SMART INSIGHTS

A Biannual Newsletter of Sustainable Microenterprise and Resilient Transformation (SMART) Project

JULY - DECEMBER 2025 ■ ISSUE 4

Integrated water, pest and fertility management

Md Rubel Hossain from Dinajpur reduced water and chemical fertilizer use by 20-30% and increased vegetable production by over 10% through adopting RECP practices.
Read the story on page 10

পল্লী কর্ম-সহায়ক ফাউন্ডেশন

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EDITORIAL

As we present SMART Insights' fourth issue, this edition reflects a period of steady progress, learning, and visible transformation across the microenterprise landscape. From July to December 2025, the SMART project continued to demonstrate how Resource-Efficient and Cleaner Production (RECP) practices can successfully align economic growth with environmental responsibility.

With 32,184 microenterprises supported and BDT 1,068.31 crore disbursed, our reach continues to expand. However, statistics cannot capture the true transformation taking place across Bangladesh's villages and urban clusters. Consider Rubel's vegetable farm in Mostafabad. His journey from skepticism to advocacy embodies what this project is about: empowering entrepreneurs to discover that resource efficiency enhances their growth.

The World Bank's recognition of our "innovative approach" validates that microenterprises, when properly supported, can be powerful agents of environmental stewardship. From eco-blocks in Rangpur to modern dairy technologies in Munshiganj, RECP practices are reshaping how Bangladesh's microenterprises operate.

What strikes me most is the ripple effect. When one entrepreneur succeeds with RECP, neighbors take notice. When 76% of supported enterprises are female-owned, we're advancing inclusive development that honors both gender equity and environmental responsibility.

As we look toward 2026, our challenge is clear: scale without losing the human-centered approach that makes this work. The path forward demands continued collaboration among PKSF, the World Bank, our Partner Organizations, and the thousands of microenterprises trusting us to support their transition toward greener futures.

The journey continues.

PROJECT PROGRESS

PKSF launched the SMART project in August 2023, in collaboration with the World Bank. This project is designed to foster resource-efficient and resilient green growth among microenterprises (MEs) of agribusiness, manufacturing, processing, and service sectors in Bangladesh.

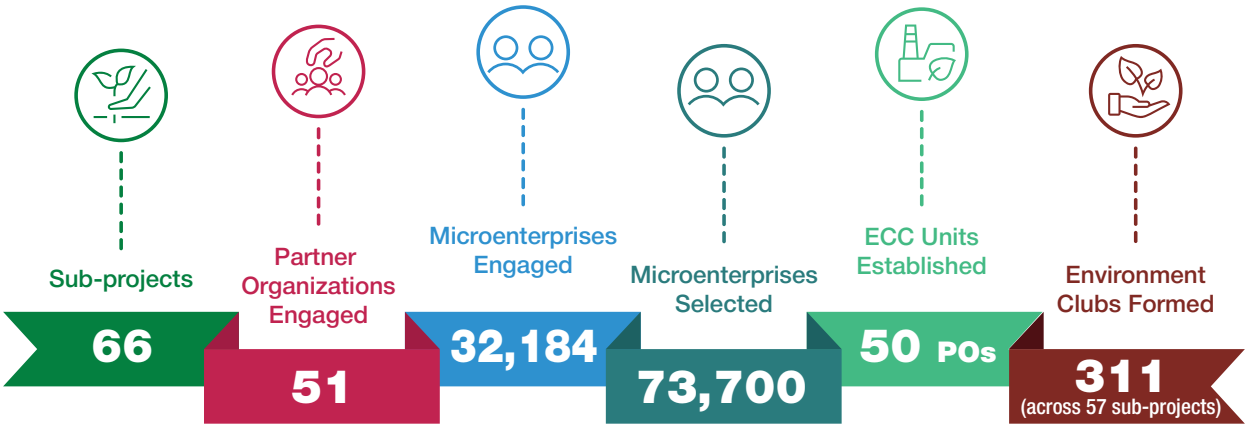
The SMART project encourages the adoption of Resource-Efficient and Cleaner Production (RECP) practices to help microenterprises minimize their environmental footprint, enhance resilience, and ensure sustainable growth. By promoting these practices alongside adherence to operational safety norms, the project aims to influence the broader microcredit ecosystem and catalyze the development of green enterprises.

The project aims to reach 80,000 microenterprises, providing not only financial aid but also technical assistance. This support facilitates the adoption of RECP practices that reduce environmental harm while enhancing long-term productivity and profitability. The project operates with a total budget of USD 300 million, comprising USD 250 million from the World Bank and USD 50 million from PKSF.

