



Leading The Next Harvest:

Women in Agriculture and Food Systems

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FOREWORD



Ranjana Khanna

Director General CEO
AMCHAM India

Agriculture remains central to India's economic growth, food security, and rural prosperity. As the sector evolves through innovation, digital transformation, and climate resilience, empowering women across the agricultural value chain is no longer an aspiration—it is a strategic imperative for building sustainable and inclusive food systems.

Women are indispensable contributors to agriculture, yet their potential remains underleveraged due to persistent barriers in access to land, technology, finance, markets, skills, and leadership opportunities. Unlocking this potential requires collective action. Industry, government, development organizations, academia, financial institutions, and farming communities must work together to create an enabling ecosystem in which women can participate meaningfully, exercise agency, build enterprises, access markets and technology, and shape decisions that affect their livelihoods and communities. Public-private partnerships will be particularly important in translating successful innovations and localized interventions into scalable and sustainable models.

It is with this vision the compendium 'Leading the Next Harvest: Women in Agriculture & Food Systems' brings together inspiring initiatives and best practices from AMCHAM's member companies and development partners that are advancing women's participation through climate-smart agriculture, sustainable farming practices, farmer capacity building, agricultural entrepreneurship, livelihood enhancement, water stewardship, nutrition security, and community leadership. These stories reflect the power of innovation, technology, and partnerships in delivering meaningful and measurable impact across rural India.

As we commemorate the United Nations International Year of the Woman Farmer 2026, this publication serves not only as a celebration of progress but also as a call to action. It underscores the importance of scaling successful models, fostering greater public-private collaboration, and accelerating investments that empower women to become leaders of agricultural transformation.



U.S. agri and food companies operating in India can play an important role in bringing technology, expertise, investment, and global best practices. AMCHAM remains committed to strengthening U.S.-India collaboration and advancing policies and partnerships that promote sustainable agricultural development, resilient value chains, and inclusive economic growth. We hope this compendium inspires continued dialogue, innovation, and collective action to build a future where women are recognized not only as the backbone of agriculture but as architects of a more resilient, prosperous, and food-secure world.

We extend our sincere appreciation to all contributing organizations for sharing their impactful initiatives and reaffirm our collective commitment to cultivating a stronger, more sustainable future for agriculture and food systems.

FOREWORD



Subroto Geed

President, Corteva Agriscience – South Asia
Chairman, Agriculture & Food Committee, AMCHAM India

Agriculture stands at the intersection of food security, economic prosperity, and environmental stewardship. As we navigate the challenges of climate change, resource constraints, and evolving food systems, empowering women is not only a matter of equity, but also essential to building resilient, productive, and sustainable agriculture.

As we celebrate the United Nations International Year of the Woman Farmer 2026, we recognize and honour the invaluable contributions of women who are driving innovation, strengthening rural livelihoods, and shaping the future of agriculture and food systems across the world.

This compendium, **Leading the Next Harvest: Women in Agriculture & Food Systems**, celebrates the remarkable contributions of organizations that are advancing women as innovators, entrepreneurs, leaders, and catalysts of change across India's agricultural value chain. Their initiatives demonstrate that investing in women accelerates farmer capacity building, strengthens livelihoods, promotes climate-smart and regenerative agriculture, enhances water stewardship, and advances food and nutrition security while contributing to broader ESG and rural development goals.

The diverse initiatives showcased in this compendium reflect a shared commitment to reimagining agriculture through innovation, inclusion, and collaboration. They exemplify how public-private partnerships and locally driven solutions can strengthen livelihoods, advance climate-smart agriculture, build resilient food systems, and unlock the full potential of women as catalysts for sustainable agricultural transformation.

This publication reflects the collective commitment of AMCHAM India and its member companies to champion innovation, partnership, and shared responsibility in shaping the future of agriculture. I hope the insights and best practices featured here inspire greater collaboration and encourage the scaling of impactful solutions that place women at the heart of agricultural transformation.

Together, we can cultivate a more inclusive, climate-resilient, and prosperous future for India's farmers, communities, and food systems.



