped at a flying height of 40–50 m with 80–85% image overlap, enabling precise reconstruction and analysis. The mission achieved a ground sampling distance (GSD) of 1–4 cm, providing detailed insights for orchard monitoring, stress detection, and advanced agricultural research in collaboration with the Japan team

OUTCOME

DATAPROCESSING: The collected UAV data was processed using Pix4D, a professional photogrammetry software known for generating accurate 2D and 3D geospatial outputs. The software enabled alignment of images, generation of dense point clouds, and creation of high-precision surface models and vegetation indices.

OUTPUT RESULT

- Report – A detailed analytical report summarizing methodology, data quality, results, and interpretations.
- Point Cloud – A dense 3D point representation of the surveyed area used for terrain modeling, structure analysis, and canopy assessment.
- Digital Surface Model (DSM) – A raster model capturing the elevation of all surface features, including trees, buildings, and vegetation.
- Digital Terrain Model (DTM) – A bare-earth elevation model generated by removing surface objects to accurately represent ground terrain.
- Ortho mosaic – A high-resolution, geometrically corrected map created by stitching individual UAV images into a single, accurate spatial layer.
- Contour Maps – Elevation-based contour lines generated from the DTM/DSM to support terrain interpretation and landform analysis.
- Normalized Difference Vegetation Index (NDVI) – A vegetation health index derived from multispectral data to assess plant vigor, stress, and canopy density.

WASTE TO WEALTH – PINEAPPLE AND BANANA FIBER EXTRACTION

Project Summary

Agricultural residues from banana and pineapple cultivation often accumulate as unmanaged waste across the Northeast region, leading to environmental challenges and loss of potential value. Recognizing this untapped resource, NECTAR supported a transformative initiative titled "Waste to Wealth – Pineapple and Banana Fiber Extraction" implemented by the Udalguri Farmers' Associate Cooperative Society Ltd., aimed to convert post-harvest biomass into eco-friendly, biodegradable fibers while creating sustainable rural livelihoods.

Banana pseudo-stems and pineapple leaves are naturally rich in lignocellulosic constituents—

ABOUT THE PROJECT

The project aims at converting waste of harvested banana and pineapple into eco-friendly and biodegradable fiber

Name of entrepreneur/Firm:	Udalguri Farmers' Associate Cooperative Society Ltd.
Implementation Site:	Udalguri, Assam
Budget:	Rs. 21,49,200

cellulose, hemicellulose, and lignin—which give them high tensile strength and make them excellent raw materials for eco-fiber production. However, traditional extraction methods are labor-intensive and yield inconsistent fiber quality. NECTAR's technological intervention focused on mechanizing fiber extraction to ensure uniform fiber length and fineness, Improved tensile strength, high extraction efficiency and reduced manual drudgery.

Using specialized decortication and cleaning units, the project enabled the community to extract standard-quality banana and pineapple fibers directly from fresh agricultural residues, optimizing the fiber recovery process while maintaining structural integrity.

Beneficiaries: Male (290)

OUTCOME

1. With NECTAR's technological intervention, it was possible to extract banana and pineapple fiber from the raw materials with standard quality.
2. They were used for weaving attractive pieces of clothes, rugs, sarees etc.
3. The banana water as the byproducts was used as organic fertilizer.

LOW-COST BROOM BINDING TECHNOLOGY

Project Summary

In many rural corners of Assam, the art of making Phool-Zharu—the traditional broom—has long been a humble but meaningful livelihood. Crafted from locally available plant resources, these brooms reflect a deep connection between community, craft, and the environment. Yet, despite its cultural significance, broom-making has remained largely manual, labour-intensive, and limited by inconsistent binding techniques that often reduce product quality and income potential. Recognizing the immense scope for improvement, NECTAR extended its support to

ABOUT THE PROJECT

The broom binding technology prototype was developed to fasten broom production and make them uniform, and accessible to individuals with minimal technical training.

Name of entrepreneur/Firm:	U.K.B Agrotech
State	Assam
Budget	Rs. 8,00,000

UKB Agrotech, North Lakhimpur, Assam for their simple, low-cost binding technology designed specifically for rural settings—an innovation that blends scientific efficiency with local practicality. The device standardizes the binding process, making broom production faster, more uniform, and accessible even to individuals with minimal technical training. The initiative also supported greener production practices aligned with regional ecology.

Beneficiaries: Male (13); Female (5)

OUTCOME

1. Successfully developed a manual, low-cost, user-friendly broom binding device that enables rural individuals to produce Phool-Zharu brooms without electricity, making it ideal for remote areas.
2. Trained 18 students, teachers, and villagers in Dhemaji district, Assam, who have started producing and selling brooms, laying the foundation for rural entrepreneurship.
3. The machine is portable, suitable for all genders and senior citizens, and allows one person to produce up to 20 brooms per hour, promoting self-reliance.
4. The technology includes bamboo stick makers and grip enhancers to meet market preferences for longer, well-bound brooms with comfortable grips.

HYDRAULIC RAM PUMP IRRIGATION

Project Summary

North-Eastern states like Meghalaya, Mizoram, Nagaland, Arunachal Pradesh, Sikkim have been dependent on rain-fed agriculture. Rain fed agriculture is complex, diverse and risk-prone and is characterized by low levels of productivity and low input usage variability in rainfall results in wide variation of instability in yields. There have been many schemes to provide assured water availability all year round for agriculture and allied activities from their respective State govt. and various Central Sector schemes but all of which limit to the canals, tanks, open wells and bore wells. These sources of irrigation

ABOUT THE PROJECT

The project's goal is to empower the local economy by providing an alternative means of irrigation to meet the various agricultural needs of the community.

Name of entrepreneur/ Firm:	Roilang Livelihood Academy
Implementation Site:	Niriang Village, Jaintia Hills, Meghalaya
Budget:	Rs. 1, 76,927

cannot be shared by farmers who own their fields in hectares stretched at distances from one another. An alternative approach would be the use of Hydraulic Ram Pumps. Hydraulic Ram Pumps can be used to provide water away from the flowing stream or creek, while limiting environmental concerns.

Beneficiaries:

Male: 1 (ST)

Female: 1 NGO

OUTCOME

1. Water is drawn from a nearby stream and collected in a water reservoir. The outlet pipe leaving the pump has a diameter of ¾".
2. The pipe size is further reduced to ½" to maintain the pressure carrying the water to the target agricultural plot, 256' away from the pump.
3. The level difference between the pump and the elevated agricultural plot is 18' approximately.
4. During the lean season, the discharge measures 10 litres per minute.
5. In summary, the installation of the ram pump at Niriang village has provided an alternative means of irrigation, uses renewable sources of energy, uses low running cost and has no environmental impact.
6. The innovator is also in process of installing five more at different locations in Arunachal Pradesh and Mizoram.

INFRASTRUCTURE UP-GRADATION OF TEXTILE AND FASHION TRAINING CUM PRODUCTION CENTRE

Project Summary

The intervention was initiated to impart training and employ girls/women from vulnerable backgrounds to ensure better livelihood opportunities. The project mentioned enables RKM to install generator, facilitate IT support for data management and training purposes, procure supporting machinery to set up

ABOUT THE PROJECT

The project's goal is to upgrade the infrastructure of Textile and fashion designing established by RKM

Name of entrepreneur/Firm:	Ramakrishna Mission Ashrama, Sohra, Meghalaya
Implementation Site:	Sohra, Meghalaya
Budget:	Rs. 25, 00,000

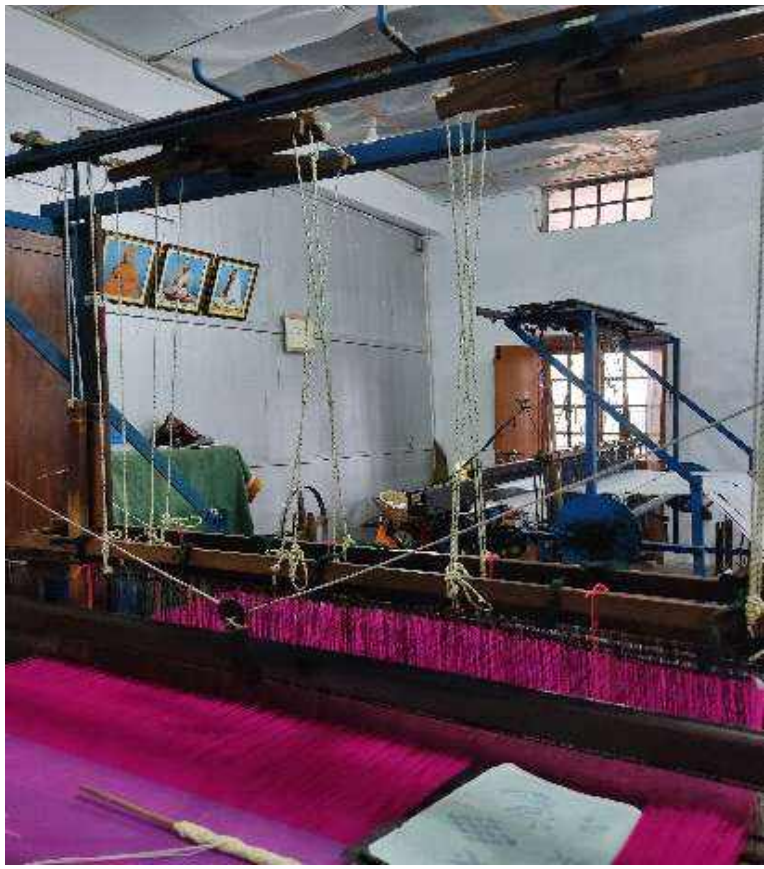
the industrial sewing machine center, upgrade and repair the old metal looms. The prime objective of upgrading the looms is to improve quality and productivity of the fabric being produced by way of fixing certain additional attachments/kits and enabling them to face the competition in domestic and international markets. As of now, the portable generator and IT system have been procured. The generator will support uninterrupted electricity supply, and the IT support would maintain the logistic data and act as a source to research crucial processes in textile and fashion designing while imparting training and during production. The Upgradation of looms has started in collaboration with the Sericulture and Weaving Department of Meghalaya. With skill upgrade, the tailors would be able to enhance their monthly income.

Beneficiaries

43 women with 33 belonging to ST category.

OUTCOME

1. Enhanced monthly income of tailors following skill upgradation benefitting 32 women centers
2. NECTAR aided machines will help in expanding the garment manufacturing unit for uniforms beyond RKM, Sohra schools.
3. The intervention will expand the capacities of tailors and weavers in terms of diversification and development.



AUGMENTATION OF INCOME OF SMALL TEA GROWERS OF ASSAM THROUGH PRODUCTION AND MARKETING OF SPECIALTY TEA

Project Summary

This project involved the systematic survey and documentation of traditional tea processing technologies practiced by various tribal communities of Assam and Arunachal Pradesh, with a focus on biochemical and organoleptic evaluation of indigenous teas such as Phalap, Khilang Pat, and Haleng. Given the growing global demand for specialty and artisanal teas, these traditional methods hold significant potential for wider adoption. Towards this NECTAR supported hands-on training and method demonstrations for small tea growers on traditional processing techniques as well as specialty teas like green, oolong, and white tea. Exposure visits to processing units,

ABOUT THE PROJECT

The project's goal is training and method demonstration on traditional tea processing technologies practiced by different tribal communities of Assam and Arunachal Pradesh

Name of entrepreneur/Firm:	Assam Agricultural University, Jorhat, Assam
Implementation Site:	Jorhat, Assam
Budget:	Rs. 20,09,000

marketing hubs, broker houses, and packaging facilities further strengthened participants' practical understanding of the tea value chain. Additionally, training in FPC formation, branding, logo development, packaging, and e-commerce equipped growers with the skills needed to commercialize these unique teas and enhance market access.

Beneficiaries

24 male and 12 female all belonging to ST category

OUTCOME

1. Small tea growers will be able to produce traditional teas in the form of a cottage industry.
2. The training helped these tea growers to sell their products in the market sector and earn a good income.

EMPLOYMENT GENERATION THROUGH ARECANUT LEAF PLATE MANUFACTURING

Project Summary

Around the world, disposable Styrofoam plates have become a major pollutant, releasing nearly six kilograms of CO_2 for every kilogram produced and leaving behind toxic, non-degradable waste. Amid this growing environmental crisis, NECTAR initiated a simple, yet powerful alternative rooted in the natural abundance of the Northeast. The region boosts over 100,000 hectares of arecanut plantations, yet the leaf sheaths—usually discarded as waste—hold immense value.

By introducing basic processing skills and appropriate technology, these sheaths can be transformed into high-quality, eco-friendly disposable dinnerware. The resulting plates are hygienic, compostable, microwave-safe, and more dimensionally stable than many

ABOUT THE PROJECT

The project's goal is to produce and market this biodegradable disposable dinnerware made from the leaves of areca nut, which provides green alternatives to global customers and generates sustainable rural livelihoods locally.

Name of entrepreneur/Firm:	M/s RT Network Solutions Pvt Ltd, Tripura
Implementation Site:	Dharamnagar, Tripura
Budget:	Rs. 25,00,000

conventional products. With more than 3,000 potential micro-enterprises capable of operating even if just 30% of available resources are used, this initiative offers a strong livelihood opportunity for local communities. Today, arecanut-based dinnerware is not only replacing harmful Styrofoam locally but is also gaining significant traction in international markets for its sustainability and superior quality.

Beneficiaries:

Male 208

Female 7

OUTCOME

1. RTNS along with support from NECTAR provided a bridge between local rural communities having access to natural resources and global urban communities requiring sustainable alternatives for responsible consumerism.
2. Provided a viable source of livelihood for the local community

SETTING UP PRE-PROCESSING UNIT FOR HORTICULTURAL AND MEDICINAL PLANT PRODUCES AT DIBANG, ARUNACHAL PRADESH

Project Summary

Locally abundant fruits such as kiwi, one of the state's most widely cultivated crops—along with seasonal fruits like peaches and apples are processed for pulp extraction and product

ABOUT THE PROJECT

The project aims to develop value-added food products through the processing of horticultural and medicinal plants from Arunachal Pradesh.

development. Kiwi, apple, lemongrass, and other botanicals are processed into jams, jellies, marmalades, juices, and frozen or dried slices that have already begun entering the local retail market.

With the FSSAI license, these products can be formally commercialized, enabling large-scale market access and strengthening the regional agro-based value chain. This intervention helps overcome long-standing challenges faced by small cluster units by improving processing standards, ensuring product safety and shelf stability, and linking producers to established market networks. The implementing Agency, an FPO of 100 farmers, works alongside more than 300 kiwi growers engaged in cultivation and value-addition of kiwi-based products.

Beneficiaries:

Male (548) & Female (9) all ST

Name of entrepreneur/Firm:	M/s Dibang Farmers Producers Cooperative Society Ltd, Arunachal Pradesh
Implementation Site:	Arunachal Pradesh
Budget:	Rs. 25,00,000

OUTCOME

1. RTNS, with NECTAR's support, created an essential bridge between rural communities with rich natural resources and urban consumers seeking sustainable, responsibly produced food alternatives.
2. The initiative generated a reliable and diversified livelihood source for local farming communities, strengthening economic resilience and encouraging long-term horticultural development in the region.

ECO ENZYME MULTIPURPOSE PROCESSING UNIT

Project Summary

Kakching Khunou in Manipur faces increasing waste mismanagement, overuse of chemical pesticides, and widespread dependence on toxic household products, all of which harm the environment, reduce soil biodiversity, and

ABOUT THE PROJECT

The project goal is to continue generating sustainable employment, safeguard native plant biodiversity, and reduce both human exposure to harmful chemicals and overall ecological harm.

create severe health risks. Farmers are also losing interest in cultivating native fruits, herbs, and trees due to low demand and poor market value.

At the same time, limited space, machinery, manpower, and funding restrict the existing small manufacturing efforts from utilizing local natural resources that hold strong potential for value addition. These challenges hinder local economic growth and reduce opportunities for sustainable livelihoods.

NECTAR assisted Eco Enzyme Manufacturing Unit in Kakching Khunou, Manipur addressed some of these issues by transforming local bio-resources into eco-friendly products, reducing chemical toxins, protecting native plants, and creating sustainable employment for the community.

Number and details of Beneficiary

15 women including 11 SC and 4 ST.

6 male population including 3 SC and 3 OBC

OUTCOME

Environmental Sustainability and Innovation:

1. The intervention reduced landfill waste, promoted eco-friendly and biodegradable product manufacturing, revived native biodiversity, and introduced scientific innovations in organic waste processing. It also lowered chemical pollution in water, soil, and air while increasing public awareness of sustainable, non-toxic alternatives.

Name of entrepreneur/Firm:	Tombisana Khumukcham
Implementation Site:	Kakching Khunou, Manipur
Budget:	Rs. 19,67,760

Community Empowerment and Economic Growth:

2. The project generated employment, supported marginalized farmers and youth, strengthened community partnerships, and created sustainable livelihood opportunities. It enabled households and farmers to adopt environmentally responsible practices while building a self-reliant, community-driven green economy.