Field implementation and outreach

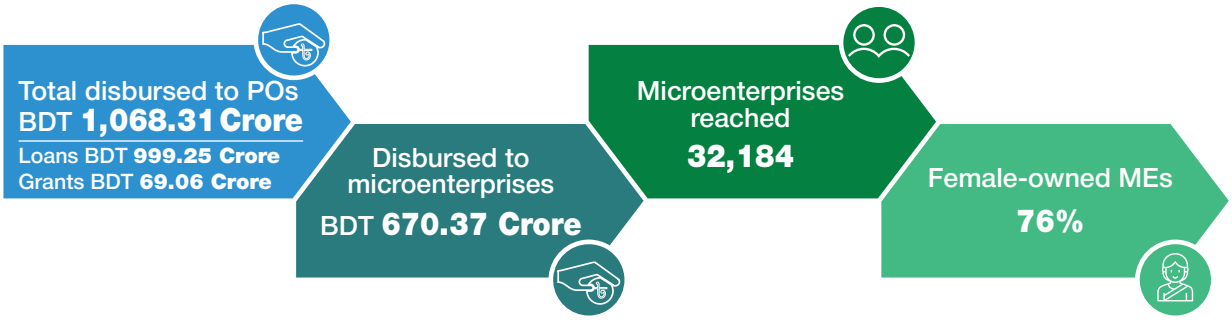
The project's foundational work is now firmly established, with 66 sub-projects currently being implemented through 51 Partner Organizations (POs). At the grassroots level, the SMART project has extended financial and technical assistance to 32,184 microenterprises. Notably, all supported MEs have committed to adopting at least two RECP practices.

To balance business growth with environmental preservation, 311 'Environment Clubs' were formed across 57 sub-projects by November 2025. These clubs facilitate activities aimed at increasing environmental awareness within local communities and business clusters. Additionally, the project has assisted 50 POs in establishing dedicated Environment and Climate Change Units (ECCUs) within their organizations.



Financial disbursement

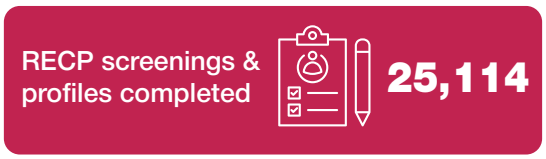
As of December 2025, BDT 1,068.31 crore has been disbursed to POs, consisting of BDT 999.25 crore in loans and BDT 69.06 crore in grants. By November 2025, the project had disbursed a total of BDT 670.37 crore directly to 32,184 microenterprises. Significantly, more than three-fourths (76%) of these enterprises are female-owned.



Capacity building and technical support

Partner organizations conduct RECP screening and develop profiles for each microenterprise to identify suitable practices for adoption. As of November 2025, 25,114 screenings and profiles have been completed.

To ensure effective implementation, the Project Management Unit (PMU) provided training to 992 personnel from partner organizations through 43 batches across six specialized training modules. Furthermore, partner organizations conducted various training sessions to enhance the capacity of the microenterprises themselves. By November 2025, 24,062 participants had been reached through 11 types of training under various sub-projects, with women making up approximately 62% of the trainees.



24,062
Micro-entrepreneurs trained in different trades including climate vulnerability and RECP management

62%
Women Participants

SMART UPDATES

WORLD BANK LAUDS SMART PROJECT'S INNOVATIVE APPROACH TO GREEN GROWTH

Ann Jeannette Glauber, Practice Manager for Environment & Natural Resources at the World Bank's East Asia and the Pacific Region, has lauded the SMART project for its "innovative" initiatives in promoting Resource-Efficient and Cleaner Production (RECP) practices in microenterprises (MEs). Her comments came during a community consultation meeting on 26 August 2025, in Munshiganj, following a visit to several microenterprises in the district's Louhajong upazila.

The World Bank delegation is visiting a biogas plant in Munshiganj

Resource Integration Centre (RIC) organized the meeting under 'Promoting Resilient Green Growth in Dairy Sub-sector' sub-project of the SMART project. It brought together delegates from the World Bank, PKSF, RIC, and the Upazila Livestock Officer to engage directly with 11 local micro-entrepreneurs. During the discussion, the entrepreneurs expressed satisfaction with the financial and technical support they are receiving. To them, RECP is a new concept which helps conserve the environment as well as ensure optimum use of their resources. They also expressed their desire for continued assistance to expand their businesses and diversify their products.

The World Bank delegates, including SMART project Task Team Leader Keisuke Iyadomi and Senior Environmental Specialist Kirtan Chandra Sahoo, Senior Private Sector Specialist Hosna Ferdous Sumi, Environmental Specialist Bushra Nishat, visited cattle-rearing microenterprises to observe RECP practices and its benefits firsthand. Gokul Chandra Biswas, Project Coordinator of the SMART project, A K M Zahirul Haque, Deputy Project Coordinator of the SMART project, Dr. Shemol Chandra Podder, Upazila Livestock Officer of Louhajang, and Alauddin Khan, General Manger of RIC, and other officials of PKSF and RIC were present during the meeting.

The day before the field visit, a courtesy meeting was held at PKSF with Ms Glauber, presided over by PKSF Deputy Managing Director Md Mashiar Rahman. He highlighted PKSF's commitment to integrating RECP practices into its core programs and acknowledged the long-standing partnership with the World Bank. Ms Glauber, in turn, stressed the potential impact the SMART project can create through appropriate financing.

RIC, as a Partner Organization of PKSF, is providing financial and technical support to the MEs in 'Cattle and Buffalo' sub-sector with a target of reaching 1,200 in Munshiganj district under one of the sub-projects of the SMART project. PKSF is implementing the SMART project across the country to support around 80,000 microenterprises in Agriculture, Manufacturing and Processing, and Service sectors within 2028. The main objective of the project is to increase resource-efficient and resilient green growth of microenterprises.