A. Company Snapshot

- **Company:** Cargill
- **Industry Segment:** Food & Agriculture | Agribusiness | Food Processing | Food Ingredients | Animal Nutrition
- **Company Overview:** Cargill is a global company providing food, ingredients, agricultural solutions and industrial products to nourish the world. Cargill has been operating in India for four decades, supporting the country's food and agriculture ecosystem. Headquartered in Gurugram, India, the company has a pan-India manufacturing footprint with a strength of 4,500+ employees, besides operating a Food Innovation Center in Gurugram and a global capability center in Bengaluru.

As a responsible corporate citizen, Cargill is committed to advancing food and nutrition security, strengthening farmer livelihoods, and building resilient agricultural systems through responsible sourcing, and sustainable business practices. Operating across the food, agriculture, and animal nutrition value chains, the company works closely with farmers, government and non-governmental organizations, local communities, and ecosystem partners on programs and projects that improve food security, support equity and inclusion, strengthen farmer livelihoods, and advance our commitments in the areas of land use, water and climate.

Through its initiatives, Cargill empowers farming communities—particularly women farmers—with the knowledge, tools, and opportunities needed to enhance farm productivity, improve climate resilience, and create long-term livelihood opportunities. By placing women at the center of agricultural transformation, Cargill is helping build more inclusive, sustainable, and food-secure farming systems for the future.

B. Success Story / Case Study: Project Srishti: Empowering Women Farmers Through Regenerative Agriculture

Background

Women are the backbone of India's agricultural economy, contributing significantly to farm productivity, household nutrition, and rural livelihoods. Yet many women farmers continue to face barriers in accessing technical knowledge, climate-resilient farming solutions, and opportunities to participate in agricultural decision-making.

Recognizing both the challenge and the opportunity, **Project Srishti**, was launched by TechnoServe, supported by Cargill. It is our flagship regenerative agriculture initiative in India. Keeping women at the center of agricultural transformation, the program was designed to strengthen farmer livelihoods while restoring water resources and soil health to build climate resilience across Karnataka.

Project Srishti combines scale with inclusion. Implemented across five districts of **Karnataka—Vijayanagara, Haveri, Belagavi, Davanagere, and Chitradurga—the initiative is designed to support 10,000 farming households, bring 25,000 acres under regenerative agriculture, and contribute to the conservation and restoration of approximately 75 million liters of water.** Keeping equity

and inclusion in mind, the program aims that at least 50% of participating farmers are women, highlighting the fact that empowering women is fundamental to building resilient food systems in India.

The Challenge

- Farming communities are increasingly confronted with interconnected environmental and economic challenges. Rising cultivation costs, declining soil fertility, erratic weather patterns, and water stress are placing pressure on agricultural productivity and household incomes.
- For women farmers, these challenges are often compounded by limited access to agricultural training, sustainable farming technologies, and leadership opportunities. As a result, many women contribute significantly to farming activities without fully participating in decisions that influence farm productivity, profitability, and resilience.
- TechnoServe and Cargill recognized that addressing these challenges required more than introducing new farming practices. It required empowering women with knowledge, confidence, and practical solutions that could transform both farms and communities.
- The solution was not simply introducing new agricultural practices. It was creating an ecosystem where women could access knowledge, adopt innovation, improve decision-making, and become leaders of sustainable agricultural transformation.

The Solution

- Project Srishti was designed as an integrated model that combines regenerative agriculture, women-focused capacity building, climate-smart technologies, ecosystem partnerships, and evidence-based innovation.
- Through Farmer Field Schools, demonstration plots, technical advisory services, and convergence with government programs, women farmers receive practical, hands-on support to adopt sustainable agricultural practices and improve long-term farm resilience.

Key interventions include:

- Regenerative agriculture practices that improve soil health and reduce dependence on chemical inputs.
- Organic Kitchen Gardens that improve household nutrition and food security.
- Vermicomposting systems that convert agricultural waste into valuable organic manure.
- Azolla cultivation to enhance livestock productivity and reduce feed costs.
- Biodigesters that transform locally available resources into nutrient-rich organic fertilizers.
- Water-efficient irrigation systems that strengthen climate resilience.
- Digital advisory platforms providing weather information, technical guidance, and agricultural best practices.

Evidence-Based Innovation

A distinguishing feature of Project Srishti is its regenerative agriculture experimentation model. Through demonstration and trial plots established under real farming conditions, the program evaluates the agronomic, environmental, and economic performance of regenerative practices before scaling them.