Manufacturing of Medical Garments

Project Summary

The project aims to establish a dedicated medical garment manufacturing unit in Northeast India to address the region's reliance on imported PPE suits, surgical gowns, lab coats, and medical uniforms. Despite growth in the healthcare and fashion sectors, the absence of a local manufacturer has led to higher costs and logistical challenges. Leveraging the region's untapped tailoring talent, the initiative seeks to create livelihood opportunities while strengthening the healthcare supply chain.

Supported by NECTAR, a startup in Shillong is developing and showcasing prototypes of essential medical garments to hospitals to ensure alignment with clinical standards. To enable high-quality production, key machinery including industrial sewing machines, cutting systems, finishing equipment, and computer-aided design and embroidery tools are currently being procured.

The initiative will enhance regional self-reliance, boost local employment, and contribute to sustainable industrial development in Northeast India.

Way forward

1. Complete installation of all machinery and recruitment and training of local workforce
2. Initiate large-scale production and targeted marketing
3. Build partnerships with healthcare institutions and fashion brands

OXYGEN PLUS: DESIGNING AND DEVELOPING A FIELD PORTABLE SMART BAG PACK EMERGENCY OXYGEN CONCENTRATOR

Project Summary

As India was grappling with the Corona virus pandemic and people were running from pillar to post to arrange hospitals, ICU beds, life-saving medications, ventilators and most importantly 'oxygen', to save their loved ones. Arranging these necessities became tough during the pandemic, since the availability of medical infrastructure

ABOUT THE PROJECT

The objective of the project is to produce a multi-modal, smart phone-based, field-portable oxygen plus kit, which is easy to handle and transport for consistent and cost-effective oxygen supply to maximize community outreach for domestic and disaster purposes.

and equipment were much less than the country requirement to win the battle against the pandemic. In those testing times, Oxygen Concentrators turned out to be a 'saviour' for the people who were mildly affected with COVID-19 and were trying to recover under home isolation, owing to the shortage of hospital beds.

Given that the conventional oxygen support techniques for pulmonary, respiratory and trauma patients in community outreach, are time-consuming, costly and requires sophisticated equipment and procedures. GRS India developed field-portable smart bag pack emergency kit-based oxygen refiller for covid19 and other emergency life support, all linked to a monitoring mobile APP.

With NECTAR's support, GRS developed a multi-model, smart phone-based, field-portable oxygen plus kit. The portable oxygen kit was not only easy to handle and transport but also consistent and cost-effective.

Beneficiaries:

Male (24) and Female (27)

OUTCOME

1. The portable device can be used during medical emergencies, trauma, disaster etc. by frontline workers, paramedics, fire tenders, nurses, doctors to protect them from the immediate risk of breathing contaminated air and carrying out their duties with oxygen support.
2. Presentation and demonstration of the project along with prototype was done in NECTAR conference at Guwahati in presence of Hon Governor of Assam, Prof Jagdish Mukhi Ji, DG NECTAR, Dr A K Sharma, Head Vigyan Bharti, Head UBA and other esteemed experts, academicians, and participant members.
3. Virtual presentation was made to Air Marshal, Air Force and Joint Secretary Ministry of Defence, Shri Ved Veer Arya

Name of entrepreneur/Firm:	GRS India Pvt. Ltd, New Delhi
State	All NER
Budget:	Rs. 15, 00,000

ECO-FRIENDLY COW DUNG POTS FOR NURSERY

Project Summary

The project began with a simple yet powerful objective: to eliminate the widespread use of plastic polybags in plant nurseries by replacing them with fully biodegradable pots made from cow dung. Across nurseries in India, polybags are routinely used for raising saplings, contributing significantly to plastic pollution and long-term environmental degradation. Recognizing this challenge, two grassroots innovators from Gujarat—Mr. Gopalbhai Surtia and Mr. Pareshbhai Panchal—developed an eco-friendly alternative by transforming cow dung and agricultural waste into sturdy planting cups and pots. To enhance

ABOUT THE PROJECT

The objective of the project was to reduce the widespread use of plastic polybags in plant nurseries

Name of entrepreneur/Firm:	NECTAR
Implementation Site:	Guwahati, Assam
Budget:	Rs.4,37,500

গোবৰেৰে প্ৰস্তুত কৰা হ'ব চাকি, টাব

সোণাপুৰৰ ধৰিত্ৰী নাৰ্ছাৰীত মুকলি নেক্টাৰৰ প্ৰকল্প

strength and pest resistance, they incorporated natural binders, creating a product that is easy to manufacture, environmentally safe, and highly functional. This innovation also opened new economic avenues for dairy farmers by converting cow dung into a valuable resource.

Inspired by the effectiveness and sustainability of this concept, NECTAR launched a pilot project at Dharitree Nursery in Sonapur, near Guwahati, Assam. The initiative focused on testing and scaling the production of cow dung pots in two sizes—3-inch and 6-inch diameter—suitable for a variety of nursery plants. Scientifically, the pots offer multiple advantages: they are completely biodegradable, gradually decompose in soil, and enrich the root zone with natural manure. Additionally, they eliminate transplant shock since the entire pot can be placed directly into the ground without removing the sapling.

The project created meaningful impact on the ground. It strengthened local capacities, generated livelihood opportunities for rural communities—particularly among vulnerable groups—and demonstrated a scalable, eco-friendly solution to plastic use in nurseries. By merging traditional wisdom, innovative thinking, and sustainable technology, the initiative set a strong example of how simple natural materials like cow dung can drive environmental stewardship and rural development simultaneously.

Benenficiaries:

30 male (General) and 15 female (ST)

BANANA FOOD & FIBER EXTRACTION AND PROCESSING UP TO TEXTILES

Project Summary

Banana fibre, an eco-friendly material similar to jute, is increasingly produced in the Northeast as states adopt fibre extraction technologies from South India. The fibre is widely used for textiles, paper, and handicrafts, creating significant employment opportunities.

The extraction process combines mechanical and automated methods: banana stem sections are cut, lightly rolled to remove moisture, and processed in a machine with dual horizontal beams to extract unbroken fibres. These fibres are then sorted, prepared, and woven on traditional looms.

NECTAR supported a project on banana food and fibre extraction in Churachandpur, Manipur,

ABOUT THE PROJECT

The project aims to promote the farm based tiny units of the vibrant Banana food & fiber processing up to textiles thereby achieving sustainable livelihood

Name of entrepreneur/Firm:	Khankho-Lom Producer Company Ltd (KLPC Ltd)
Implementation Site:	Churachandpur, Manipur
Budget:	Rs. 23,92,800

providing technical, design, quality control, and maintenance support. This initiative strengthened local livelihoods and promoted sustainable value-addition.

BENEFICIARIES

120 male and 25 female all beneficiaries belong to SC.

OUTCOME

- Generated employment opportunities to youth of Churachandpur and nearby districts.
- Promotion and development of agro-handicraft livelihood business (Banana chips, handicrafts, fertilizers etc)
- Women employment generation as handicraft industry is a large arena of women's employment.
- The initiative was recognized as the Winner of MANAGE Samunnati – Agri Startup Awards 2022 for the state of Manipur.

REAL TIME PATIENT MONITORING SYSTEM (LAST MILE SERVICES) FOR RURAL AND HARD TO REACH POPULATION

Project Summary

In India, providing in-person healthcare services to people is an extremely challenging task, especially for those residing in areas that are relatively inaccessible both geographically and socially. In such a situation, telehealth services can help reach out to people living in rural or hard-to-reach areas. Telehealth has great potential in such areas where there is no need for the patients to physically visit the medical practitioners or even specialized doctors, for regular, routine check-ups or continuous monitoring.

NECTAR has supported a project on Real Time Patient Monitoring System (Last Mile

ABOUT THE PROJECT

The project aims to provide telehealth services and generate primary level information on the existing health requirements of people from rural and hard-to-reach areas of Kokrajhar

Name of entrepreneur/Firm:	Hake Technologies Pvt. Ltd.
Implementation Site:	Kokrajhar, Assam
Budget:	Rs. 22,98,000

Services) for Rural and Hard to reach Population, implemented in the Kokrajhar district of Assam. The project has created an integrated telehealth system that deals with the existing public health system, to extend the choice of access to health services, link beneficiaries from rural or hard-to-reach areas with the existing public health system and enhance its acceptability towards it. It has been able to generate primary level information on the existing health requirements of people from rural and hard-to-reach areas of Kokrajhar, their health requirements, the type of diseases they are suffering from, challenges faced by them in accessing the health facility and their preferences for the available health services.

Number and details of Beneficiary (Male population) :

Direct - Others - 6, SC - 5, ST - 16, OBC - 249

Indirect - Others - 8, SC - 29, ST - 502, OBC - 951

Number and details of Beneficiary (Women population) :

Direct - Others - 0, SC - 0, ST - 137, OBC - 421

Indirect - Others - 2, SC - 2, ST - 56, OBC - 1619

OUTCOME

1. A Digital One Health Application (DOHA) was created for easy access to Govt Health Services for Rural and hard-to-reach populations has been developed.
2. It has Five components, Patient Registration through RMP, Doctors Console, Lab Technician Console, and Pharmacy Console. One-time registration at the village level is done with the help of ASHA workers/ supervisors and the headman of the respective village and ANM at the Subcentre/ PHC.
3. The patients are categorized based on their age group i.e., Child, Adolescent, Adult and Ageing.
4. So far 3187 people registered against the approx. 3900 population residing in the study area
5. Out of the 3817 population over 900 patients visit the health centre namely Duramari H & WC, Simbargaon PHC, Balajan CHC and Kokrajhar Civil Hospital.
6. A Unique Health Id has been created and linked to ABHA Card created by the National Health Mission.

DESIGNING SURVIVAL SHELTERS FOR ANIMALS

Project Summary

Every year, floods lead to devastated villages and forests across the state of Assam, sweeping away hundreds to thousands of animals. Despite this, animals have been largely neglected in response to the floods. NECTAR supported project implemented by Centre for Action Research and Technology Advancement (CARTA) addressed the issue by developing a floating shelter for the animals that can be used to save them during floods using bamboo composite applications.

The shelter was installed at the bank of River Gongia in the village Mukuldang, Harinpur Village, Kokrajhar for pilot studies. These floating shelters might be the future of emergency shelters and potentially save millions of animal lives.

OUTCOME

1. The shelter will not only support endangered forest animals but also protect the livestock of tribal people from floods.

ABOUT THE PROJECT

The present project is a unique initiative of NECTAR dedicated to saving the lives of our Animals which are part of the landscape and ecological treasure, the benefits of which cannot be counted in the limited dynamics of socio-economic benefit.

Name of entrepreneur/Firm:	Centre for Action Research and Technology Advancement (CARTA)
Implementation Site:	Kokrajhar, Assam
Budget:	Rs. 20, 26,500

2. The shelter will enhance the infrastructure capacity of the tribal communities living in the forest and utilize their traditional wisdom in the hour of need.

DEVELOPMENT OF FOOD BOX AND LIQUID CONTAINER

Project Summary

During field explorations in the Northeast, the challenge of accessing hot food or beverages in remote locations inspired Dr. Sumer Singh and his research team at IIT Delhi to develop a low-cost, powerless heating system. Activated simply by adding plain water, the system generates heat without electricity or fuel, making it ideal for on-the-go use. Built into specially designed food boxes and liquid containers, this technology allows users—whether hikers, military personnel, or daily commuters—to warm meals and beverages anytime, anywhere.

Scientifically, the system relies on a controlled exothermic reaction triggered by water, ensuring safe, efficient, and portable heating. By eliminating the need to burn wood or carry fuel-based stoves, it also helps reduce pressure on forest resources—an important environmental concern in the Northeast. This innovation not only enhances convenience but also supports sustainable, eco-friendly outdoor living.

ABOUT THE PROJECT

The project is creating a unique low-cost powerless heating system that can be activated by plain water anytime anywhere.

Name of entrepreneur/Firm:	IIT Delhi
Implementation Site:	NER

Through NECTAR's support, prototype was successfully developed and tested by the project team.

Beneficiaries: Male (15)

OUTCOME

The prototypes were successfull developed and tested.

So, next time you crave a hot cup of tea or coffee and there is no heating source available, just remember to buy and use these self-heating powerless food and beverage containers.

DEVELOPMENT OF AN ARTISTIC TEXTILE CLUSTER-INTRODUCTION TO APPROPRIATE TECHNOLOGY AND TRAINING ON SKILL UPGRADATION FOR REVITALIZATION OF INNOVATIVE PRODUCT

Project Summary

The handloom sector forms a vital component of India's cultural and economic fabric, representing centuries of indigenous knowledge, craftsmanship, and sustainable textile production. Assam, historically known as the "land of weavers," embodies this heritage through the exceptional weaving skills of its women—a tradition praised even by Mahatma Gandhi for its artistry and cultural depth. However, to sustain this legacy in a rapidly evolving textile landscape, strategic technological support and skill enhancement have become essential.

To address these needs, NECTAR supported the project "Development of an Artistic Textile

ABOUT THE PROJECT

The project aims at developing an artistic textile cluster for the revitalization of innovative product.

Name of entrepreneur/Firm:	APRINS, NGO, Guwahati
Implementation Site:	Dikhowmukh and TingKhong, Assam
Budget :	Rs. 19,61,400

Cluster – Introduction to Appropriate Technology and Training on Skill Upgradation for Revitalization of Innovative Products." The initiative was implemented across Sivasagar and Dibrugarh districts of Assam, targeting 100 Scheduled Caste women beneficiaries, with the objective of modernizing traditional weaving practices while preserving their artistic integrity.

Beneficiaries: Female (SC): 100

OUTCOME

1. The project delivered measurable improvements in livelihood and productivity among the trained women weavers:
2. Mrs. Debajyoti Borah (Bharalua, Sivasagar) increased her monthly income from Rs. 3,000 to Rs. 8,000 after receiving a wooden loom under the program.
3. Mrs. Rajashree Saikia (Na-Katani Kalugaon, Sivasagar) now weaves 3–4 gamochas per day, earning over Rs. 7,000 per month.
4. Similar success stories emerged from Mrs. Deepa Borah (Dibrugarh) and Mrs. Biporna Borah (Kharadhara, Sivasagar), both of whom experienced significant productivity gains after receiving upgraded looms.
5. These outcomes demonstrate the effectiveness of targeted technological intervention combined with skill development in transforming the traditional handloom ecosystem. The project not only revitalized innovative textile production but also strengthened economic independence among rural women, reinforcing the handloom sector's role in sustainable livelihood generation.






TUMOR MARGIN DETECTION DURING INTRAOPERATIVE PROCEDURES USING FLUORESCENCE IMAGING AND SPECTROSCOPY DEVICE

Accurate tumor margin detection during surgery is critical for ensuring complete cancer removal and minimizing recurrence, particularly in breast cancer patients. Conventional methods often require time-consuming histopathological analysis, which can delay surgical decisions and affect clinical outcomes. To address this challenge, NECTAR supported a pioneering project focused on the development of a field-portable, smartphone-based fluorescence imaging, spectroscopy, and videoscopy device capable of real-time intraoperative assessment of tumor margins.

The device integrates fluorescence imaging and optical spectroscopy, two advanced optical modalities widely recognized for their sensitivity in detecting biochemical and structural changes associated with malignant tissues. By illuminating the tissue with specific excitation wavelengths, abnormal tumor regions exhibit characteristic fluorescence signatures that can be rapidly captured and analyzed.

ABOUT THE PROJECT

The project aims to develop a field-portable smart phone-based for imaging of breast cancer patients and tumour margin detection.

Name of entrepreneur/Firm:	GRS India Pvt. Ltd.
Implementation Site:	All NER
Budget :	Rs. 24,75,000

Key technical components include:

1. Smartphone-based visualization platform for portability and point-of-care use
2. Fluorescence imaging module for detecting tissue autofluorescence and dye-enhanced signals
3. Spectroscopy unit for quantifying spectral variations between healthy and malignant tissue
4. Videoscopy capabilities for live imaging during surgical procedures
5. Software with a gold-standard image analysis algorithm, enabling accurate classification and margin detection

With NECTAR's intervention, final validation of the system and commercial prototype development were successfully completed and software testing demonstrated reliable interpretation of intraoperative images, supporting its clinical applicability.

Beneficiaries: 121 beneficiaries (120 male and 1 female) were involved in the testing and validation process. Images and spectral data collected during breast cancer surgeries at AIIMS, New Delhi were analyzed using the optimized software algorithms.