The World Bank delegation with the micro-entrepreneurs at the community consultation meeting

NEW TTL VISITS SMART PROJECT IN RANGPUR

Keisuke Iyadomi, the new Task Team Leader (TTL) from the World Bank of the SMART Project, visited Rangpur on 17 July 2025, to observe field activities, with a particular focus on the project's environmental impact. He took on the role of TTL earlier this month.

During his visit, Keisuke Iyadomi and his team explored three eco-block production centers in Rangpur Sadar

upazila. These factories, supported by the SMART project, are promoting eco-friendly construction materials through Resource-Efficient Cleaner Production (RECP) practices.

Bushra Nishat, Environmental Specialist, The World Bank; Gokul Chandra Biswas, Project Coordinator of the SMART project; A.K.M. Zahirul Haque, Deputy Project Coordinator of the SMART project, among others, were also present during the visit. The visitors exchanged views with the micro-entrepreneurs of the 'Eco-friendly Construction Materials' sub-sector and the sub-project team in Rangpur.

"As the new TTL for the project, this is my first visit to see the activities in the field under the SMART project," stated Keisuke Iyadomi. He emphasized the environmental benefits, adding, "The production and use of environment-friendly blocks will protect the topsoil of the land, reduce carbon emissions, increase the yield of the crop, and have positive effects on climate change."

The 'Promoting Eco-Friendly Construction Materials through Resource Efficient Cleaner Production' sub-project, implemented by the Eco-Social Development Organization (ESDO) under the SMART project, aims to reduce environmental degradation caused by traditional construction methods by introducing sustainable alternatives.

Micro-entrepreneurs in Rangpur are now focused on product diversification within the construction materials sector. They expressed aspirations to expand into high-quality eco-block production while following the environmental and waste management protocols. This vision, they noted, hinges on receiving financial and technical support.

> **The production and use of environment-friendly blocks will protect the top soil of the land, reduce carbon emissions, increase the yield of the crop, and have positive effects on climate change.**
>
> **- Keisuke Iyadomi**
> Task Team Leader (TTL), World Bank

This discussion took place during a workshop organized by ESDO at their office in Rangpur. The event provided a vital platform for local micro-entrepreneurs to discuss the adoption of new technologies, resource-efficient and cleaner production methods, as well as associated challenges and possibilities.

The workshop was presided over by Gokul Chandra Biswas, where Keisuke Iyadomi spoke as the Chief Guest. Attendees included eight micro-entrepreneurs, several contractors, government officials from the Department of Environment (DoE) and Public Works Department (PWD), teachers from Hajee Mohammad Danesh Science and Technology University, and other relevant stakeholders.

WORLD BANK MISSION REVIEWS SMART PROJECT PROGRESS, PRAISES RECP INNOVATIONS

A World Bank Implementation Support Mission was conducted from 13–23 October 2025 to review the progress of the Sustainable Microenterprise and Resilient Transformation (SMART) Project. Led by Task Team Leader and Senior Climate Specialist Mr. Keisuke Iyadomi, the World Bank delegation, along with PKSF officials, visited field-level activities of several sub-projects in Dhaka, Bogura, Joypurhat, and Rangpur.

The World Bank mission is visiting a workshop in Jatrabari, Dhaka

During the mission, the team inspected microenterprises in sectors such as metal products, machinery and equipment, and poultry farming. On 13 October, the delegation visited SMART-supported metal and machinery enterprises in Donia and Dholai Khal, Dhaka, where they observed Resource-Efficient and Cleaner Production (RECP) practices and interacted with entrepreneurs through community meetings. Mr. Iyadomi described the initiatives as innovative, noting their potential to promote sustainable and cleaner production even in challenging urban clusters.

On 15 October, the team visited the SMART project implemented by Joypurhat Rural Development Movement (JRDM), where they reviewed poultry farms, hatcheries, feed mills, and waste management systems. The delegation expressed strong satisfaction with the use of modern, environment-friendly technologies and their positive impact on livelihoods and the local economy.

Additionally, the World Bank team held multiple sessions to evaluate the progress of different components of the SMART project.

At the conclusion of the mission, the World Bank team termed the overall progress of the SMART project satisfactory and commended its innovative efforts in promoting RECP practices across microenterprises.

WORLD BANK-PKSF TEAM VISITS LEATHER PRODUCTS SUB-SECTOR

A high-level delegation from the World Bank and Palli Karma-Sahayak Foundation (PKSF) conducted a day-long field visit on 23 November 2025 to review the progress of the Sustainable Microenterprise and Resilient Transformation (SMART) Project in the leather products sub-sector, implemented by People's Oriented Program Implementation (POPI).

Under the SMART sub-project titled "Promoting Sustainable Growth in Leather Products Manufacturing Sub-sector through RECP Practices", POPI has been working since May 2025 to strengthen

microenterprises in selected areas of Kishoreganj and Brahmanbaria districts by promoting Resource-Efficient and Cleaner Production (RECP) practices.