This evidence-based approach enables Cargill and its implementation partner Technoserve to identify solutions that deliver measurable benefits while remaining practical for smallholder farmers. By combining experimentation, learning, and scale, Project Srishti is accelerating the adoption of regenerative agriculture in a way that is both farmer-centric and scientifically informed.

Shweta's Story: From Adopter to Advocate

The transformative potential of Project Srishti is reflected in the journey of Shweta, a farmer from Echagatta village in Davanagere district.

Cultivating five acres of land, Shweta joined the program in 2025 and began participating in Project Srishti's training sessions and field demonstrations. With guidance from the project team, she gradually adopted 13 regenerative agriculture practices across her farming system.

She introduced biological seed treatment, crop rotation, mixed cropping, border cropping, and natural nutrient and pest management practices that improved soil health and reduced dependence on purchased inputs. To strengthen household nutrition, she established a 500-square-foot Organic Kitchen Garden that now supplies vegetables for most of the year and has reduced household vegetable expenditure by approximately 50%.

Shweta also adopted vermicomposting and azolla cultivation, improving nutrient recycling and livestock productivity. To further enhance sustainability, she installed a 1,500-liter biodigester capable of producing approximately 45 liters of liquid organic fertilizer daily using locally available farm resources. Through project-supported government convergence, she additionally adopted a sprinkler irrigation system that improved water-use efficiency and climate resilience.

Today, Shweta represents the program's vision of transforming women from participants in agriculture into leaders of agricultural resilience. Her journey demonstrates that when women gain access to knowledge, technology, and support systems, they become powerful drivers of productivity, sustainability, and community change.



Impact & Measurable Outcomes

Shweta's experience demonstrates how regenerative agriculture can generate measurable improvements in productivity, profitability, and sustainability.

Impact Area	Measurable Outcome
Regenerative Agriculture Adoption	13 regenerative agriculture practices adopted
Cost of Cultivation	Reduced by approximately 21%
Farm Income	Increased by 28.7%
Maize Yield	Increased by 11%
Household Nutrition	Vegetable expenditure was reduced by approximately 50%
Chemical Input Dependency	Reduced by more than 70% through biological alternatives
Water Management	Improved through sprinkler irrigation adoption

Beyond Shweta's individual journey, Project Srishti has delivered measurable impact at scale across Karnataka.

To date:

- 6,891 women farmers have been trained in regenerative agriculture practices.
- Approximately 2,600 women farmers have adopted one or more regenerative agriculture interventions.

These results demonstrate that investing in women farmers can simultaneously enhance productivity, strengthen climate resilience, improve household well-being, and support sustainable agricultural development.

C. Innovation & Impact

Innovative Agriculture Projects Led by Women

- Project Srishti empowers women as leaders of agricultural innovation.
- Through the program initiatives, women are actively driving the adoption of Organic Kitchen Gardens, vermicomposting systems, azolla cultivation units, biodigesters, and integrated farming systems that connect crop production, livestock management, and organic nutrient generation.
- What makes these interventions particularly powerful is that they are practical, low-cost, and easily scalable. Women are not merely adopting these new agricultural practices; they are adapting them to local conditions, demonstrating their effectiveness, and encouraging wider community adoption.
- The program's practical learning with hands-on implementation approach enables women to evaluate, adapt, and scale regenerative practices that improve farm performance while reducing environmental impact.

Women's Contribution to Agricultural Productivity

- Women are central to the program's productivity outcomes.
- They actively prepare biological farm inputs, manage organic nutrient systems, maintain kitchen gardens, integrate livestock with crop production, and support the adoption of regenerative agriculture practices at the household level.

- The training of 6,891 women farmers and the adoption of regenerative interventions by approximately 2,600 women demonstrates their growing role as catalysts for agricultural productivity, knowledge sharing, and community-level transformation.
- As trusted members of their communities, women farmers are increasingly serving as knowledge ambassadors, accelerating adoption among neighbouring households and strengthening community-wide resilience.