Impact and Future Potential

The developed fluorescence and spectroscopy device represents an important advancement in real-time tumor margin detection, offering:

6. Improved accuracy in intraoperative decision-making
7. Reduction in re-operation rates
8. Enhanced surgeon confidence and patient outcomes
9. Cost-effective and portable technology suitable for diverse clinical settings, including resource-limited hospitals

By bridging cutting-edge optical technologies with user-friendly portable design, the project demonstrates a significant stride toward making precision oncology more accessible and efficient across India



HYDROPONIC SYSTEM OF CROP CULTIVATION

Project Summary

The hydroponic system of crop cultivation offers a sustainable alternative to soil-based agriculture, particularly in regions facing severe soil degradation and reduced productivity. By growing plants in nutrient-enriched, recirculated water solutions, hydroponics eliminates dependence on soil quality while ensuring efficient water use through continuous reuse. This soilless system supports year-round production of high-value, nutrient-rich crops with significantly higher yield potential compared to traditional methods. A pilot-scale implementation in approximately 1500 sq. ft. demonstrated successful operation and indicated profitability of up to 40%, underscoring its suitability for large-scale adoption. As a relatively new concept in the region, hydroponics presents an opportunity to transform cultivation practices, enabling intensive, high-turnover, and organic production systems that can enhance food security and economic returns.

Beneficiaries: Male (10)

OUTCOME

1. NECTAR has taken the initiative to make it a success by providing all sorts of help which in turn not only provide healthy, nutritional and organic consumables to the people but also socio - economic growth of this region.
2. The project has helped in enhancing community resilience through awareness, education, skill development and capacity building
3. Promotion of appropriate technology for raising flood resilient infrastructure and to provide science and technology input for sustainable flood and erosion management.

ABOUT THE PROJECT

The project is about the Hydroponic system of Crop Cultivation, where crops are cultivated in water and not on soil. The project can set an example to revolutionize the cultivation practices and can carry out intensive and high turnover production with healthy and organic harvest.

Name of entrepreneur/Firm:	Urban Harvest, Guwahati
Implementation Site:	Guwahati, Assam
Budget	Rs. 5,00,000

SCIENTIFIC BEEKEEPING AND HONEY PROCESSING FOR DEVELOPMENT OF RURAL COMMUNITY BY PRODUCING HONEY AND OTHER VALUE-ADDED PRODUCTS IN ASSAM AND ARUNACHAL PRADESH

Project Summary

This project consists of skill development and capacity building, handholding program for scientific beekeping and honey processing for the development of rural community by producing honey and other value-added products at Sonitpur district, Assam and Changlang district, Arunachal Pradesh being implemented by M/s Kanyaka and M/s CREED respectively. With the support of NECTAR bee boxes have been installed and honey has also been extracted, packed, and marketed. As part of the project, there is also a provision for setting up a mini honey packaging and testing centre at these two sites by NECTAR identified technology partner.

Beneficiaries: Male (80)

OUTCOME

1. KANYAKA has already produced 1200 liters of honey in first phase of the project from 99 beehive boxes.
2. The project supported KANYAKA in establishing own brand of the honey "Kanyaka Honey" and designing and printing honey bottle labels for marketing in all over Assam.
3. Provided a source of livelihood generation.

ABOUT THE PROJECT

To promote skill development and capacity building, handholding program for scientific beekeeping and honey processing for the development of rural community by producing honey and other value-added products

Name of entrepreneur/ Firm:	M/s Kanyaka (Bharalipara Kanyaka Bahumukhu Pam Management Committee), Assam M/s The Creed, Arunachal Pradesh
Budget	Rs. 25,00,000




DESIGN, DEVELOPMENT AND DEMONSTRATION OF PILOT SCALE ENVIRONMENTALLY FRIENDLY DECENTRALIZED SOLAR AROMA DISTILLATION UNIT (20 KG CAPACITY) FOR NORTHEAST REGION FARMERS CULTIVATING AROMATIC CROPS (BY CSIR-CIMAP)

Project Summary

A solar distillation unit of 20 kg capacity was developed by CSIR-CIMAP, Lucknow through a project supported by NECTAR to extract the valuable essential oil from aromatic plants. This unit comprises of solar panel connected to the bottom of the still through resistive heating elements deep inside the water for uniform steam generation, distillation still with mesh grid frame for holding the planting material, packed column for removal of dust dirt impurities, shell, and tube condenser, new oil separator embedded with oil

ABOUT THE PROJECT

The project aims at setting up a solar distillation unit of 20 kg capacity to extract the valuable essential oil from aromatic plants.

Name of entrepreneur/Firm:	CSIR-CIMAP, Lucknow
Budget	Rs. 16,99,000

reflux line, energy meter, temperature sensor, and a pressure safety valve.

Beneficiaries: Male: 80

OUTCOME

This Environmentally friendly solar distillation technology will benefit the farmers to obtain better quality of oils, which will fetch them high prices, reduces the farmer dependency on wood for heat generation resulting in low operating cost and curtail environmental related issues like CO2 emission and deforestation.

Comparative aspects between wood-based distillation unit and solar distillation unit

Details	Conventional wood-based distillation unit	Solar distillation unit
Batch capacity	20 Kg	20 Kg
Capital Required (INR)	2,00,000	4,25,000-4,50,000
Amount of energy required for steam generation*	~97311 KJ	~97311 KJ
Type of fuel used	Wood	Eco-friendly solar energy
Amount of CO^2 released after each batch	20Kg	00
Cost of the Fuel for one batch (INR)	120	00
Subsidy available for operation	00	Panel are available on subsidised rate
Life of operation	Wood consumption is daily required	Panel are workable for 20 years
Annual maintenance coat (INR)	2000-5000	1000-1500

PRODUCTION OF MICROBE IMMUNE, USER-FRIENDLY BIO SAMPLER FOR CORONA VIRUS COLLECTION & SMOOTH HYGIENIC TRANSPORT

Project Summary

Aavya Life Science Private Limited developed a Molecular Transport Medium (MTM) for the collection of Covid 19 sample. Products were found to be useful for the collection of DNA & RNA virus samples, i.e., HPV virus, Swine Flu virus, and other hospitals have had acquired infection. The uniqueness of the product was that the sample will be stable at room temperature for up to 7 days. Cold chain transport of samples was not required. The product was approved by Maulana Azad Medical College and ICMR with 100% sensitivity and specificity.

Beneficiaries: Male (2), Female (1)

OUTCOME

1. Beneficial to all medical and health workers since the MTM will ensure a contact free collection of samples from the patients.
2. Cost effective for patients.

ABOUT THE PROJECT

The project aimed at developing a Molecular Transport Medium (MTM) for the collection of Covid 19 sample.

Name of entrepreneur/Firm:	M/s Aavya Life Science Private Limited
Implementation Site	Guwahati, Assam
Budget	Rs. 25,00,000

BEE-KEEPING TRAINING AT SHAMATOR, NAGALAND BY SHEKINAH CHRISTIAN FOUNDATION

Project Summary

The prime objective was to promote bee-keeping potential in the most interior regions of Nagaland and tap into the already existent rare sources of production by application of technology and research. This will further encourage the farmers/traders and allow for higher output generation with better market trading potential and processing/packaging of the products. The experts will present the latest up-to-date skills and knowledge related to the application and usage of the most advanced and researched tools and equipment for the trade.

Beneficiaries: 9 male and 16 female all belonging to ST category

ABOUT THE PROJECT

The aim of the project was to develop a setup for Human-resource development through advance Language learning system basically English Language and Carrier oriented Multimedia Applications Courses.

State	Nagaland
Budget	Rs. 2,25,500/-

OUTCOME

As part of the training programme, Shekinah Christian Foundation (SCF) successfully completed the training, with a total of 25 ST beneficiaries comprising of 9 male participants and 16 female participants. The trainees have learnt the art of making their own bee boxes and expressed the interest of rearing bees. In order to encourage the women to become self-reliant, SCF announced an incentive prize of Rs. 5000/- to the first woman trainee to successfully make a bee-box on their own. Among them, Ms. Longjushu emerged as the winner.

SETTING UP OF E-LANGUAGE & MULTIMEDIA & MULTIMEDIA LAB THROUGH WIDE AREA NETWORK/ CLOUD BASED SERVER

Project Summary

The NECTAR-supported initiative aims to modernize traditional language laboratories by establishing an advanced E-Language and Multimedia Lab integrated through a Wide Area Network and cloud-based server architecture. The system enables scalable, web-accessible language learning and career-oriented multimedia training, ensuring high user engagement and resource optimization. After testing and demonstration, partner colleges will jointly operate and maintain the system for a minimum of three continuous years, with NECTAR providing oversight on technical and

ABOUT THE PROJECT

The aim of the project was to develop a setup for Human-resource development through advance Language learning system basically English Language and Carrier oriented Multimedia Applications Courses.

Name of entrepreneur/Firm:	Nowgong Girls' College and B.N. College, Dhubri
Implementation Site	Nowgong, Assam
Budget	Rs. 24,89,000

procurement protocols. The upgraded digital infrastructure will support approximately 500 users, transforming conventional offline language training into a next-generation, technology-driven learning ecosystem.

Beneficiaries: Male (1576), Female (1421)

OUTCOME

1. The cloud-enabled Or6ll® Talk Integrated Language Learning and Online Examination System has emerged as a center of excellence addressing last-mile gaps in language proficiency and digital communication skills.
2. The Centre strengthens the techno-economic interface by delivering advanced communication training and technology-enabled learning services.
3. The system leverages an optimally designed technology stack, anchored by the Or6ll® Talk platform, to provide robust, scalable, and user-friendly learning solutions.
4. Beneficiaries are empowered to adopt and apply these tools for localized, skill-based, and entrepreneurial opportunities.
5. The intervention enhances income-generation potential for disadvantaged communities by improving employability and digital readiness.
6. The project aims to build strong language competency frameworks for students and neighbouring communities using modern ICT tools.
7. By nurturing digital literacy and communication skills, the E-Language and Multimedia Lab catalyzes youth-driven social and economic development in the region.

SKILL DEVELOPMENT IN APPROPRIATE TECHNOLOGIES BY NIT ARUNACHAL PRADESH

Project Summary

Building a skilled and self-reliant workforce is central to NECTAR's mission of promoting technology-driven development in the Northeastern region. In line with this mandate, NECTAR supported the implementation of the "Centre for Skill Development in Appropriate Technologies" at the National Institute of Technology (NIT), Arunachal Pradesh. The initiative focused on delivering structured, technology-oriented training across sectors essential for regional economic growth.

The training programs emphasized appropriate technologies, which are resource-efficient, locally adaptable, and capable of generating sustainable livelihoods. Food processing technologies such as dehydration, preservation, and value addition

Textile and weaving technologies including loom operation and product diversification

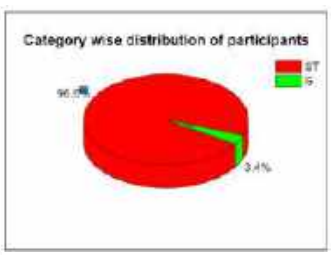
State	Arunachal Pradesh
Approved budget	Rs. 45,59,000

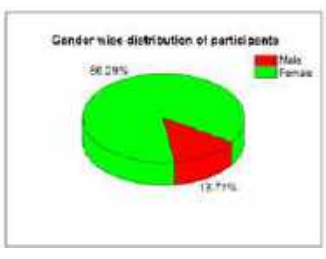
Pharmaceutical fundamentals related to medicinal plant processing and formulation basics

Agriculture and agri-tech covering crop management tools, post-harvest processing, and small-scale mechanization

OUTCOME

542 participants participated in the training programme out of which 5 entrepreneurs successfully started their own business ventures.





TRAINING ON BANANA FIBER HANDLOOM AND HANDICRAFTS BY ANAKAPUTHUR NATURAL FIBER TEXTILES (ANANAFIT), CHENNAI

Project Summary

State	Assam
Approved budget	Rs. 6,55,000

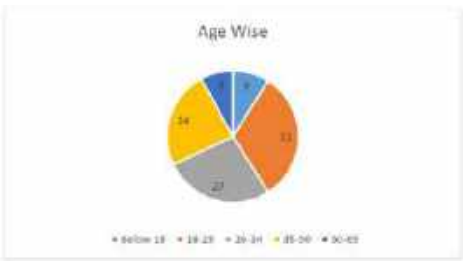
Anakaputhur Natural Fibre Textiles (AnaNaFit) is an eco-friendly natural fibre-based textile company with expertise in fibre extraction. AnaNaFit has trained close to 1000 weavers across India on fibre extraction in places like Karnataka, Tamil Nadu, Gujarat and North East

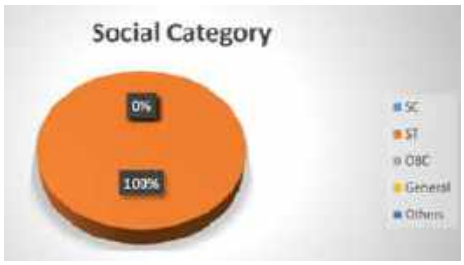
With NECTAR's ongoing projects, "Waste to wealth- Pineapple and Banana Fiber Extraction" at Udalguri, Assam and "Banana Food and Fiber Extraction and processing up to textiles" at Churachandpur, Manipur and AnaNaFit expertise in fibre-based products. A joint collaborative effort between the two organizations training and capacity buildings initiatives for farmers in the NER yielded fruitful outcomes.

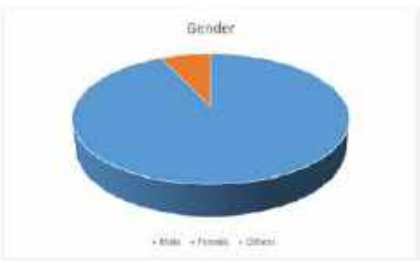
The training program provided hands on fibre extraction, yarn making, loom cloth making etc to the farmers of NER particularly Assam and Manipur benefitting a total of 100 farmers.

OUTCOME

100 farmers were successfully trained for fiber extraction, yarn making and converting the yarn into fabrics such as scarfs, shawls and sarees.







TRAINING ON MICROPROPAGATION BY GUWAHATI BIOTECH PARK

Project Summary

The Guwahati Biotech Park initiative aims to promote self-employment, enhance income opportunities, and stimulate Assam's bioeconomy by fostering entrepreneurship in selected biotechnology sectors. As part of this mandate, the proposed training program focuses on building foundational competencies in Plant Tissue Culture (PTC). The training covers core biological principles and hands-on techniques related to micropropagation of banana and ornamental plants, including surface sterilization of plant tissues (embryo, anther, seed, meristem, shoot tip) and preparation of culture media required for in-vitro growth and regeneration.

State	Assam
Approved budget	Rs. 3,24,070

OUTCOME

The program enhanced the technical skills and operational capacity of 88 participants, enabling them to apply micropropagation methodologies for research, commercial plant production, and biotechnology-driven innovation. The training strengthens the regional talent pool and supports future entrepreneurial ventures in plant biotechnology.

PROMOTING TECHNO-PRENEURSHIP IN NER BY ENTREPRENEURSHIP DEVELOPMENT INSTITUTE OF INDIA

Project Summary

The initiative on Promoting Techno-preneurship in the North Eastern Region, undertaken in collaboration with the Entrepreneurship Development Institute of India (EDII), Ahmedabad, marks a significant milestone in nurturing technology-driven entrepreneurship across the region. The first phase of the project began as a focused effort to identify, train, and inspire young innovators in Assam, Arunachal Pradesh, Nagaland, and Tripura. Over time, the programme evolved into a vibrant platform where participants explored the fundamentals of techno-entrepreneurship — transforming ideas into viable, technology-based business ventures.

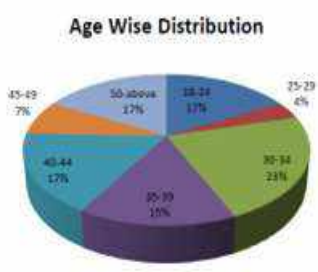
After successful completion of please 1, EDII proposed a second phase and recognizing the impact and the growing demand for such capacity-building programmes, NECTAR approved Phase II, which expanded operations to Manipur and Mizoram. This stage included

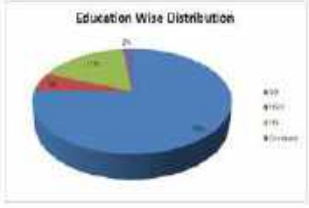
State	Manipur and Mizoram
Approved budget	Rs. 22,32,000

two Entrepreneurship Awareness Programmes (EAPs) and four Entrepreneurship Development Programmes (EDPs), each designed to expose participants to entrepreneurial thinking, opportunity recognition, business planning, and the technological dimensions of modern enterprises.

OUTCOME

A total of 119 participants benefited from the EAPs, while 10 trainees received in-depth training through the EDPs. What is particularly encouraging is that about 35% of the participants have already begun applying the knowledge and skills acquired during the sessions, taking early steps toward setting up their own technology-based ventures.





PINEAPPLE PEELING TECHNOLOGY

Project Summary

NECTAR has supported an innovative technological initiative led by Uddhab Kr. Bharali, proprietor of UKB Agrotech, North Lakhimpur, Assam, to transform pineapple processing for small and medium-scale entrepreneurs. The project focuses on developing ergonomic, portable, and cost-effective pineapple peeling systems—both manual and automated—to accommodate the wide variability in pineapple size and morphology. Designed for commercial as well as household applications, these machines emphasize ease of operation, enabling equitable access for women, elderly users, and rural entrepreneurs. The broader goal

ABOUT THE PROJECT

The pineapple peeling technology prototype with a disc type circular cutter was designed for pinapple-based microenterprises to strengthen rural value chains and improve socio-economic outcomes through reduced post-harvest losses.