During the visit, the delegation observed baseline-stage clusters, enterprises awaiting RECP implementation, and microenterprises where RECP interventions have been completed. They noted significant improvements in RECP-adopted enterprises, including reduced production costs, improved workplace safety, better waste management, and enhanced product quality. A model microenterprise showcasing advanced RECP practices was described by the delegation as a "replicable example" for the sector.

The team also visited a Common Service Center supporting shoe manufacturing clusters and held a community consultation meeting with entrepreneurs to discuss occupational safety, environmental compliance, and business expansion. The delegation expressed satisfaction with the project's progress and emphasized the importance of continued technical support and scaling up best practices to ensure sustainable growth in the leather products sub-sector.

SMART PROJECT HOLDS TWO QUARTERLY PROGRESS REVIEW MEETINGS

The SMART Project held two Quarterly Progress Review meetings in 2025 to assess implementation progress and strengthen coordination with Partner Organizations (POs).

The first review meeting took place from 27 to 31 July 2025, bringing together SMART project officials and 150 representatives from 41 Partner Organizations implementing 50 sub-projects across the country. PKSF Deputy Managing Director Md Mashiar Rahman presided over the inaugural session, highlighting the project's distinctive approach of evaluating the progress of individual microenterprises alongside overall development outcomes. He stressed the importance of adopting Resource-Efficient and Cleaner Production (RECP) practices and urged POs to meet their targets promptly. Project Coordinator Gokul Chandra Biswas, in his opening remarks, underscored the project's long-term vision of promoting green growth among microenterprises.

A second five-day Quarterly Progress Review meeting was held from 2 to 6 November 2025, with Md Mashiar Rahman again presiding over the inaugural session on 2 November. The meeting was attended by 122 officials from 51 Partner Organizations implementing 61 sub-projects, along with SMART project management officials.

During both meetings, Partner Organizations presented updates on their sub-projects and discussed implementation challenges. The SMART project, a five-year initiative, aims to promote climate-resilient and green growth by supporting around 80,000 micro-entrepreneurs by 2028.

Participants presenting sub-project progress at the second QPR meeting

TRAINING AND WORKSHOP

SMART PROJECT STRENGTHENS CAPACITY THROUGH TRAININGS AND WORKSHOPS

The SMART has undertaken a series of capacity development activities over the past six months to strengthen project implementation and field-level effectiveness.

As part of these efforts, seven batches of foundation training were conducted for 183 newly appointed staff members. To support field-level training for micro-entrepreneurs, three batches of Training of Trainers (ToT) on Climate Vulnerability and Environmental Management were also organized, with the participation of 40 Sub-Project Managers and Environment and RECP Officers.

272
PO staffs trained

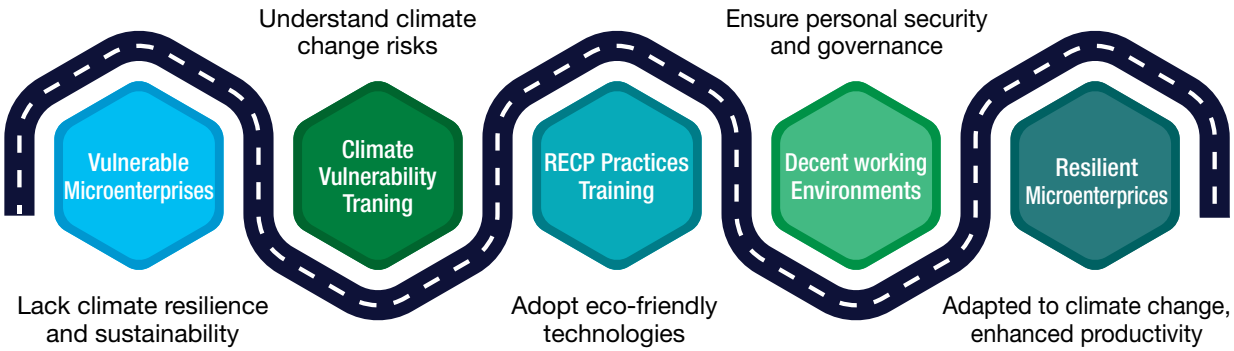
In addition, three batches of training on Financial Management, Audit, and Procurement were held, engaging 49 Sub-Project Managers and Finance and Accounts Officers.

These initiatives reflect SMART's continued focus on building institutional capacity to ensure effective, transparent, and sustainable project implementation.