Sustainability & Climate-Smart Agriculture

- Project Srishti integrates livelihood improvement with environmental stewardship.
- Women farmers are actively contributing to healthier soils, reduced dependence on chemical inputs, improved water-use efficiency, enhanced biodiversity, and stronger resilience to climate variability.
- The program's target of bringing 25,000 acres under regenerative agriculture and contributing to the conservation and restoration of approximately 75 million liters of water demonstrates its potential to create meaningful environmental impact at scale.
- By integrating regenerative agriculture with nutrition, water stewardship, and livelihood improvement, Project Srishti demonstrates that environmental sustainability and economic prosperity can advance together.

Technology Adoption & Digital Agriculture for Women

- Technology is a key enabler of Project Srishti's success.
- Women farmers are adopting biodigesters, sprinkler irrigation systems, vermicomposting units, azolla production systems, and other practical technologies that improve productivity and resource efficiency.
- Digital communication platforms further expand access to knowledge by providing weather advisories, farming guidance, training updates, and information on government programs. These digital tools improve decision-making, encourage peer learning, and accelerate the adoption of climate-smart agricultural practices.



Leadership Perspective

“The future of agriculture depends on unlocking the full potential of every farmer. By equipping women farmers with the knowledge, technology, and support they need to succeed, Project Srishti is improving productivity, strengthening climate resilience, and creating lasting value for farming communities.”

RAVINDER BALAIN

President, Cargill India
Vice President, Animal Nutrition & Health India

Conclusion

Project Srishti demonstrates that empowering women farmers is one of the most effective pathways to building resilient food systems, restoring natural resources, and strengthening rural prosperity. By combining evidence-based regenerative agriculture, climate-smart farming, technology adoption, sustainable resource management, and women-centered capacity building, Cargill and Technoserve have created a model that delivers measurable benefits for farmers, communities, and the environment.

As India advances towards a more resilient and sustainable agricultural future, Project Srishti demonstrates how women farmers can lead that transformation—strengthening livelihoods, advancing climate resilience, and contributing to a more food-secure future for all.



Source & Images: Farmer interviews, program monitoring data, and project implementation records.



A. Company Snapshot

- **Company:** Corteva Agriscience
- **Industry Segment:** Seeds, Crop Protection, Food Processing, AgTech, Biotechnology, Sustainability, etc.
- **Company Overview:** Corteva Agriscience is a global agriculture company dedicated to enriching the lives of those who produce and those who consume, ensuring progress for generations to come. Through its industry-leading seed and crop protection portfolio, digital solutions, and agronomic expertise, Corteva empowers farmers to improve productivity while advancing sustainable agricultural practices. In India, Corteva collaborates with farmers, governments, research institutions, civil society organizations, and value chain partners to strengthen agricultural resilience, enhance food security, and improve rural livelihoods. Guided by its purpose of enriching the lives of those who produce and those who consume, Corteva integrates environmental stewardship, social responsibility, and innovation into its business and community investment programs, creating lasting value for farming communities across the country.

B. Success Story / Case Study: Women in Agriculture Value Chain Initiatives

Name of the Initiative: 2MillionWomen in Ag

Location: 23 states and UTs across India, including key states Maharashtra, Karnataka, Telangana, Andhra Pradesh, Tamil Nadu, Uttar Pradesh, Bihar, Odisha, West Bengal, Assam, Rajasthan, Haryana, Punjab, Madhya Pradesh, Gujarat, Jharkhand

2MillionWomen Program: A Scalable, Inclusive, and Impact-driven Model

The 2MillionWomen program is a multi-layered intervention that spans **23 states** and is designed to create **long-term, systems-level change** in the lives of rural women. Its strategy focuses on three core pillars:



1. Strengthening Women-Led Collectives:

Despite contributing significantly to agriculture, many women farmers remain excluded from formal markets, access to finance, and decision-making. To help bridge this gap, Corteva has partnered with civil society organizations, agri-cooperatives, and NGO partners to strengthen over **79 women-led FPOs**. These FPOs are supported through capacity building, governance strengthening, business planning, and market linkage facilitation. Corteva also promotes value addition through processing facilities and sustainable crop diversification, enabling women farmers to build resilient, profitable enterprises.

2. Improving Livelihood Through Agri Education, Skilling & Entrepreneurship:

Women in rural India often have limited access to quality agricultural education, technical training, and entrepreneurship opportunities. To help unlock their potential, Corteva provides **scholarships and mentoring to over 1,250 women agri-graduates and postgraduates** from marginalized communities. More than **1,900 rural women entrepreneurs have been trained to establish micro-agri enterprises** such as silage production and management, seed grading, and nursery management. In addition, **over 100 women from farming families have been trained and licensed as drone pilots**, creating new livelihood opportunities while accelerating technology adoption in agriculture. These skilled entrepreneurs are not only becoming financially independent but are also inspiring others in their communities.