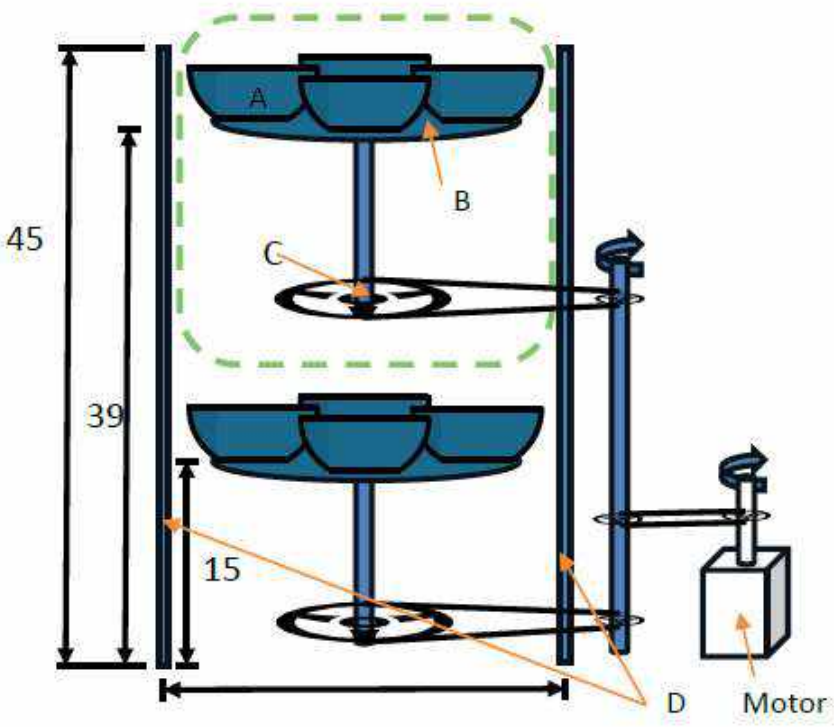
Name of entrepreneur/Firm:	U.K.B Agrotech
State	Assam
Budget	Rs. 14,80,000

is to catalyze the growth of pineapple-based microenterprises, strengthen rural value chains, and improve socio-economic and environmental outcomes through reduced post-harvest losses. By integrating appropriate technology with local enterprise development, the initiative aims to enhance productivity, ensure resource efficiency, and offer skill-based livelihood opportunities to marginalized communities.

Beneficiaries: Male (5) and Female (13)

OUTCOME

1. User-friendly, low-cost pineapple peeling machines—manual and semi-mechanical—were successfully developed. These devices can process up to 8 pineapples in just 2 minutes, independent of fruit size or geometry, demonstrating high operational versatility.
2. The machines are designed for safe, intuitive operation, requiring no specialized training. With a low power requirement of 0.75 kW, minimal maintenance needs, and durable components, they are particularly suitable for women entrepreneurs, elderly users, and rural processing units.
3. Comparative assessments confirmed that the machines substantially decrease flesh and juice losses relative to traditional manual peeling. This improvement directly contributes to increased yield, higher profitability, and reduced post-harvest waste.
4. The technology has already generated interest among women-led enterprises and food processing units, leading to early orders and the establishment of new pineapple-based product lines. This demonstrates strong commercial potential and aligns with the objective of fostering inclusive, technology-driven entrepreneurship in the region.



The machine illustrated in Fig. 3 can be used to peel the outer covering of a Pineapple, consisting of Parts-

A. Bowls

B. Cutting Plate

C. Shaft and flywheel

D. Machine Frame

Parts A, B, and C, representing the main cutting part of the machine can be used in levels to increase the output of the machine.

CATALYZING THE TRADITIONAL KOUNA CRAFT INTO A SUSTAINABLE CRAFT PRODUCT THROUGH TECHNOLOGY AND DESIGN INTERVENTION

Project Summary

NECTAR had supported an initiative by Smt. Padmini Konsam, proprietor of RipTrip, Manipur. Kouna craft, a centuries-old tradition in Manipur, faces challenges due to inadequate drying and storage techniques, leading to poor-quality, mold-prone raw materials. This project aims to enhance both production and product quality, making the craft more sustainable. Traditionally taught by grandmothers and practiced by young girls, Kouna weaving has evolved beyond mats to include embroidered and naturally dyed products that meet modern consumer demands.

ABOUT THE PROJECT

The objective of the project was to craft high density Kouna mats, stools and bags as eco-friendly alternatives to plastic mats, stools and bags through technical intervention.

Name of entrepreneur/Firm:	RipTrip
State	Manipur
Budget	Rs. 22,93,600

The craft is gaining global popularity for its eco-friendly properties. To support this growth, increased Kouna plantation and international promotion are essential. By integrating design innovation and improving raw material handling, the initiative seeks to preserve cultural heritage, empower artisans, and promote Kouna as a sustainable alternative to synthetic materials, contributing to a greener planet.

Beneficiaries: Male (25) and Female (27) all belonging to SC

OUTCOME

1. Installation of solar dryers and dry storage facilities significantly reduced drying time (from 18–22 days to 5–7 days), labor, and crop damage, ensuring better quality Kouna for weaving.
2. A 10-day training program empowered 25 women (100% female beneficiaries, including SC and OBC groups) with Kouna weaving skills, promoting financial independence and social inclusion.
3. Development of high-density Kouna mats, stools, handbags, and furniture using bamboo/metal skeletons provided eco-friendly alternatives to wood, plastic, and rexine.
4. Kouna cultivation supports wetland ecosystems and biodiversity. The project's interventions reduced crop damage, encouraging more farmers to grow Kouna sustainably.

USE OF HIGH-TEMPERATURE SHORT-TIME (HTST) TECHNOLOGY FOR CONVERTING LAYER MANURE INTO ORGANIC FERTILIZER

Project Summary

The project involved the establishment of a specialized digestor-based mixing and drying plant capable of processing 8 MT of raw layer manure per day. Traditionally, the manure required six months of composting, resulting in slow processing and inconsistent product quality. The new plant adopts a closed-loop HTST process, enabling rapid sterilization, ammonia control, and vacuum drying to produce high-quality organic bio-fertilizer with improved NPK and organic carbon composition. This technology significantly improves processing efficiency, storage, transportation, and market readiness of the organic manure. The product is now used by farmers, nurseries, rooftop gardeners, organic vegetable growers, and tea estates across the region.

ABOUT THE PROJECT

The project aims to establish an advanced organic bio-fertilizer processing plant for quick mixing and drying of layer manure produced at the 1,00,000-bird capacity layer farm operated by the associated company. The objective is to convert high-nitrogen wet layer manure into a value-added, pathogen-free, easy-to-store organic fertilizer using High-Temperature Short-Time (HTST) technology.

Name of entrepreneur/ Firm:	Maverick Technologies, Jorhat, Assam
Implementation Site	AIDC Complex, Kundar Gaon, Titabor, Jorhat, Assam
Budget	Rs. 52,35,000

It also promotes circular economy principles by converting farm waste into a high-value product.

Beneficiaries: Male (61) and Female (14)

OUTCOME

1. The project successfully transformed a low-value waste product into high-demand organic fertilizer, improving profitability for the enterprise.
2. The closed-loop HTST technology enabled production of pathogen-free, high nutrient bio-fertilizer with about 10% NPK and 31% organic carbon.
3. Farmers and local agricultural communities gained access to cost-effective, eco-friendly fertilizer, supporting the organic farming movement in Northeast India.
4. The plant created a sustainable circular economy model, generating continuous value from poultry farm by-products.
5. Enhanced packaging, reduced moisture, better shelf life, and improved transportation efficiency increased market demand under the brand "Thon Dhora".
6. The project contributed to environmental protection by safely processing high-nitrogen manure and preventing soil and groundwater contamination.

DEVELOPMENT OF SOFTWARE FOR AUTOMATED IDENTIFICATION OF GAMUSA LOOM TYPE USING AI

Project Summary

The initiative addressed the critical need to protect the heritage and economic value of authentic Assamese handloom products by providing a reliable, scientific, and instant verification tool. It empowers stakeholders with technology to combat counterfeit products and ensure weavers get due recognition and fair value for their craftsmanship.

The project "Computer-Assisted Automated Identification of Handloom Gamusa: Artificial Intelligence Approach," led by a team of researchers from the Institute of Advanced Study in Science and Technology (IASST), Guwahati, and partnering institutions, has culminated in a functional, field-tested software solution.

ABOUT THE PROJECT

This project successfully developed an innovative Artificial Intelligence (AI) Application to automatically distinguish between handloom and powerloom Gamucha.

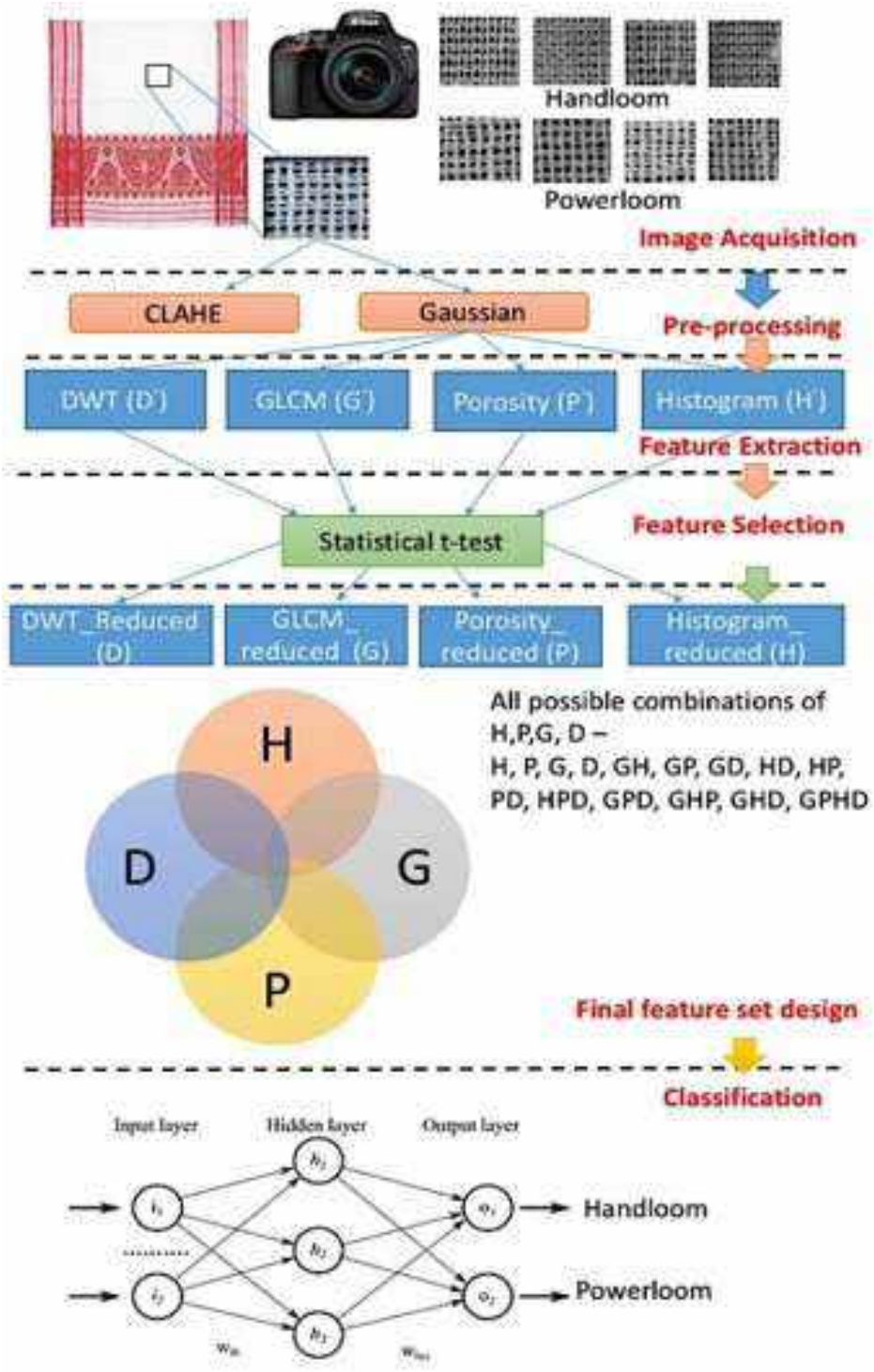
OUTCOME

1. A fully functional AI-powered identification system has been successfully developed and validated. The core AI model, achieves a remarkable test accuracy of over 99%, providing a highly reliable tool for verification.
2. Creation of a massive, annotated dataset of 25,160+ high-quality images of both handloom and powerloom Gamucha, captured with scientific rigor from various

Lead Institution	Institute of Advanced Study in Science and Technology (IASST), Guwahati
Implementation Site	Assam
Budget	Rs. 15.29 lakhs

regions of Assam. This dataset is a valuable asset for future research.

3. Development of a user-friendly mobile application using Flutter, allowing users to simply take pictures of a Gamucha and receive an instant classification result, making the technology accessible to non-experts.



SETTING UP A MEAT SMOKING UNIT WITH INNOVATIVE ELECTRIC SMOKER

Project Summary

The project "Setting up a pork/fish/chicken/mutton smoking unit with innovative electric smoker," implemented by Ms. Lakhipriya Pegu under M/S Do:Nam Enterprise, received financial support from NECTAR under the Technology Outreach and Services Scheme (TOSS).

The project was sanctioned with a total grant support of ₹7.59 lakhs, aimed at procuring modern smoking equipment, developing a hygienic production setup, and enabling improved market access for smoked food products that are traditionally popular in Northeast India.

Beneficiaries: Male (40) and Female (28)

ABOUT THE PROJECT

The project aims to set up a modern smoked meat and fish production unit using an innovative electric smoker to produce hygienic, standardized, and high-quality products. The initiative focuses on improving traditional practices, introducing scientific processing methods, and empowering local entrepreneurship.

Name of Entrepreneur/Firm	M/S Do:Nam Enterprise
Implementation Site	Assam
Budget	Rs. 7,59,000

OUTCOME

1. A fully functional electric-smoker-based meat and fish processing unit has been successfully established.
2. Adoption of modern equipment such as electric smoker, electric meat boiler, deep fridge, SS utensils, vacuum packaging machine, and testing tools has transformed production quality.
3. All equipment is now installed at a clean, enclosed, hygienic workspace as recommended by the PMC.
4. The enterprise has adopted FSSAI-compliant packaging, ensuring safety, extended shelf life, and market acceptability.

5. The entrepreneur has expanded marketing through:
   - Online sales
   - Food festivals
   - Local stores
   - On-demand supply
6. Production capacity and revenue potential have improved, strengthening the sustainability of the enterprise.
7. The project preserves traditional smoked food culture while making products suitable for commercial markets.
8. The PMC found the implementation satisfactory and recommended release of the remaining instalment.

FRUIT WINE PROCESSING UNIT

Project Summary

The Fruit Wine Processing Unit at Danak Kongbe, Tura (West Garo Hills, Meghalaya), established under NECTAR, promotes value addition to locally available fruits through modern wine-processing technologies. The initiative enhances livelihood opportunities, strengthens rural entrepreneurship, and supports sustainable use of the region's rich fruit resources. The unit produces high-quality wines from cherry, bayberry, pineapple, guava, amla, mandarin orange, plum, banana, and Himalayan cherry, benefiting farmers of Tura and Shillong by procuring fruits directly from them and contributing to Meghalaya's growing reputation as the Fruit Wine Capital of India.

ABOUT THE PROJECT

The project aims to set up a modern smoked meat and fish production unit using an innovative electric smoker to produce hygienic, standardized, and high-quality products. The initiative focuses on improving traditional practices, introducing scientific processing methods, and empowering local entrepreneurship.

Name of Entrepreneur/Firm	M/s Chibisik Beverages
Implementation Site	Danak Kongbe, Tura, West Garo Hills, Meghalaya
Budget	Rs. 25,00,000

M/s Chibisik Beverages, under the brand "Dura Wine," supplies products to wine stores, restaurants, and bars in Tura, Ampati, Baghmara, Williamnagar, Mendi, Resu, Dalu, Khanapara, Jowai, and Shillong.

With NECTAR support, the unit installed modern machinery including fermentation vessels, microfiltration systems, gravity fillers, labelling machines, and chilling plants. Production began in September 2024, and the first 500 litres of banana wine were released in November 2024. The unit now produces Amla, Bayberry, Cherry, Pineapple, Jackfruit, Jamun, Mulberry, Starfruit, Plum, Sticky Rice, and Mandarin Orange wines. Dura Himalayan Cherry Wine was also nominated for the Best Fruit Wine Award at the Indian Wines and Spirits Award, Vinexpo 2024, Mumbai.