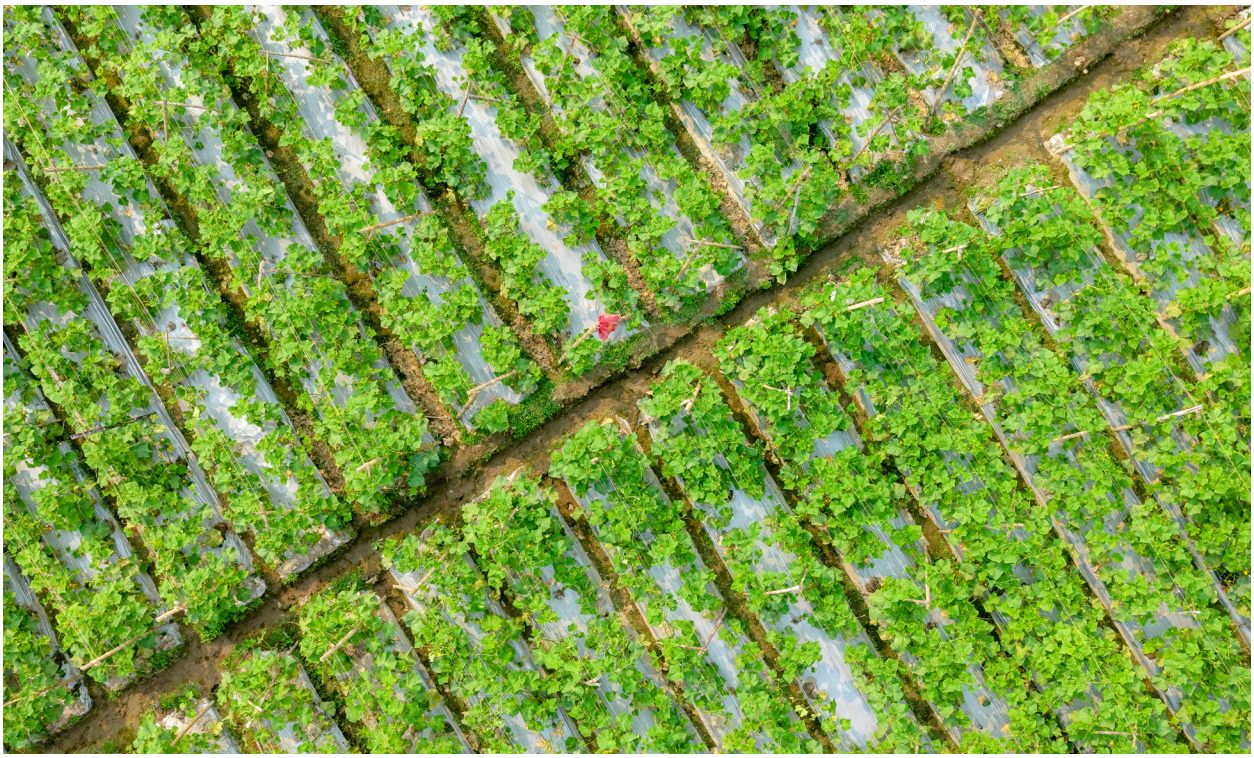
EMPOWERING ENTREPRENEURS FOR CLIMATE RESILIENCE

Between July and November 2025, the SMART project achieved a significant milestone by delivering comprehensive training to 16,805 participants, including 11,355 women, across 720 dedicated sessions. Central to this initiative was the specialized training of 12,148 entrepreneurs in climate vulnerability and Resource Efficient and Cleaner Production (RECP) practices. These sessions provided a holistic understanding of climate change risks and environmental management, empowering participants to adopt eco-friendly technologies and resource-saving production methods. Beyond technical skills, the training emphasized the creation of decent working environments, personal security during disasters, and essential governance frameworks such as grievance redress and safety management. By bridging the gap between traditional enterprise and sustainable growth, this initiative is fostering a resilient foundation for microenterprises across the country, ensuring they can adapt to a changing climate while enhancing their long-term productivity.

Training of micro-entrepreneurs on 'Climate Vulnerability, RECP and Environmental Management' at East West Learning Farm in Faridpur



RECP PRACTICES TRANSFORMED RUBEL'S VEGETABLE FARM FROM CONVENTIONAL TO SUSTAINABLE



On a crisp morning in Mostafabad, Md Rubel Hossain walks through his 148-decimal vegetable farm with the quiet confidence of someone who has discovered a better way of doing things. The 37-year-old farmer, who supports a family of five, has become something of a local pioneer in sustainable agriculture.

His journey toward Resource-Efficient and Cleaner Production (RECP) practices began with skepticism. "When GBK's workers first told me about RECP, I wasn't entirely convinced," Rubel admits, standing beside rows of thriving tomatoes and eggplants. "But I decided to try mulching, pheromone traps, color traps, and organic fertilizers in my vegetable cultivation. The result? My production costs have decreased, profits have increased, and many people in the area have now started growing vegetables using mulching and organic methods."

A shift in approach

Before embracing RECP practices, Rubel's farm operated like most conventional vegetable enterprises in the region. Chemical fertilizers and pesticides were liberally applied, water flowed freely through traditional irrigation channels, and yields hovered around 8-10 tons per hectare. Net profits barely crossed BDT 60,000-70,000 per hectare per season. It was marginal, with little scope for expansion or investment.

> **"I decided to try mulching, pheromone traps, color traps, and organic fertilizers in my vegetable cultivation. The result? My production costs have decreased, profits have increased, and many people in the area have now started growing vegetables using mulching and organic methods.**
>
> **- Md Rubel Hossain**
> Farmer, Mostafabad, Dinajpur

The turning point came in July 2025, when Rubel secured a loan of BDT 100,000 through Gram Bikash Kendra (GBK) and began implementing RECP techniques. The changes were methodical: organic fertilizers replaced excessive chemical inputs, mulching conserved precious water, and color traps and pheromone traps managed pests without the use of harsh pesticides.