3. Health & Nutrition:

Women in rural India often delay or miss essential health check-ups because quality healthcare is not easily accessible and family responsibilities frequently take priority. Recognizing that healthy women are better able to support their families, livelihoods, and communities, Corteva has collaborated with partners such as Onestage and Wockhardt Foundation to operate Mobile Health Services across nine districts in seven states. Through these mobile units, women-centric awareness sessions and treatment camps on menstrual hygiene, nutrition, mental health, and women's health have reached **1.7 lakh+ women**. Additionally, Corteva supports improved maternal nutrition by providing nutritious meals to thousands of pregnant and lactating women through Anganwadis.

Key Focus Areas

- o Women Empowerment
- o Sustainable Agriculture
- o Climate-Smart Agriculture
- o Farmer Capacity Building
- o Livelihood Enhancement
- o Agricultural Entrepreneurship
- o Food and Nutrition Security
- o Water Stewardship
- o Community Leadership
- o ESG & Rural Development

Year of Implementation: 2024 – Ongoing

Challenges

Agriculture is the backbone of rural India, and women are at its heart. Women constitute nearly **63% of India's agricultural workforce** and contribute significantly across crop production, horticulture, livestock, fisheries, post-harvest management and household food security. Despite their central role, they continue to face systemic barriers that limit their productivity, income and decision-making power.

Some of the most critical challenges include:

- Women have disproportionately lower access to quality inputs, mechanization, extension services, financial services and modern agricultural technologies.
- FAO estimates that **equal access to productive resources could increase women's farm productivity by 20-30%, resulting in a 2.5-4% increase in total agricultural output.**
- Climate change has intensified production risks through erratic rainfall, water scarcity, pest outbreaks and declining soil health, disproportionately affecting women farmers who generally operate with fewer resources.
- Rural women also face significant challenges related to health, nutrition, financial literacy, entrepreneurship opportunities and representation in farmer institutions and markets.

Rather than addressing isolated issues, the initiative tackles interconnected barriers spanning livelihoods, education, entrepreneurship, health, leadership and institutional participation, enabling women to become farmers, agri-entrepreneurs, innovators and community leaders.

Solutions

- **Access to Resources and Training:** Corteva provides women farmers with training on sustainable farming, crop management, and financial literacy. This equips them with modern agricultural techniques and digital tools to enhance productivity and financial independence.
- **Access to Markets and Financing:** By establishing partnerships and advocating for better access to credit, Corteva facilitates pathways for women to secure fair prices, invest in their farms, and scale their operations.
- **Networking and Mentorship:** The campaign connects women through mentorship networks and forums where they can collaborate, share insights, and learn from experienced leaders and agribusiness experts.
- **Advocacy and Policy Influence:** Corteva champions gender-sensitive policies that promote land rights and resource access for women, aiming to reshape public perceptions and push for systemic reforms in agriculture.
- **Empowerment and Leadership Development:** Women are empowered to take on leadership roles within their communities, cooperatives, and agribusinesses. The campaign fosters their development into agripreneurs through capacity-building initiatives.
- **Sustainability and Climate Resilience:** Corteva trains women in climate-resilient farming practices, enabling them to adapt to environmental challenges and contribute to long-term food security.

Impact and measurable outcomes

Indicator	FY 2025–26 Impact
Total beneficiaries reached	7.5 lakhs +
Women farmers directly empowered	6.4 lakhs +
Farmers trained	90,000
Villages covered	4,200+
Districts covered	~300
States covered	23
Climate-smart agriculture demonstrations	2,200+
Acres/hectares under improved practices	Approx. 4 lakh acres
Women leaders/community champions developed	900+
Farmer groups/FPOs supported	79
Awareness sessions conducted	~5,400
Livelihoods strengthened	1.5+ lakhs
Water/resource conservation interventions	30% water conserved through DSR technique
Income enhancement/enterprise support	FPOs supported under the program achieved ₹107 crore yearly revenue till Q4 of FY26, with 67% YoY growth via strong contributions from both output marketing and input sales





C. Innovation & Impact

- **Innovative agriculture projects led by women**

The 2MillionWomen initiative fosters innovation by enabling women-led FPOs to move beyond traditional farming into value addition, enterprise development and new agri-business opportunities. Through technical training, market linkages and leadership development, women gain the confidence to adopt new ideas, experiment with local resources and build sustainable rural enterprises.