The project has significantly enhanced operational capacity, expanded production to new fruit varieties, increased employment, improved market visibility, and opened avenues for further growth, including a proposed rooftop wine-and-dine restaurant.

Beneficiaries: Male (104) and Female (22)

OUTCOME

1. The establishment of the Fruit Wine Processing Unit has resulted in significant achievements:
2. High-quality, locally produced fruit wines are now available in the regional market.
3. Farmers receive assured procurement and better prices for their fruits.
4. The unit has achieved full operational capability with modern processing equipment.
5. Market presence has expanded across multiple districts in Meghalaya.
6. Product diversification has strengthened business sustainability.
7. Increased income and employment generation for the community.
8. Meghalaya's identity as a hub for fruit wine production has been further strengthened.
9. The project has also created a foundation for future growth through branding, participation in expos, and planned restaurant-based tourism initiatives.

PRODCUTION AND DISTRIBUTION OF QUALITY PLANTING MATERIAL OF AMMOMUM SUBULATUM ROX BURGH TO FARMERS IN SIKKIM

Project Summary

Ammomum subulatum Roxburgh (Large Cardamom), locally known as Thulo Alaichi, is a perennial, monocieous aromatic herb belonging to the family Zingiberaceae (2n = 24). Traditionally cultivated in Sikkim for centuries, it is one of the oldest spices referenced in Ayurvedic and Unani texts dating back to the 6th century BC. The crop has been the backbone of Sikkim's agroforestry system and a major contributor to rural livelihoods.

Sikkim was once the world's largest producer of large cardamom. However, production has drastically declined in recent years due to multiple factors, primarily the widespread incidence of viral diseases such as chirkey and phurkey. As reported by Avasthe et al. (2011), production fell from a peak of 5401 MT in 2003–04 to 2881 MT in 2007–08, accompanied by a steep fall in export value—from Rs. 20.57 crore (2002–03) to Rs. 10.5 crore (2008–09). This decline

ABOUT THE PROJECT

The project is implemented to produce quality planting materials of Large Cardamom, and distribution to farmers for growth and livelihood sustainability

Name of implementing Agency	Sikkim State Council of Science and Technology, Government of Sikkim
Implementation Site	Pakyong and Gangtok District, Sikkim
Budget	Rs. 23,00,000



has severely impacted on the socio-economic stability of growers and progressive farmers.

The major issues contributing to reduced productivity include lack of quality planting materials, insufficient scientific knowledge among farmers, and inadequate management interventions from concerned agencies. To address these challenges, the Sikkim State Council of Science and Technology (SSCS&T) has undertaken extensive research and developed strategies to rejuvenate the crop and restore farmer confidence. This project, supported by NECTAR, an autonomous body under the Department of Science and Technology, Government of India, focuses on the production of high-quality, disease-free planting materials of Large Cardamom. The initiative aims to distribute these improved planting materials to farmers, thereby enhancing productivity, strengthening livelihood security, and ensuring long-term sustainability of Large Cardamom cultivation in Sikkim. The program proved highly beneficial for the participating farmers, equipping them with practical knowledge and improved skills for large cardamom cultivation. The distribution of quality planting materials is expected to contribute significantly towards enhanced productivity and livelihood improvement.

Beneficiaries: Male 8 (ST: 2, OBC:6)

Female: 16 (ST:11, OBC: 5)

Outcomes

1. Capacity Building: Farmers received updated knowledge on scientific agro-techniques, nursery management, and eco-friendly pest/disease control.
2. Planting Material Distribution: A total of 10,000 virus-free plants were distributed, expected to increase productivity and sustainability.
3. Farmer–Scientist Interaction: Direct interaction allowed farmers to share local challenges and receive solutions.
4. Community Participation: Panchayat leaders ensured stronger grassroots involvement.
5. Sustainability: Emphasis on organic practices aligned with Sikkim's vision of eco-friendly agriculture

MOBILE CLINIC WITH REAL TIME PATIENT MONITORING SYSTEM TO PROVIDE LAST MILE SUPPORT

Project Summary

In the interiors of Meghalaya, providing in-person healthcare services to people is an extremely challenging task, especially for those residing in areas that are relatively inaccessible both geographically and socially. In such a situation mobile clinic providing health services can be of utmost help in reaching out to people living in rural or hard-to-reach areas. Mobile Clinic has great potential in such areas where patients do not need to travel long distances to visit medical practitioners for health check-ups or follow-ups.

The main aim of the project was to create integrated mobile clinic linkages with the existing St. Xavier Care and Support Centre, Sohklong village at Mawsynram in East Khasi

ABOUT THE PROJECT

The main aim of the project is in creating integrated mobile clinic linkages with the existing St. Xavier Care and Support Centre, Sohklong village at Mawsynram in East Khasi Hills.

Entrepreneur/Firm	Hake Technologies Pvt. Ltd.
Implementation Site	Mawsynram, Meghalaya
Budget	Rs. 23,92,800

Hills. By generating primary level information on the existing health requirements of people at Mawsynram and neighbouring areas along with its international border, mobile clinics including an inbuilt monitoring system, modern technologies of tracking through the Global Positioning System (GPS).

OUTCOME

1. The project helped in reaching the disease-affected population registered through a mobile clinic with all necessary equipment and drug supplies and linking the needy to the St. Xavier Care and Support Centre in Mawsynram.
2. A monitoring and tracking system of the mobile van by integrating it with Global Positioning System (GPS) and Locational Technology have been incorporated.
3. To gather vast information on the health services and needs of people accessing mobile clinics from rural and hard-to-reach areas of East Khasi Hills.

ESTABLISHMENT OF CASHEW PROCESSING UNIT AT VAN DHAN VIKAS KENDRA (VDVK), CHONGNAPARA , WEST GARO HILLS, MEGHALAYA

Project Summary

Entrepreneur/Firm	MSRLS, Shillong
State	Meghalaya
Budget	Rs. 25,00,000

The Cashew Processing Unit at Dalu CRD Block is established to promote entrepreneurship and income generation among local women's Self-Help Groups (SHGs). The unit is equipped with modern machinery and technology, enabling efficient processing of raw cashews into high-quality nuts. The Chongnapara VDVK (Van Dhan Vikas Kendra) was established in the year 2021 with the objective of promoting cashew nut processing, leveraging the region's abundant resources.The Unit set up in a predominently Garo Tribe dominated area and is fully functional, generating income through the processing of cashew nuts and the production of cashew butter. The product range includes roasted cashews, spicy masala cashews, and salted roasted cashews. To date, the unit has generated Rs 36,000 from cashew butter sales, and a recent shipment of 25 kg of processed cashews was dispatched to Megh Saras store in Shillong and Delhi SARAS Fair with 110 kgs of value added product with expected revenue generation of about Rs 1,38,750/- only. Furthermore, the VDVK unit has secured working capital support through

the Cashew Producer Group of MSRLS Farm sector in both Chongnapara and Jarangkhona villages with an amount of about (3) three Lakhs. The unit aims to procure approximately 3000 KGs of raw cashew nuts in the current financial year to scale up production and ensure year-round operation with an expected revenue genration of about 487500/- from 650 KGs of processed Cashewnut with an average rate of 750/- per KG of process Nuts. . This initiative not only supports local economies but also empowers women through skill development and income generation supported by NECTAR.

Beneficiaries: Male (40) and Female (260)

AEROSTATIC DRONE FOR FOREST SURVEILLANCE AND WILDLIFE MONITORING

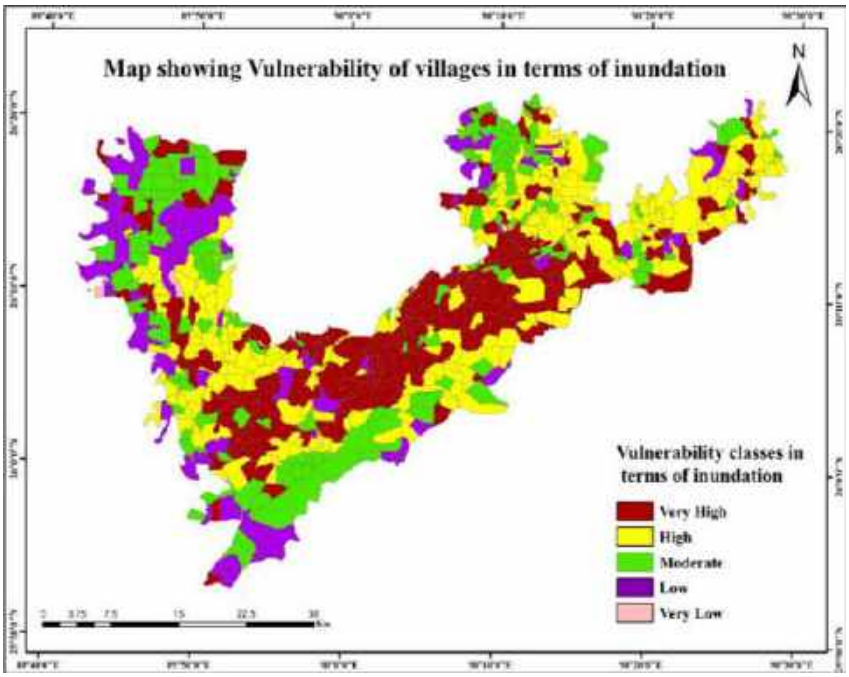
Project Summary

- NECTAR organized a demonstration of India's first Aerostatic Drone at Malki Forest, Shillong.
- Developed by Airbotix Technologies with NECTAR funding support.
- Offers long-endurance flight: over 3 hours, extendable up to 24 hours.
- Supports RGB and thermal cameras for day/night forest surveillance, wildlife monitoring, disaster response, and security operations.
- Event attended by officials from NECTAR, Forest Department, CRPF, MoEFCC, Brahmaputra Board, and NEHU.
- Stakeholders expressed strong interest in its applications for border security, environmental monitoring, and protection of eco-sensitive areas.
- Technology expected to greatly enhance monitoring and management capabilities in the Northeast.

PROJECT SWAMITVA

The Aerostatic Drone is a long endurance unmanned aerial system designed to enhance forest surveillance and wildlife monitoring. With advanced imaging capabilities, it supports continuous observation, early threat detection, and improved protection of eco-sensitive areas.

Project cost: 23.6 lakhs under PAC -6



Mapping of Flood prone areas using Geospatial Technology for disaster risk reduction & resilience building for Marigaon, Majuli and Dhubri Districts of Assam.

Objectives of the Project:

1. Enhance community resilience to floods and erosion through awareness programs and capacity building.
2. Provide skill development in flood management and promote advanced technologies like GIS, Remote Sensing, and UAVs.
3. Develop flood-resilient infrastructure and provide science and technology inputs for sustainable flood and erosion management.
4. Raise awareness about the socio-economic impact of floods and erosion.

Project Summary

The project aims to reduce the severe impacts of floods and erosion in Assam's Brahmaputra Valley by using GIS, Remote Sensing, and UAV technologies to monitor flood-prone areas and support real-time forecasting. Focused on Morigaon, Majuli, and Dhubri, it works to build resilience in communities most affected by the river's changing dynamics.

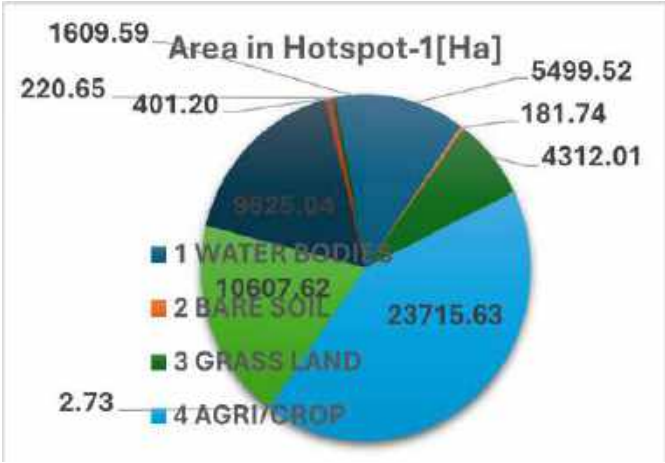
PROJECT SWAMITVA

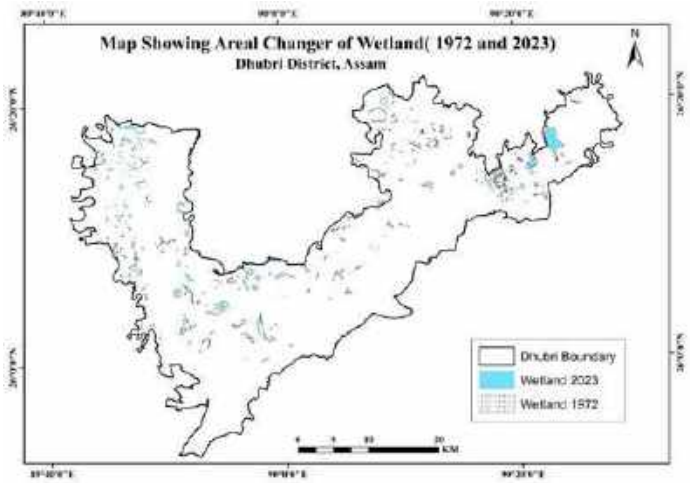
This project leverages advanced Remote Sensing, GIS, and UAV technologies to analyze flood patterns, strengthen community preparedness, and support long-term flood mitigation through accurate mapping, prediction, and capacity building.

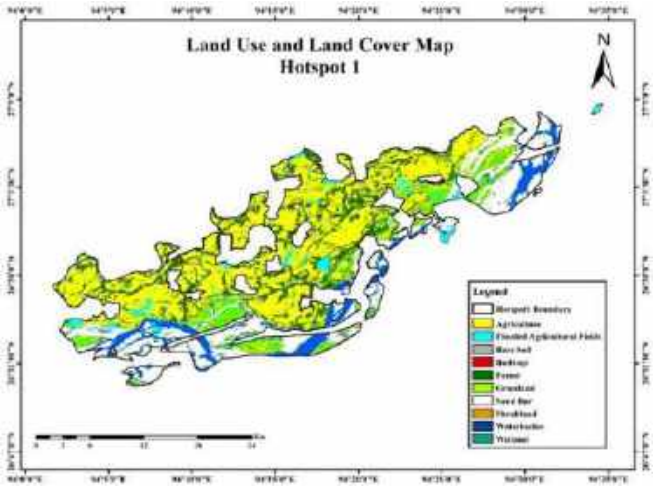
Project Cost: Inhouse funded

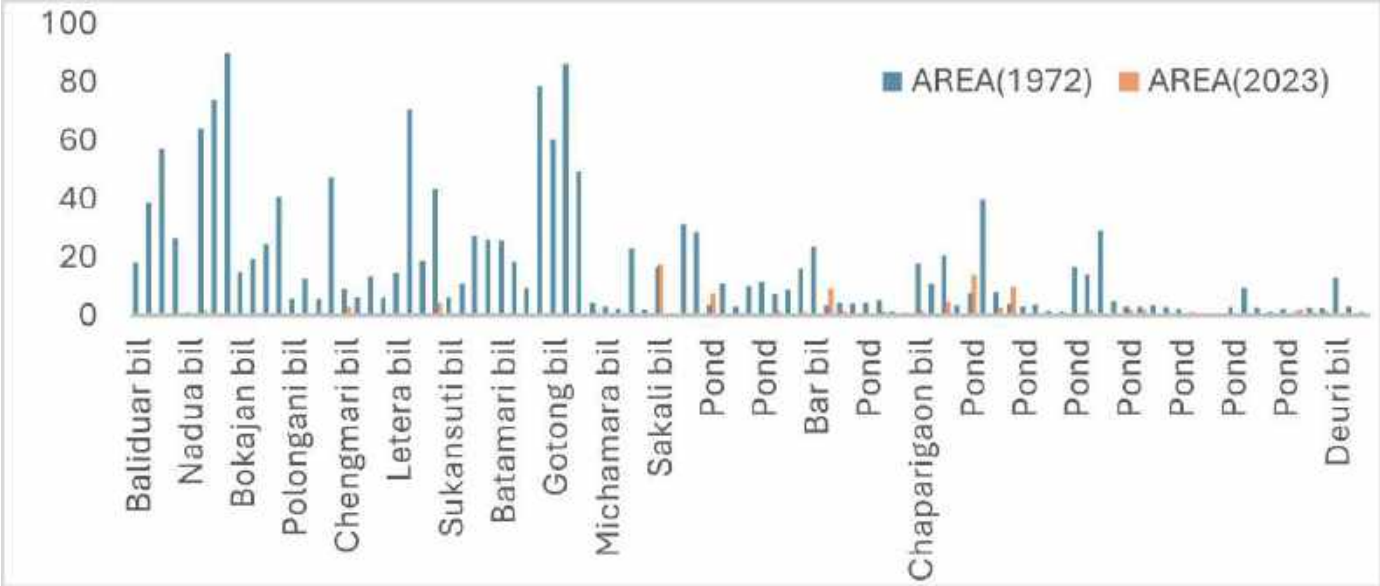
OUTCOME

- Majuli & Morigaon show very high flood inundation (50–75% area) during 1999–2010.
- After 2010, both districts show sharp reduction in flood-affected areas, but flooding continues every year.
- Majuli still faces moderate floods (8–29%) in recent years due to its location as a river island.
- Morigaon shows severe flood years even recently (25–30% in 2019–2022).
- Dhubri is one of the severest flood and erosion zones in Assam where large populations live directly on flood plains.
- The Brahmaputra widens southwards, causing major land losses every monsoon.
- Riverbank erosion is critical in all three districts, displacing families each year.