Measurable impact

The transformation was faster than Rubel expected. Within a single cropping season, the numbers told a compelling story. Water consumption dropped by 25-30%, while chemical fertilizer and pesticide use decreased by 20-35%. But efficiency was not the only gain – crop yields actually increased to 11-13 tons per hectare, and the vegetables' improved quality commanded better market prices.

The financial impact was even more striking. Production costs fell by 15-20%, and net profits soared to approximately BDT 100,000-120,000 per hectare per season, which is a remarkable 40-60% increase compared to his baseline earnings.

"The soil health has improved significantly," Rubel explains, gesturing toward his integrated farming setup where five cattle provide both milk for his family and organic manure for his fields. "The vegetables have fewer chemical residues, which consumers appreciate. And I'm spending less on inputs while earning more."

Looking ahead

Rubel's influence extends beyond his own farm boundaries. His success with RECP practices has sparked interest throughout Mostafabad and surrounding areas, with neighboring farmers beginning to adopt similar methods.

His aspirations have grown alongside his profits. He envisions expanding his cultivated area, diversifying into off-season and value-added vegetables, and adopting digital platforms for better market information and input sourcing. His wish list includes improved irrigation systems like drip or sprinkler technology and post-harvest facilities for grading, sorting, and packaging.

"I want to strengthen my market linkages further," he says, "and explore certification and branding for RECP-grown vegetables. There's so much potential."

As the morning sun climbs higher, Rubel surveys his thriving farm – a patchwork of green vitality where sustainability and profitability have proven to be partners rather than competitors. His story offers a template for other smallholder farmers in Bangladesh: that environmental responsibility and economic success can flourish together.

Metric	Before RECP (Baseline)	After RECP Adoption
Average Yield	8–10 tons per hectare	11–13 tons per hectare
Water Usage	High conventional use	Reduced by 25–30%
Chemical Use	High reliance	Reduced by 20–35%
Net Profit	BDT 60,000–70,000	BDT 100,000–120,000

SNIPPETS FROM THE FIELD

SMART ENVIRONMENT CLUBS PROMOTE POLYTHENE WASTE MANAGEMENT IN BHOLA

A polythene waste management awareness campaign was organized in Bhola through the Environment Clubs of the SMART (Pisciculture) project implemented by Grameen Jano Unnayan Sangstha (GJUS). Held alongside monthly meetings of six Environment Clubs from 19–25 November 2025, the initiative engaged micro-entrepreneurs, teachers, students, and local community members. The event promoted responsible waste management through polythene collection activities, demonstrations of cloth bags as eco-friendly alternatives, and prize distribution. Participants actively took part in a polythene collection competition, expressing strong interest in continuing such initiatives to keep the environment clean and pollution-free.

SMART DAIRY SUB-PROJECT WINS TOP AWARD AT LIVESTOCK EXHIBITION IN TALA

As part of National Livestock Week 2025, a livestock exhibition was held on 26 November at the Tala Shilpakala Academy premises in Satkhira. The stall of the SMART sub-project “Promoting Resilient Green Growth in the Dairy Sub-sector through RECP”, implemented by Unnayan Prochesta, secured first place in the technology category. The exhibition featured a live demonstration of a modern, resource-efficient dairy farm showcasing clean production and smart technologies such as auto drinkers, solar-powered fans, foggers, biogas, and vermicomposting systems. The innovative display drew strong interest from visitors, who praised the project for demonstrating how modern technology can enable cost-effective, environment-friendly, and sustainable livestock farming.

SMART DAIRY ENTREPRENEURS JOIN THE EXPOSURE VISIT ON RECP PRACTICES IN MUNSHIGANJ

Society For Development Initiatives (SDI) organized an exposure visit for the micro-entrepreneurs of Sandwip on 23 November 2025 to observe the implementation of RECP practices under the SMART Dairy Cattle and Buffalo sub-project implemented by Resource Integration Center (RIC) in Munshiganj. A delegation of 11 members, including officials and entrepreneurs from the SDI-SMART project of Sandwip, visited farms supported by RIC in Srinagar and Louhajang upazilas. During the day-long field visit, participants observed modern dairy technologies such as biogas plants, solar panels, fogger machines, auto drinkers, insulation systems, vermicomposting, improved fodder cultivation, and dairy product processing units. The visit enabled entrepreneurs to gain practical insights into modern farm management and RECP implementation, which they described as essential for improving productivity, reducing costs, and strengthening skills for sustainable dairy farming in their own regions.

INTERNATIONAL AND NATIONAL DELEGATIONS VISIT ESDO'S ECO-FRIENDLY BLOCK FACTORIES

In 2025, the Eco Hollow and Solid Block Production Factory in Thakurgaon, operated under the SMART project by the Eco-Social Development Organization (ESDO), hosted several high-profile visits focused on eco-friendly construction materials.

On 12 August, a diverse international delegation – including representatives from Kenya, the Philippines, Somalia, Mexico, Pakistan, and Bangladesh, along with START Network officials – toured the facility. Led by ESDO's Founder and Executive Director Dr Mohammad Shahid Uz Zaman, the visitors observed the production of environment-friendly hollow and solid blocks. They highlighted the severe damage caused by traditional burnt clay bricks, which deplete fertile topsoil, reduce agricultural productivity, and increase pollution in agriculture-dependent Bangladesh. The delegates expressed strong support for promoting these alternative blocks to preserve soil, cut carbon emissions, and combat climate change.