Sita Devi, from Rajasthan, championed innovative farming approaches by **turning a barren land into a pomegranate orchard**, including improved crop management, optimized input use and disease management. She further diversified farming systems by promoting vermicomposting to improve soil health and reduce dependence on chemical fertilizers, and **azolla cultivation** as a low-cost, nutrient-rich livestock feed. By demonstrating these innovations through the women-led FPO and farmer awareness sessions, she is encouraging other women to adopt sustainable, cost-effective practices that improve productivity, diversify incomes and strengthen farm resilience.

- **Contributions to agricultural productivity focused on women by women**

Through women-led FPOs, the initiative equips women farmers with access to quality inputs, modern agronomic practices, technical training and stronger market linkages. As women adopt improved farming methods and share their learnings with others, they become catalysts for higher productivity and resilient rural livelihoods.

Kavita Bai, a tribal farmer from Madhya Pradesh, transformed her village by mobilizing women to address one of agriculture's biggest challenges – water scarcity. She led community efforts to secure support for farm ponds, enabling irrigation and bringing previously unproductive land under cultivation. Through the women-led FPO, she championed improved maize



cultivation practices and collective marketing, helping women increase productivity, access fair markets and build more secure livelihoods. Today, she continues to inspire and mobilize other women farmers to adopt better agricultural practices.

- **Sustainability and climate-smart agriculture initiatives for women**

The initiative builds climate resilience by training women farmers in climate-smart agricultural practices, including efficient water management, integrated pest management and sustainable input use. Women then become champions of these practices, accelerating adoption within their communities.

Rani Devi from **Bihar** overcame social barriers to become a Community Resource Person, training fellow farmers on **Direct Seeded Rice (DSR)**, a climate-smart cultivation practice that reduces water use, labour and resource intensity. After successfully demonstrating DSR on her own farm, she improved her family's livelihood and gained the confidence and support to become a trusted advocate for sustainable farming. Today, she is helping more farmers adopt climate-resilient practices while inspiring women in her community to step into leadership roles.



- **Technology adoption and digital agriculture for women**

The initiative is expanding women's participation in modern agriculture by training and licensing women as **DGCA-certified drone pilots**, equipping them with digital and technical skills that create entrepreneurship opportunities while supporting precision agriculture.

Shaik Vaseema, from Andhra Pradesh, became a **DGCA-certified drone pilot** after completing the program. She now operates her own agricultural drone spraying service, helping farmers apply fertilizers and crop protection products more efficiently, reducing labour requirements and chemical exposure while encouraging more young women to enter agri-technology.



Leadership Voice

“When women move from participation to leadership, agriculture grows stronger. Through the #2MillionWomen in ag program, Corteva Agriscience is enabling women to become leaders, innovators and entrepreneurs across India's agricultural value chain by strengthening access to skills, technology, markets and women-led institutions, creating more resilient farms and communities.”