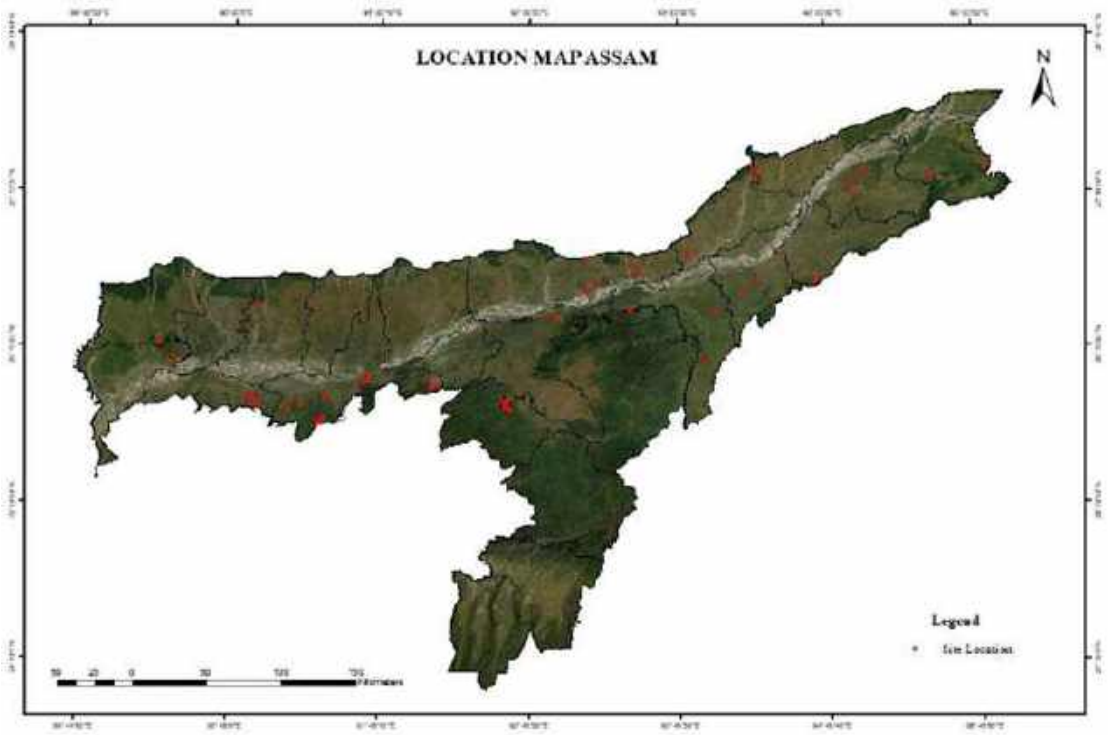








Mapping/Assessing Medicinal, Aromatic and Dye Yielding Plant (MADyP) cultivation in Assam for Entrepreneurship Development using Appropriate Technology



Project Summary

The project focuses on mapping and assessing the cultivation of Medicinal, Aromatic, and Dye-yielding Plants (MADyP) in Assam to promote entrepreneurship and economic development using appropriate technology. Northeast India, a biodiversity-rich region, holds significant potential for cultivating MADyPs, which serve as vital income sources for rural communities. However, unplanned and unscientific practices in cultivation necessitate conservation measures and systematic exploration.

Key Highlights:

1. Project Objectives:
   - Identify economically and ecologically significant MADyPs.
   - Promote large-scale cultivation and processing for value addition.
   - Foster rural entrepreneurship and economic benefits.

ABOUT THE PROJECT

This project maps and evaluates Medicinal, Aromatic, and Dye-yielding Plants (MADyP) in Assam to support rural entrepreneurship. Using geotagging, high-resolution imagery, and farmer inputs, it identifies key species, documents cultivation practices, and builds a database to guide sustainable MADyP cultivation and value addition.

Project Cost: Extramural (Inhouse)

2. Activities Conducted:
    - Geotagging of 19 locations across 8 districts of Assam after pilot studies at NEDFi R&D Centre, Khetri.
    - Analysis of spectral signatures using high-resolution imagery (Google Earth, SkySat, ESRI).
    - Stakeholder interactions to gather information on commercially adopted MADyP crops, including Citronella, Lemongrass, Sugandhmantri, Patchouli, and Sandalwood.
    - Creation of a database capturing details of MADyP species, farm plots, farmer experiences, challenges, and improvement suggestions.

OUTCOME

- Identification of Key Cultivated Species: The project documented extensive cultivation of Citronella, Lemongrass, Sandalwood, and Agarwood, with certain locations having plantation clusters exceeding 5 hectares.
- Mapping of Additional MADyP Resources: Several other commercially important species—such as Amlakhi, Silikha, Jamuk, Nahor, and Sugandhmantri—were also recorded across notable plantation areas, highlighting the region's rich resource base.
- Accurate Spatial Documentation: Through geotagging and GIS-based mapping, the project produced reliable and spatially verified information on species distribution, plantation density, and acreage, improving data precision for planning and decision-making.
- Strategic Recommendations for Sectoral Growth: Expansion of the survey across all districts of Assam to achieve a complete, state-wide MADyP distribution profile.
- Promotion of entrepreneurship-driven cultivation and value addition, enabling large-scale economic gains and strengthening rural livelihoods.
- Overall, the project establishes a strong foundation for structured cultivation, better market linkages, and technology-enabled management, helping unlock the full economic and ecological potential of MADyPs in Assam.

Fig: Aerial view of coal mining area

DGPS & Drone-Based Mapping for Mahanadi Coalfields Limited (MCL)

Project Summary

As part of Mahanadi Coalfields Limited's initiative to improve precision in mine planning, monitoring, and volumetric assessment, NECTAR collaboration with Garuda Aerospace Limited, conducted a comprehensive geospatial survey across coal mining regions in Sundargarh and Jharsuguda districts of Odisha.

The project involved the establishment of Master Control Points (MCPs), Permanent Benchmarks (PBMs), Ground Control Points (GCPs) and large-scale drone data acquisition for high-accuracy mapping.

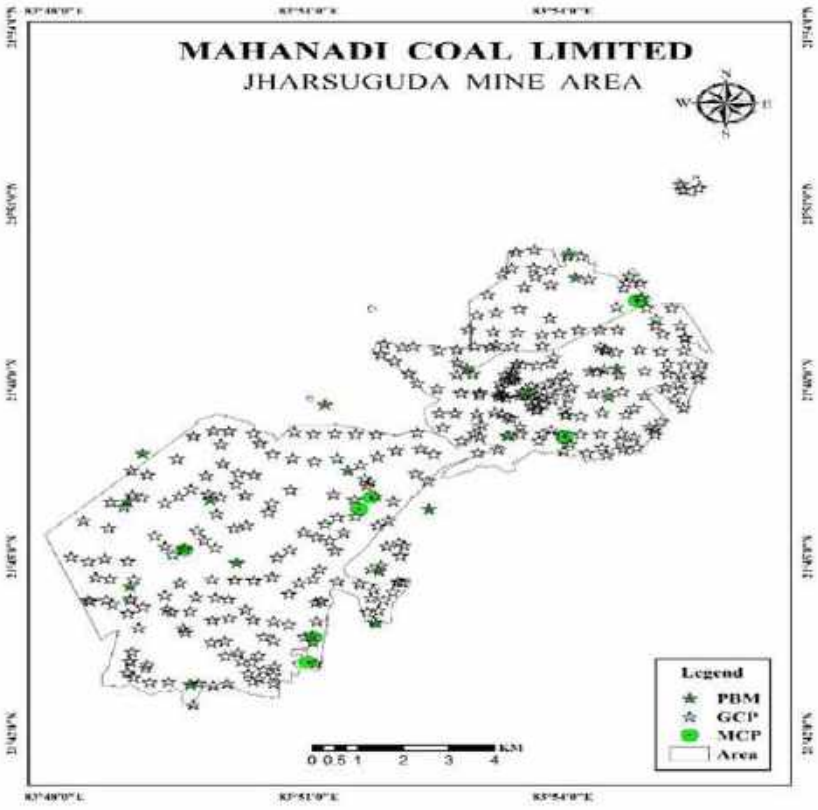
ABOUT THE PROJECT

The core objective of the survey was to generate reliable, high-precision positional data to support MCL's operational decision-making and long-term mine management. Using differential GPS (DGPS) techniques and UAV-based imaging, the team ensured accurate georeferencing for mapping, site identification, and volumetric estimation.

Project Cost: Revenue

OUTCOME

The survey produced several key outcomes, including the establishment of 12 Master Control Points (MCPs) to anchor and orient the overall survey framework, and the creation of 29 Permanent Benchmarks (PBMs) to ensure reliable long-term elevation reference for future monitoring activities. A total of 519 RTK Ground Control Points (GCPs) were collected to achieve centimeter-level positional accuracy across the mining blocks, supporting high-precision geospatial analysis. In addition, approximately 9,000 hectares of mining areas were mapped through high-resolution RGB drone surveys, resulting in detailed orthomosaic maps and comprehensive geospatial datasets. Together, this integrated DGPS and UAV-mapping approach substantially enhances spatial accuracy, strengthens digital mine management, and contributes to MCL's commitment to efficient, safe, and environmentally responsible coal mining.



Forest Survey and Mapping for Meghalaya Using a Hybrid Approach (Airborne Sensor / Helicopter / UAV) to Analyze Carbon Financing and Phyto-diversity Heat Map

Objective of the Project

The project aimed to conduct a high-resolution airborne forest survey using LiDAR, hyperspectral, and RGB sensors to analyze carbon sequestration, floral diversity, and phyto-diversity in Meghalaya's reserve forests. It also aimed to create a forest database, assess forest health, and explore carbon financing opportunities. The project engaged technical experts from institutions like NESAC, JNU, and NEHU for data analysis and validation.

Brief about the Project:

NECTAR conducted a forest survey over 600 sq km of Meghalaya's reserve forest areas using a combination of UAVs, helicopter, and airborne sensors. Data was collected from 32 forest patches using LiDAR, hyperspectral, and RGB sensors to assess tree species, canopy density, biomass, and carbon sequestration. The data was processed to create a comprehensive forest database and health assessment, aiding carbon financing and forest management.

ABOUT THE PROJECT

This project used advanced airborne sensing technologies to map Meghalaya's forests, assessing carbon sequestration, biodiversity, and overall forest health. The data created a detailed forest database to support conservation and carbon financing initiatives.

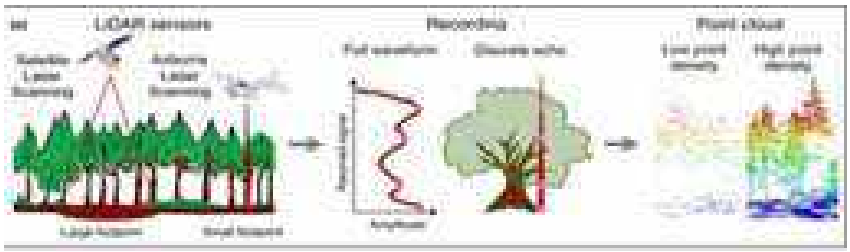
Project Cost: Revenue

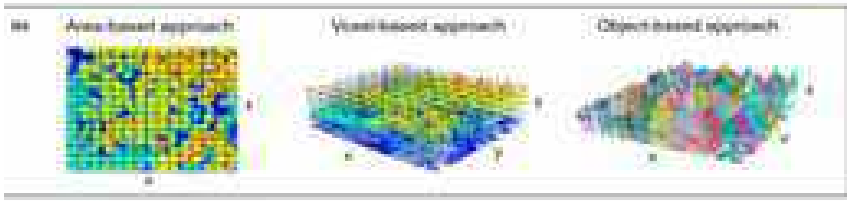
OUTCOME

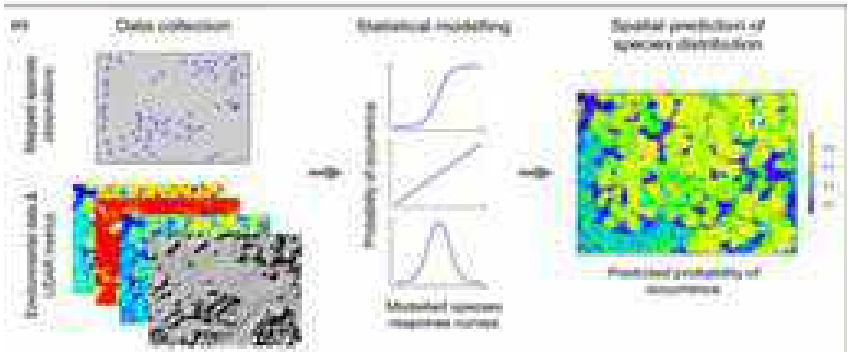
Findings and Results:

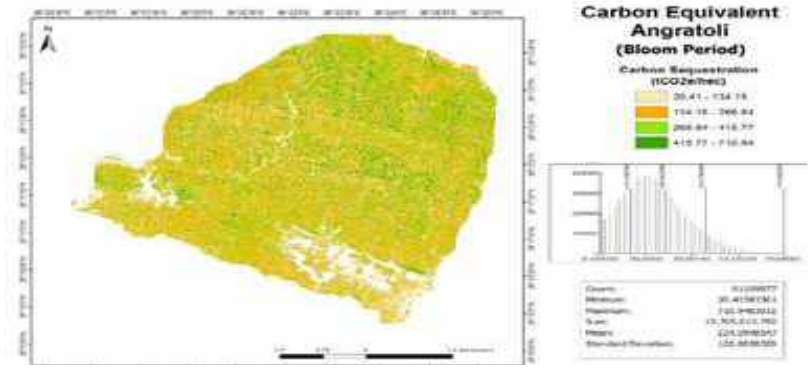
1. Carbon Sequestration & Biomass: AGB and carbon sequestration increased after the monsoon, with Tura Peak and Baghmara showing the highest values.
2. Forest Structure: The tallest trees (67m) were found in Tura Peak, with extensive canopy coverage in forests like Baghmara and Gittingiri.
3. Species Mapping: Over 400 tree species were mapped, identifying both heterogeneous and homogeneous forests.
4. Carbon Sequestration Species: Species like Shorea Robusta and Tectona Grandis were noted for their high carbon sequestration capacity.
5. Forest Health: Forests such as Baghmara and Tura Peak were found to be the healthiest, while others showed impacts from issues like human interference and forest fires.

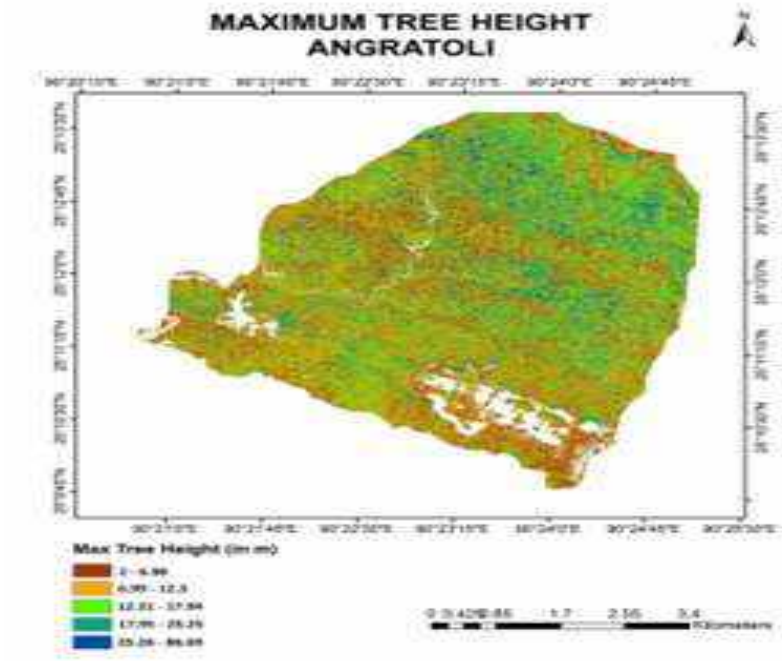
The project successfully mapped the biodiversity and carbon sequestration potential of Meghalaya's forests, creating a valuable resource for future forest management and conservation efforts.