On 3 September, Australian experts Dr Usha Iyer-Raniga (Professor of Sustainable Built Environment, RMIT University) and Mittul Vahanvati (Co-founder of Giant Grass) visited the same factory in Palton (Akcha), Thakurgaon. They echoed similar concerns about traditional brick production and praised the eco-blocks for their potential to advance sustainable development and environmental protection.

Later visits included officials from Bangladesh's SME Foundation on 29 September at the model Orange Concrete Block Factory in Boda, Panchagarh, and senior PKSF representatives from the SICIP program in Thakurgaon. These visits emphasized the project's role in fostering green industrialization, creating jobs, reducing unemployment, and lowering CO_2 emissions through resource-efficient production.

CCDA-SMART FISHERIES PROJECT AWARDED AT NATIONAL FISHERIES WEEK 2025

On 18 August 2025, during National Fisheries Week under the theme "Build Sanctuaries, Fill the Country with Native Fish," the CCDA-SMART fisheries project, implemented by Centre for Community Development Assistance (CCDA), received honors for contributions to fisheries entrepreneurship. Project representatives Masud Alam (Brahmanbaria), Mohammad Sakhaoyat Hossain Chowdhury (Habiganj), and Arun Kumar Sen (Cumilla), accepted plaques from local administrators and fisheries officers. Events in Brahmanbaria, Habiganj, and Cumilla (Daudkandi) included rallies, fingerling releases, discussions, and award ceremonies recognizing successful farmers and partners. The project promotes climate-resilient, resource-efficient, and eco-friendly fish production in Cumilla, Brahmanbaria, and Habiganj districts, advancing sustainable fisheries development.

AGROECOLOGICAL FARMING: CULTIVATING FOOD IN HARMONY WITH NATURE

Md Julfiker Rahman, Senior Program Manager, SMART Project, PKSF

Agroecological farming is a sustainable approach to agriculture that applies ecological principles to the design and management of food systems. It seeks to produce food in harmony with nature while enhancing farmers' livelihoods, community resilience, and environmental health. A key feature of agroecology is its holistic perspective; rather than focusing solely on yields, it considers the entire agroecosystem—soil, water, plants, animals, and people. It emphasizes biodiversity, recognizing that diverse crops and landscapes are more resilient to pests, diseases, and climate shocks. Furthermore, it relies on local knowledge and farmer innovation, blending traditional wisdom with scientific understanding to create context-specific solutions.

The SMART project actively promotes agroecological farming among farmers in the high-value crops sub-sector through various sub-projects dedicated to vegetables, fruits, flowers, and medicinal plants. While the core objective of the project is to help farmers adopt climate-resilient RECP practices, many of these interventions align perfectly with agroecological principles. Here is how the SMART project is laying the foundation for agroecological farming:

Building living soil

Healthy soil is the bedrock of agroecology. SMART farmers enrich the earth using vermicompost, trichocompost, mulching, and mechanical weeders, alongside composting crop residues to increase organic matter in the soil. By feeding the beneficial microorganisms in the soil, they unlock the natural nutrients plants need to thrive. Cover crops like mung bean and lentil are often interplanted with main crops to naturally balance nitrogen levels, while minimal tillage preserves the delicate soil structure and fungal networks essential for long-term soil health.

Diversity as a strategy

Unlike industrial monocultures, agroecological farms embrace variety. Crop rotation – growing different crops in sequence – breaks pest cycles and balances nutrient demands. For instance, mango growers cultivate mung bean, lentil, mustard, ginger, or turmeric in the same orchard, while pineapple growers intercrop with papaya, ginger, chili, and aram. Vegetable growers often plant cauliflower, cabbage, carrots, and coriander together, ensuring the most efficient use of land and resources.

Natural pest management

Rather than relying on synthetic pesticides, farmers utilize bio-

pesticides and Integrated Pest Management (IPM) systems, such as pheromone, color, and light traps. Some have adopted the "perching" method, installing bamboo poles as resting spots for insectivorous birds that naturally consume harmful insects. In fruit cultivation—specifically for mangoes, bananas, and dragon fruits—farmers use fruit bagging to protect their harvest from pests, ensuring the produce remains safe and healthy for consumption.

Water efficiency

The project introduces modern techniques to ensure every drop of water counts. This includes the use of drip and sprinkler irrigation, foggers in Gerbera flower sheds, and the use of hosepipes for transporting water to minimize the loss typically associated with open canals.

Climate resilience

A key intervention of the SMART project is the promotion of climate-smart and adaptive crop varieties suited to specific geographical regions. For example, the G-9 banana is a dwarf variety particularly resilient to cyclones. In the Barind tract, where water is scarce, the project encourages fruit cultivation over rice crops to conserve the local water table.

Agroecological farming produces nutritious food while healing the land. As climate change challenges conventional industrial agriculture, these time-tested yet innovative practices offer a pathway toward food systems that support both the community and the environment.