SUBROTO GEED
President, APAC

Digital Green

India



Corporate Social
Responsibility

Company Snapshot

- **Company:** Digital Green India
 - **Industry Segment:** (Seeds, Crop Protection, Food Processing, AgTech, Biotechnology, Sustainability, etc.): AgTech
 - **Company Overview:** Digital Green India is a social impact organization working at the intersection of agriculture, technology and livelihoods to empower smallholder farmers, particularly women, and strengthen resilient farmer ecosystems. Founded in 2008 out of Microsoft Research Lab, it pioneered a farmer-to-farmer video approach that transformed agricultural advisory. Over 18 years, it has partnered with governments, civil society and the private sector to reach over 6.5 million farmers (nearly 50% women) across nine states through multi-channel advisory and various interventions. It now advances an AI-enabled, demand-led extension model through FarmerChat, a multilingual, voice-first assistant. Since its October 2024 launch, FarmerChat has crossed 1 million users in India, with 60% acting on its recommendations.
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- **Company:** Cisco India
- **Industry Segment:** (Seeds, Crop Protection, Food Processing, AgTech, Biotechnology, Sustainability, etc.): Information Technology (IT)
- **Company Overview:** Cisco Systems India Private Limited operates as an affiliate of the global parent company, Cisco Systems Inc., supporting Cisco's mission to connect, secure and automate networks for a cloud-first world, enabling organizations to innovate and thrive in a digitally connected environment. The company specializes in network security, collaboration solutions, and the Internet of Things (IoT), driving digital transformation across various industries. Cisco's product portfolio includes networking solutions such as routers and switches, security products like firewalls and VPNs and collaboration tools including Webex. Additionally, Cisco offers data center solutions, IoT platforms, enterprise networking, service provider technologies and diverse software solutions. Beyond products, Cisco provides technical support, consulting and managed services to optimize business operations and accelerate digital transformation.



Boosting Small-Scale Farmers' Incomes with AI-Enabled Advisory, FarmerChat, in Andhra Pradesh

A Digital Green India × Cisco India Initiative

Across rural India, women do most of the work in the fields but have long stood at the back of the queue for the knowledge that makes that work pay. Women make up over 42% of India's agricultural workforce (PLFS 2023-24), yet only about 14% are operational holders of land (Agriculture Census, 2015-16) — they plant, weed, irrigate, and harvest while owning little of what they farm and receiving the least support to farm it well. While the benchmark ratio is one extension agent per thousand farmers, severely overburdened systems often stretch a single worker across many times that number—making it difficult to reach women, especially when information is traditionally routed through male heads of household. When a pest appears, or the weather turns, the woman making the day-to-day farm decisions is often the last to get reliable advice.

The cost of that gap is not only hers. The FAO estimates that a 24% productivity gap separates women- and men-managed farms of the same size — and that closing the gender gap in farm productivity and wages would add nearly USD 1 trillion to global GDP and lift 45 million people out of food insecurity (FAO, The Status of Women in Agrifood Systems, 2023). It is precisely this logic that led the United Nations to declare 2026 the International Year of the Woman Farmer.

Few states illustrate both the stakes and the opportunity as sharply as Andhra Pradesh. Agriculture and allied activities make up about 35% of the state's economy and support 60% of its population (AP Socio-Economic Survey 2024-25) — and women are central to it. Andhra Pradesh has the highest share of women-operated agricultural holdings of any Indian state, at 12.6% of the national total (Agriculture Census 2015-16).

Historically, the knowledge to farm well has been the hardest thing for these women to reach. Overburdened extension systems tend to reach men first, and text-heavy digital tools exclude many women farmers, whose literacy in the state stands at around 67%, against 77% for men (AP Socio-Economic Survey 2024-25). But that is beginning to change — and fast. Women's access to smartphones and the internet is rising sharply: nationally, mobile phone ownership among women has climbed from 54 to 64% in recent years, and in Andhra Pradesh, women's internet use has nearly tripled, from 21% to almost 64% (NFHS-6, 2023-24). For the first time, the device is in her hand — and the question is no longer whether advice can reach her, but how well it speaks her language. That is precisely the gap a voice-first, image-based assistant is built to close: turning a rising tide of connectivity into knowledge a woman can actually use, whether or not she can read.

The partnership, and what it sets out to achieve

Digital Green India, a social-impact organization spun out of Microsoft Research Lab in 2008, is working to close that gap. The AI-powered platform **FarmerChat** it deploys, delivers hyperlocal, climate-smart guidance directly to a farmer's phone — by voice, photo, or text, in her own language. Designed for real-world constraints of low literacy and time-sensitive decisions, its voice-first interface serves farmers who cannot easily read, and its photo-based diagnosis turns a smartphone camera into an instant crop-health check. In effect, it puts an on-demand agronomist in the hands of a woman with a basic smartphone — answering in seconds what the traditional extension chain might take days to resolve.