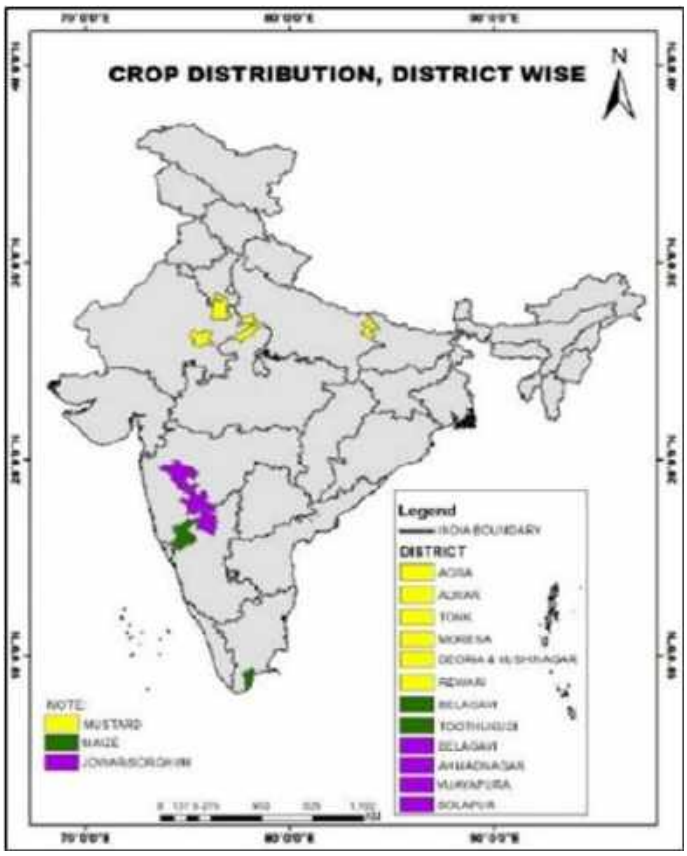








Pilot studies for GP (Gram Panchayat) level Crop Yield Estimation using Advanced Technology for Non-Cereal Crops - Rabi-2022-23



ABOUT THE PROJECT

The project developed a GP-level crop yield forecasting model for Mustard, Sorghum, and Maize using Remote Sensing, GIS, and weather data, while also building local capacity by training interns and students from the North East in data collection, crop classification, and geospatial analysis.

Project Cost: Revenue

Objective of the Project

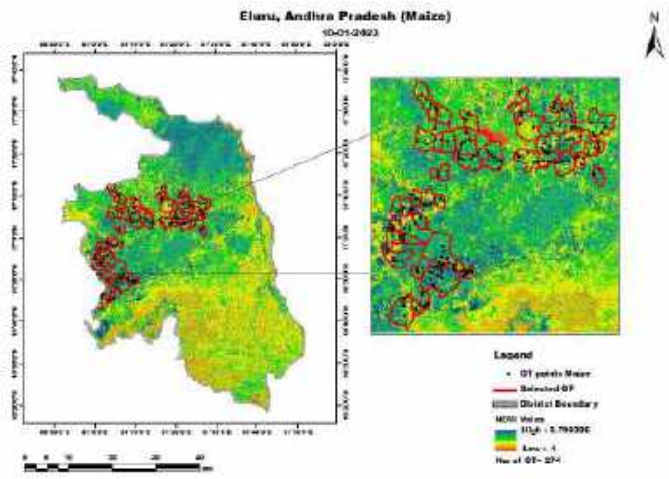
NECTAR was entrusted with the responsibility of developing a crop yield forecasting model at the GP level for 13 districts across India. The project focused on three crops: Mustard, Sorghum, and Maize. The approach utilized high-resolution satellite data from Planet Labs (3m) for Sorghum and Maize, and Sentinel-2 (10m) for Mustard, which was complemented by ground truth data collected by interns and students from the Northeastern region. Remote sensing parameters like NDVI, NDWI, FAPAR, and LAI, along with weather parameters such as rainfall, temperature, and soil moisture, were processed in the NECTAR GIS lab. The collected data was integrated into an AI/ML-based model to generate crop yield forecasts at the GP level.

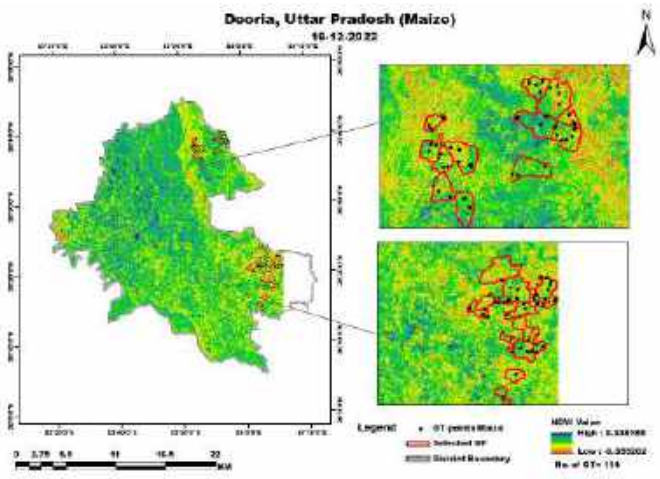
OUTCOME

- The project achieved strong crop classification accuracy, ranging between 80% and 90% across the targeted crop types.
- Yield estimates for Mustard, Sorghum, and Maize showed high agreement with CCE observations, with R^2 values between 0.82 and 0.88 across districts.
- These performance indicators demonstrated the effectiveness and reliability of the AI/ML-based model in predicting crop yields using remote sensing data.

- The success is notable given the limited data availability and the complexity of crop-wise, GP-level yield forecasting.
- The initiative created significant livelihood and skill development opportunities for youth in the North Eastern region.
- It enhanced local capacity in AI/ML, GIS, and advanced geospatial techniques applied to agriculture.
- Overall, the project contributed meaningfully to the growth of precision agriculture in India and strengthened regional technical workflows.

S.No.	District	GP/Village Name	Crop Name	CCE yield (kg/ha)	Modelled yield (kg/ha)
1	Agra	Ata	Mustard	1739.33	1745.312667
2	Agra	Ayela	Mustard	1714.66	1768.436667
3	Agra	Barna	Mustard	2198.666667	2201.801667
4	Agra	Basai Jagne	Mustard	2080	2091.71
5	Agra	Bhari Nagla	Mustard	1360	1481.148
6	Agra	Bhenson	Mustard	1966	1886.860667
7	Agra	Bihari	Mustard	1963.333333	2002.48
8	Agra	Brithia	Mustard	1732	1668.766
9	Agra	Danda	Mustard	1660.666667	1726.056
10	Agra	Dankasa	Mustard	1901.333333	1869.968
11	Agra	Dhanina	Mustard	2419	2318.76
12	Agra	Dundarwal	Mustard	1774.666667	1787.121333
13	Agra	Ghusiana	Mustard	1815.333333	1811.464667
14	Agra	Jagraj Pura	Mustard	1869.6	1900.1758
15	Agra	Jajau	Mustard	1788	1794.72
16	Agra	Karkoli	Mustard	2011	1959.86
17	Agra	Kulhara	Mustard	1871.333333	1836.1
18	Agra	Ladukhera	Mustard	1834	1824.788
19	Agra	Mewali Kal	Mustard	1884.833333	1844.431667
20	Agra	Mihawa	Mustard	2200	2183.78
21	Agra	Murkia	Mustard	1619	1682.558
22	Agra	Nagar Chan	Mustard	1964.666667	1996.62
23	Agra	Nagla Dule	Mustard	1838.25	1799.86
24	Agra	Nagla Virbh	Mustard	1868.266667	1791.357333
25	Agra	Nauni	Mustard	1475.2	1530.027333





10 days Training Module for Mobile Campus Course in GIS and Remote Sensing

Project Summary

- A 10-day Mobile Campus-Based Geospatial Training Program on GIS and Remote Sensing was conducted in collaboration with NECTAR.
- The program aimed to build a strong foundation in both theoretical and practical geospatial skills.
- Participants were trained in essential tools and techniques used for environmental monitoring, resource management, and spatial analysis.
- The training is part of NECTAR's wider capacity-building initiative in the Northeast region.
- It has been successfully conducted across all states of Northeast India.
- The program empowers students with practical GIS and Remote Sensing expertise to address regional development and environmental challenges effectively.

ABOUT THE PROJECT

This in-house 10-day Mobile Geospatial Training Program by NECTAR provides practical skills in GIS and Remote Sensing. Conducted across all Northeast states, it equips students with essential geospatial tools for real-world applications.

Project Cost: Revenue

OUTCOME

- The Mobile Campus Training Program delivered substantial capacity-building benefits across the Northeast Region (NER). Through 9 comprehensive training programs conducted in 7 different states, the initiative

ensured that students from diverse and often remote areas gained access to high-quality learning in Remote Sensing and GIS technologies.

- A total of 227 participants were trained, reflecting strong engagement and interest in geospatial skills across the region. The participant composition showcased remarkable inclusivity, with 42.73% from Scheduled Tribes (ST)—a key demographic in the Northeast—along with 6.61% Scheduled Caste (SC), 26.43% Other Backward Classes (OBC), and 24.23% Unreserved (UR) categories. This wide representation indicates the program's success in reaching different social groups and ensuring equal access to technical education.
- The training not only enhanced the technical competencies of the participants but also contributed to building a local talent pool equipped with practical geospatial skills. This strengthened capacity is expected to support regional development efforts, improve employability, and encourage the application of GIS and Remote Sensing in sectors such as natural resource management, environmental monitoring, urban planning, and disaster management.
- Overall, the program has played a pivotal role in expanding geospatial literacy across the Northeast, fostering a more skilled and technologically empowered youth population.

AERIAL DRONE SURVEY FOR AGRICULTURAL LAND MANAGEMENT

Objective of the Project

NECTAR conducted high-resolution aerial drone surveys across 4,500 hectares in four districts of Meghalaya to produce detailed terrain and vegetation maps. These spatial datasets help identify suitable plantation zones, degraded areas, and eco-sensitive regions, enabling better planning for afforestation with indigenous species. The project supports scientific decision-making for sustainable forest restoration and land management.

OUTCOME

The drone survey successfully mapped 4,500 hectares, generating high-resolution spatial data essential for informed land management and planning. The outputs, including orthomosaics, terrain models, and vegetation maps, have played a key role in developing afforestation and restoration plans, helping authorities identify suitable zones for ecosystem recovery and long-term ecological improvement.

Beyond data generation, the project also contributed to capacity building by enhancing local expertise in drone operations, image processing, and geospatial analysis. This improved technical skillset is now supporting more sustainable agricultural practices, optimized resource use, and effective land monitoring. Overall, the project strengthened both environmental planning and community-driven land management efforts.

ABOUT THE PROJECT

This project involved NECTAR conducting drone-based aerial surveys across 4,500 hectares in four districts of Meghalaya—West Khasi Hills, East Khasi Hills, West Jaintia Hills, and East Jaintia Hills. High-resolution imagery was used to generate detailed maps that support plantation planning, land assessment, and afforestation efforts using indigenous species, helping strengthen sustainable ecosystem restoration in the region.

Project Cost: Revenue

View of one of the cashew Cluster in Garo Hills

Promoting Organic and Scientific Agriculture in North-East India" project, under PM-DeVINE

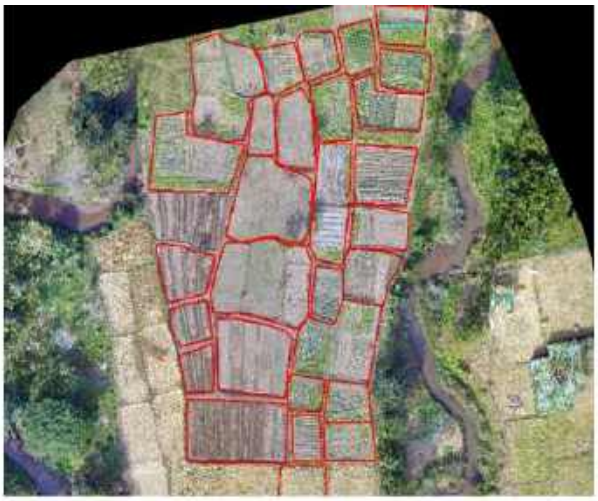
Objective of the Project

Under PM-DeVINE, NECTAR's Geomatics Division is using drone-based data to promote organic and scientific agriculture in Northeast India. High-resolution imagery generates orthomosaics, DEMs/DSMs, point clouds, and crop-health insights to guide crop selection, land suitability, and precision farm management. Regular monitoring supports growth tracking and early stress detection. Initial surveys in Meghalaya and Assam include GPS farm mapping and pilot IoT deployment in a lemon cluster, with current missions covering ginger, turmeric, and seasonal vegetables. By integrating drones, GIS, and IoT, the project enhances planning, productivity, and sustainability in organic farming.

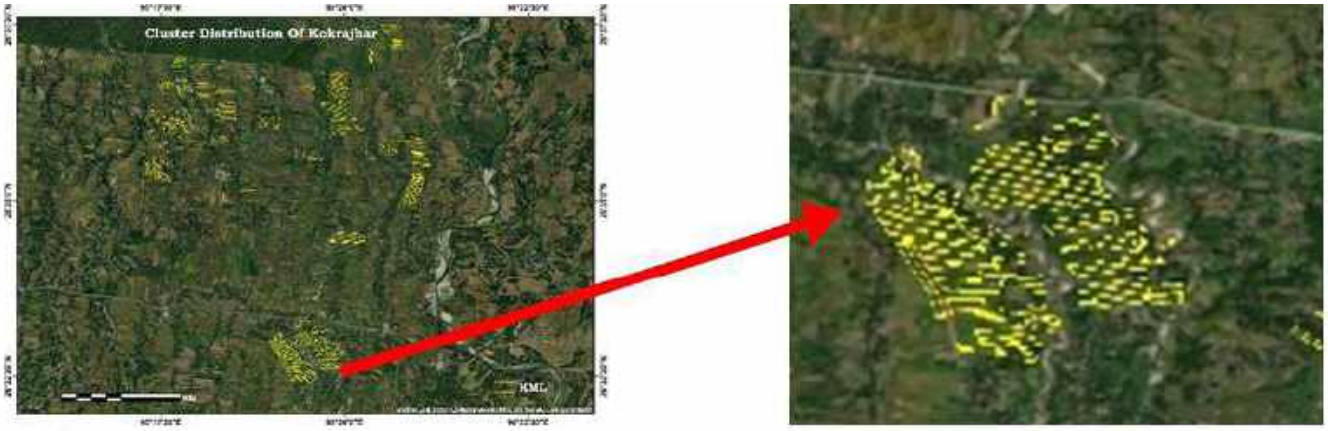
ABOUT THE PROJECT

The PM-DevINE initiative promotes organic farming in the North-East by supporting sustainable agricultural practices, improving farmers' livelihoods, and enhancing the region's natural, chemical-free farming strengths. The scheme helps develop organic clusters, build capacity, and expand market access for organic products.

Project Cost – Revenue



Plot Demarcation on Drone Data



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Plot Survey and its attribute data

MAPPING OF RURAL ABADI AREAS UNDER SWAMITVA

Objective of the Project

Arunachal Pradesh: Drone surveys were conducted in 19 villages from the Kipti and Zemithang circles of Tawang district, and 67 villages in Shi-Yomi and Lower Dibang Valley districts. The processed data, including orthomosaic images, Digital Elevation Models (DEM), and point clouds, was submitted to the Survey of India.

- Rajasthan: A drone survey was carried out in 42 villages in Sirohi district, with the processed data submitted to the Survey of India.
- Punjab: Surveys were conducted in 112 villages across the Mansa and Moga districts of Punjab, and the data was also submitted to the Survey of India.
- Chhattisgarh: Over 300 villages in Chhattisgarh were surveyed, with the processed data submitted to the Survey of India.
- This shows significant progress in the application of drone technology for land surveys across different states in India, contributing valuable geospatial data to the Survey of India.

ABOUT THE PROJECT

The SWAMITVA Project aims to give villagers legal ownership of their residential land by issuing property cards, create accurate digital maps using drones, reduce land disputes, modernize rural land records, and support development and financial inclusion in rural areas.

Project cost: Revenue

Training, Skill Development, and Capacity Building in Geospatial and Drone Technology

Project Summary

NECTAR provides specialized training in GIS, Remote Sensing, and Drone Technology to equip youth in Northeast India with industry-ready skills. As a certified Training Provider and Training Center under MSDE and NSDC, NECTAR delivers drone training under PMKVY 4.0 and is setting up an RPTO at JN College, Boko to enable DGCA-approved Remote Pilot Certification.

Training modules include:

1. Remote Pilot Certification (RPCL) – 5-day drone pilot course.
2. Drone Awareness Training (DAT) – 5-day introduction to drone technology.
3. Drone Data Acquisition & Processing – 5-day technical training.
4. Basics of GIS & Remote Sensing (GISRS) – 10-day foundational geospatial course.