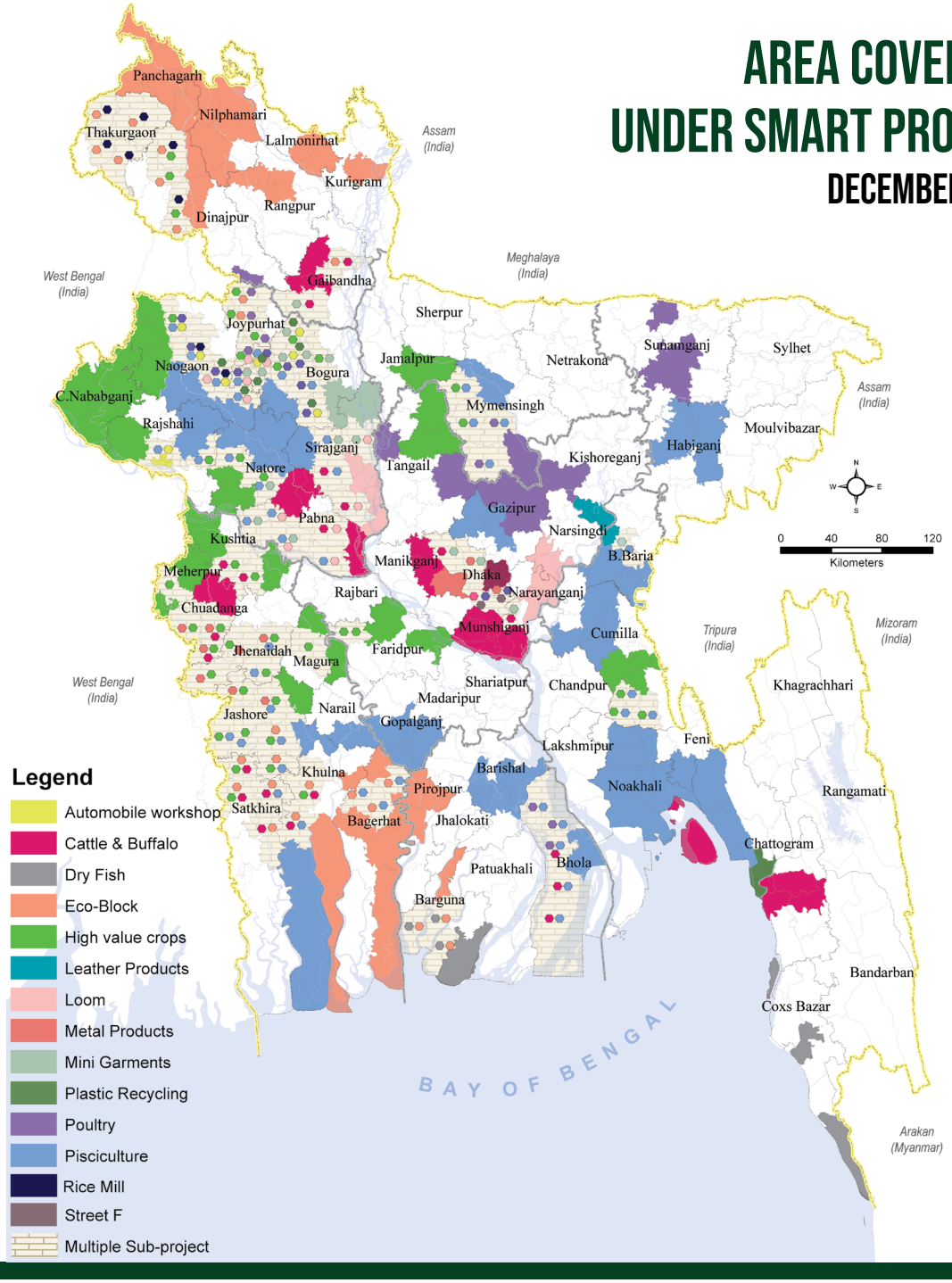
SUB-PROJECT PROFILES

Implementation of six sub-projects has begun in the field through six Partner Organizations over the last six months. The new sub-projects belong to six different sub-sectors. Here is the list:

Sl	Sub-project	Partner Organization	Sub-sector	Working District
1	Promotion of Value-added Fruits for Sustainable Growth and Instituting RECP Practices	Society Development Committee (SDC)	High-value Crops (Banana)	Faridpur and Magura
2	Promoting Eco-friendly Construction Materials through Resource-Efficient and Cleaner Production (RECP) Practices	Unnayan Prochesta	Eco-friendly Construction Materials	Shatkhira, Khulna, and Jashore
3	Promoting Sustainable Growth in the Plastic Recycling Sub-sector through RECP Practices	BEDO	Plastic Recycling	Bogura and Naogaon
4	Promoting Resilient Green Growth in Restaurants, Street & Bakery Food	Sajida Foundation	Restaurants, street and bakery Food	Dhaka
5	Promoting Sustainable Growth in Plastic Recycling Sub-sector through RECP Practices	Young Power in Social Action (YPSA)	Plastic recycle	Chattogram
6	Enhancement of Eco-friendly Native Fish Production and Marketing Capacity Development in Salinity-prone South-West Region of Bangladesh	Satkhira Unnayan Sangstha (SUS)	Pisciculture	Satkhira and Khulna

AREA COVERAGE UNDER SMART PROJECT

DECEMBER 2025



SMART INSIGHTS

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