ABOUT THE PROJECT

This project aims to equip youth in Northeast India with essential skills in GIS, Remote Sensing, and Drone Technology. As a certified training provider under MSDE and NSDC, NECTAR offers drone pilot training, geospatial courses, and is establishing an RPTO for DGCA-approved certifications. With over 250 students trained, the project is building a skilled workforce and strengthening the region's geospatial and drone technology sector.

Project Cost: Revenue

Objectives:

- Create a pool of skilled geospatial technology professionals and certified drone pilots.
- Address unemployment in the Northeast by providing job-ready skills.
- Foster professional growth among youth in the region.

Impact:

- More than 250 students have already successfully completed training programs.
- These initiatives contribute significantly to the development of the geospatial technology sector in Northeast India.

E-tourism portal for Enhancing Tourist Experiences in Meghalaya

Objectives

1. To create a proof of concept (PoC) for an e-tourism portal that digitizes and promotes unique local experiences provided by small businesses in a selected tourist circuit in Meghalaya.
2. The portal will offer tourists detailed profiles of these experiences, enabling a richer and more immersive visit.
3. The portal will focus on supply-side digitization and demand-side exposure and will feature business profiles, tourist registration, interactive maps, personalized itineraries and multilingual support.

Deliverables/Outcomes/Success Stories:

- A fully functional E-Tourism Portal with user guide and translators.
- Facilities for transportation, accommodation and food and beverages indulging in local cuisines with Global appeal
- Establishing an experiential tourism sector showcasing local traditions, adventure activities, and unique encounters and a marketplace for local designers, artisans, and apparel.

Implementing Agency	Rodeka Innovations, a unit of RBL Enterprise, Shillong
Implementation Site	East Khasi Hills, Meghalaya
Budget	Rs. 24,75,000

E-Portal for Maa Kamakhya Darshan Sewa for Enhanced Pilgrimage Services, Assam

Objectives

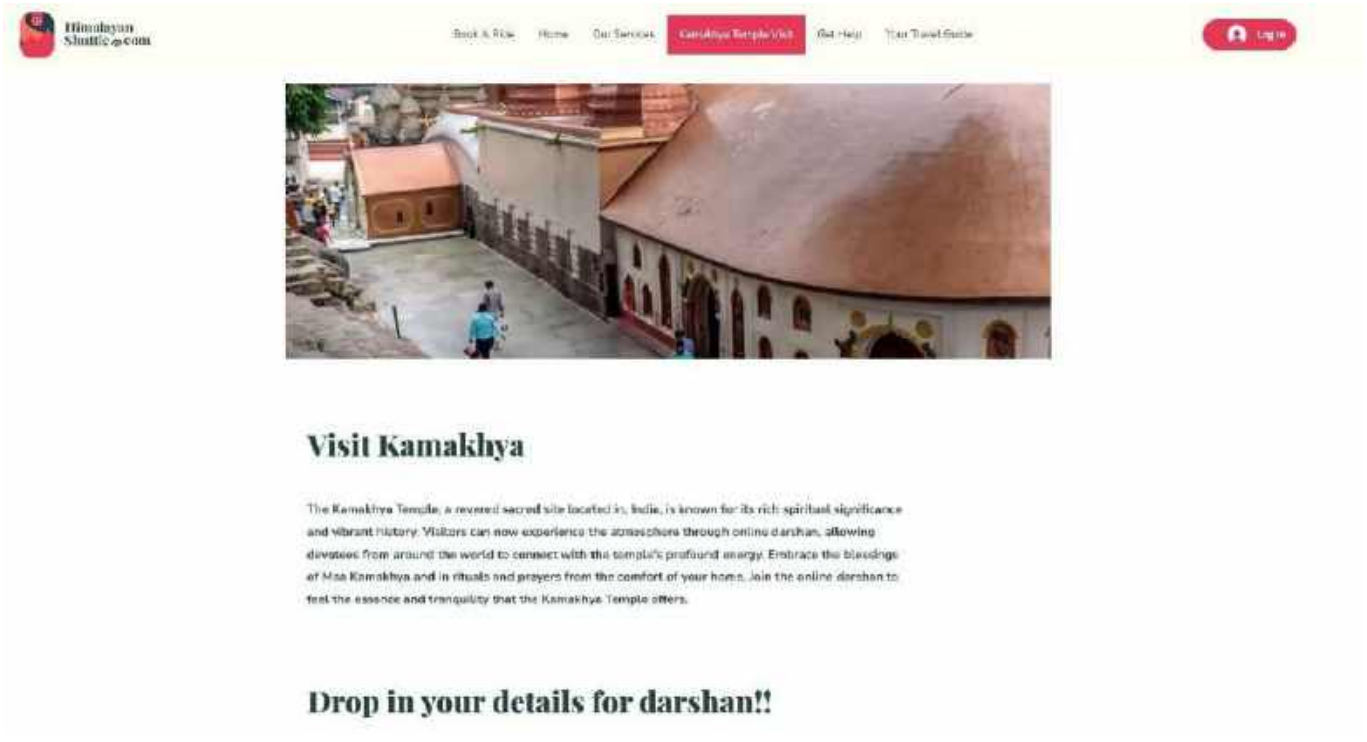
The initiative focuses on synchronizing Himalayan Shuttle's web app with Ma Kamakhya Darshan Sewa's booking system to enable real-time vehicle availability, seamless cab booking, and optimized travel routes for pilgrims across key locations. It integrates technology for instant confirmations and live tracking, while providing dedicated multilingual customer support through a unified helpline and on-ground assistance. The plan also prioritizes safety and comfort by ensuring well-maintained vehicles and trained drivers capable of addressing the specific needs of pilgrims.

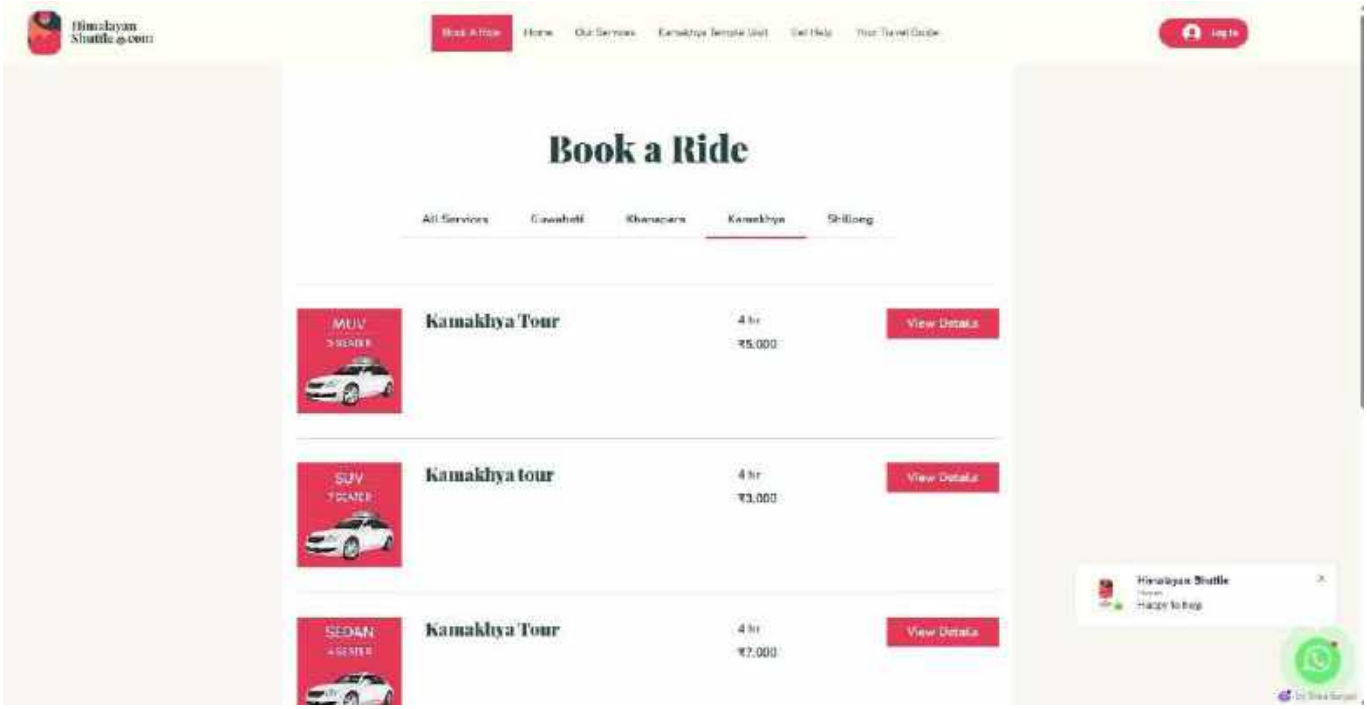
Implementing Agency	Red Mountain Soil Pvt Ltd.
Implementation Site	Guwahati/Shillong
Budget	Rs. 9,45,000

Outcome:

The Himalayan Shuttle platform, integrated with the Kamakhya Darshan Portal, provides a unified digital system that simplifies pilgrimage bookings by allowing devotees to pre-book darshan slots, access temple information, and

arrange reliable transportation through a single interface. Developed with NECTAR's support, it resolves challenges like long queues, lack of transparent booking, and transport difficulties, especially for interstate and elderly visitors. By offering door-to-door travel options and ensuring fair pricing with verified transport partners, the platform enhances safety, convenience, and crowd management. Aligned with Digital India and Meghalaya's smart infrastructure vision, it offers a scalable model that can support tourism and livelihoods across other remote and religious destinations in the Northeast.





Skill Pill

A mobile application for skill development courses in Assamese

Objectives

Skill Pill is a web-based learning platform that provides college students, young professionals, and MSME entrepreneurs with practical, industry-focused skills through a mix of recorded lessons, live classes, assignments, and quizzes. It offers structured courses with real-world applications, progress dashboards, and flexible access to learning materials. To ensure inclusivity, the platform provides selected courses in Assamese along with English, helping bridge language barriers for learners in rural and semi-urban areas of Assam and the Northeast. Overall, Skill Pill aims to deliver an accessible, interactive, and practice-oriented learning experience aligned with the needs of today's learners and future workplaces.

Implementing Agency	NECTAR
Implementation Site	Kamrup Metro, Assam
Budget	Rs. 16,95,000

Outcomes

1. Advances Digital Education: Provides accessible, structured online courses—both live and recorded—covering digital marketing, SEO, Google Ads, social media strategy, and web development, supporting the shift toward flexible, real-world digital learning.

2. Promotes Skill Development & Entrepreneurship: Bridges the gap between academic learning and employable skills through practical, hands-on courses taught by industry professionals; pilot outreach included training early-stage startups and dairy farmers in branding and digital marketing.
3. Supports MSME Digital Transformation: Helps small businesses adopt digital tools through courses on Google My Business, social media ads, and email marketing; pilot MSME participants reported immediate practical benefits.
4. Enhances Youth Employability: Introduces students from Tier 2 and Tier 3 towns to modern career paths in digital marketing, content creation, and web design, with successful pilot engagement at institutions like Tezpur University.
5. Provides a Scalable Impact Model: Demonstrates a targeted, multi-sector approach that positions Skill Pill as more than a learning portal—functioning as a strategic, adaptable tool for regional skill development and digital empowerment.

Smart Agriculture: AI-Driven Soil Parameter Monitoring for Organic Farming in Meghalaya

Objectives

The proposed smart agriculture system is targeted mainly for the soil parameter monitoring and AI modelling of Saffron plant in North East Region.

Implementing Agency	NIT, Meghalaya
Implementation Site	East Khasi Hills, Meghalaya
Budget	Rs. 7,08,750

Outcomes

- An IoT based smart agriculture monitoring system, that can measure various parameters like soil moisture, temperature, humidity, and light intensity to provide real-time information to farmers has been made.
- A user-friendly mobile application that can display real-time information about the agriculture parameters measured by the IoT sensors has been developed.
- A web-based dashboar that can provide insights and analytics about the agriculture parameters measured by the IoT sensors has been developed.
- The effectiveness of the IoT based smart agriculture monitoring system in improving crop yields and reducing water usage is being continously evaluated.

Foundation Course in Computers and Employability for the visually Impaired

Objectives

- Providing professional training courses for securing employability skills, to gain employment in IT and other prime departments.
- Skill Set Training focuses on different job Modules.
- Hands-on experience in specific job profiles based on trainees' skill set "BE THE CHANGE! ENGAGE WITH TECHNOLOGY AND GAIN COMPETENCY!"

Outcomes

- Before embarking on this course, each of the trainees faced numerous challenges, recounting instances of societal exclusion due to their visual impairment.

Project Name	Foundation Course in Computers and Employability for the visually Impaired
Implementation Site	East Khasi Hills, Meghalaya
Budget	Rs. 16,95,000

- However, they have now taken the crucial step to make a difference and integrate themselves into society. Their journey, encapsulated by the phrase "Abhimaan - I am able," was shared with the audience during the event.
- Throughout their training the trainees have undergone the orientation and intensive training as part of the Foundation Course

in Computers and Employability. Their remarkable journey reflects their unwavering commitment and determination.

- They now possess proficiency in fundamental computer operations and have become adept at using Microsoft Office applications such as Word, Excel, Outlook, and PowerPoint.
- The utilization of screen reading software, namely JAWS and NVDA, has empowered them to independently navigate digital interfaces. Their language skills, both spoken and written, have witnessed notable improvements, enhancing their ability to engage in effective communication.
- Additionally, life skills training has equipped them with essential competencies for personal and professional success.
- In practical settings, trainees embark on field visits to institutions like public parks, markets, banks and shopping malls, gaining practical insights into the application of computer skills in different environments.
- Work shadowing interaction with government officials, companies and NGOs had gained experiences, dynamics and tasks, further building their confidence. Their journey has been marked by resilience, determination, and notable progress.
- They stand ready to enter the workforce with enhanced skills and confidence, showcasing their ability to overcome unique challenges and succeed in a variety of roles.
- Bethany Society and the Enable India team are proud to support and empower these individuals, working towards a more inclusive future.

Total people Trained:

- 15 visually impaired trainees (10 Male and 5 Female belonging to ST) successfully completed the course with a bit of brush up of the 4 trainees who joined the course at the latter state.

DGCA authorized NECTAR RPTO at JN College Campus, Boko, Guwahati

Project Summary

Since its inauguration on 25th June 2024, at Jawahar Lal Nehru College, Boko, Assam, in collaboration with EduRade, the NECTAR RPTO embarked with a pioneering initiative of launching all-female inaugural batch, ensures a drive for women empowerment in the region. The RPTO has now drawing strong attention and able to attract participants from all corners of North East and Eastern India, signify NECTAR's reach and making it a thriving hub of drone pilot training center.

Till November 2025, it has completed 17 batches with 78 Drone Pilots among them 16 female candidates and 61 male candidates. Remote Pilot Certificate have been issued to successful participants.

ABOUT THE PROJECT

In a significant stride towards empowering the youth and boosting the regional economy, the NECTAR has established Northeast India's third Remote Pilot Training Organization (RPTO) on 25th June 2024. RPTO is functioning at Jawaharlal Nehru College, Boko, Kamrup, Assam, with due approval of the Directorate General of Civil Aviation, Govt. of India. The training institute is effective from 24.05.2024 valid till 23.05.2034.

Project Cost: Revenue Generation mode

Upon successful obtaining of Remote Pilot Certificates from DGCA, all have now acquired the skills of piloting drones remotely to dive into the drone industry and filling the gap of Remote

Pilots not only from North East Region but also part became of the Indian Drone Industry.

The facility is run on public -private partnership which has generated more than 25 lakhs revenue, more specifically providing opportunity for local youth to acquire Remote Pilot License for valid Drone Flying.

NECTAR) has proudly inaugurated Northeast India's third Remote Pilot Training Organization (RPTO)- Glimpse of the Inaugural Day – June 25, 2024, graced by Mrs Laya Madduri, IAS, Secretary, Department of Science and Technology, Government of Assam and Smt. Nandita Das, MLA, Boko LAC.

"A historic Initiative – Our journey took off flight with an all-women batch, paving the path for women empowerment in drone piloting."

Setting up of Language Cum Multimedia Lab

Objectives

- The Project "Language cum Multimedia Lab" aims at enhancing education through interactive whiteboards, digital content and online collaboration tools, innovative communication software which may promote dynamic teaching methods, real-time feedback, and personalized learning experiences, fostering student engagement and comprehension.
- This lab is equipped with modern computing machines, power backup with internet facilities.

Outcomes

- This innovative project has been implemented successfully aimed at bridging the gap between the students in rural areas and availability of modern technologies.
- This Lab was inaugurated by Sh. Prestone Tynsong, Deputy Chief Minister, Meghalaya in presence of officials from NECTAR.

Project Name	Setting up of Language Cum Multimedia Lab
Implementation Site	Pynursla, East Khasi Hills District, Meghalaya
Budget	Rs. 25,07,765

- School has started incorporating course part of this lab into its curriculum.

Direct/Indirect Beneficiaries:

Around 110 students from the school will benefit from this lab. Further this lab will also be used to train the youth.