Through *Boosting small-scale farmers' incomes with AI-Enabled Advisory*, a partnership with **Cisco India's Corporate Social Responsibility** and the **Department of Horticulture, Government of Andhra Pradesh**, Digital Green is putting that capability to work across the state. The project supports 50,000 smallholder farmers — **at least 60% of them women** — by training 300 frontline extension workers to carry climate-smart, gender-intentional advice into the field, and reaching farmers directly through digital channels. The targets are clear: help at least 25% of farmers shift to improved climate-smart practices within the first year, and within three years, help 30% of active farmers realise a 20% rise in household incomes. Throughout, the design is deliberate about reaching the women who form the backbone of the rural workforce but are the hardest for conventional extension to serve — moving them from crisis management, waiting for a field visit to diagnose a problem, to planning with confidence.

For Cisco, the initiative embodies its mission of powering an Inclusive Future for all by ensuring that AI delivers impact where it matters most—at the grassroots. Its true value lies not in the technology itself, but in empowering women farmers to make informed decisions by transforming complex data into practical, trusted guidance they can confidently apply in their daily lives. For Digital Green, it is a way of ensuring that AI becomes an equalizer rather than a divider, pairing the trusted reach of public systems with a farmer-centered, multilingual AI built for India's diversity.

Confidence, cultivated: Manjula's story

In Diguwapalli, in Andhra Pradesh's Sri Satya Sai district, Y. Manjula manages three acres of mango orchard interplanted with vegetables. A widow raising two young daughters, she relies entirely on the farm. When she first set up her orchard, the uncertainty weighed on her — shifting weather during the critical flowering stage, pests to control without chemicals, and young trees and intercrops to nourish well enough to earn a steady income.

Introduced to FarmerChat by Digital Green and trained through hands-on sessions, Manjula turned the app into what she calls her “daily farm companion.” Timely weather alerts let her plan irrigation around the crop's most vulnerable moments. When pests appeared, FarmerChat walked her through integrated pest management — sticky traps, biological sprays, regular monitoring — and guided the nutrition of both her trees and her vegetables.

The advice protected her first mango harvest. Alongside it, the eighteen vegetable varieties she grew between the trees earned her an additional USD 260 approx., while home-made natural inputs suggested by the app kept her costs down.





“ For me, FarmerChat is not just an app — it became my daily farm companion. It gave me the right information at the right time and made farming practical, affordable, and profitable for me.”

Y. MANJULA
Andhra Pradesh

Taking charge: Lakshmi Devi's story

In Narasapuram, in the drought-prone Anantapur district of Andhra Pradesh, Lakshmi Devi, 38, farms 4.5 acres with her husband, dedicating 3.5 acres to sweet lime (mosambi), the family's main commercial crop. In a region of high heat and unpredictable rain, sunburn damage can erode both fruit quality and price — so every irrigation and spraying decision carries weight.

Since being introduced to FarmerChat by Digital Green and trained on its use, Lakshmi and her family consult the app's weather forecast daily before planning any farm activity. When the chance of rain runs high, they hold off on irrigation, conserving water where it is scarce; they spray only when rain is unlikely, so nothing is washed away and wasted. The water they save now goes to thirstier crops — stretching a scarce resource further across the farm. Moving from delayed, in-person extension to advice tailored to her own field has made her an active decision-maker on her family's most important crop.





“FarmerChat has become an important part of our daily farming routine. The weather updates help us make the right decisions at the right time, saving both water and cultivation costs.”

LAKSHMI DEVI
Andhra Pradesh

The next harvest

Manjula and Lakshmi are two among a growing community of women no longer waiting for knowledge to reach them — they are reaching for it themselves, in their own language, on their own schedule. Multiplied across the 50,000 farmers this partnership supports, that shift points to its larger goal: not just higher yields on individual plots, but a measurable lift in incomes, wider adoption of climate-smart practices, and women farmers equipped to plan with confidence in a volatile climate.

That ambition depends on partnership. Cisco India's support is helping Digital Green extend FarmerChat to more women farmers across Andhra Pradesh — harnessing technology and purpose to unlock new possibilities for both farmers and the food systems they nourish. As the world observes the International Year of the Woman Farmer, the work underway in Andhra Pradesh offers a working model for what inclusive, technology-enabled agriculture can look like — built through partnership between organisations that share a common goal.



MARS SNACKING

A. Company Snapshot

- **Company:** Mars Snacking
- **Industry Segment:** FMCG
- **Company Overview:** Mars, Incorporated is driven by the belief that the world we want tomorrow starts with how we do business today. Based on combined Mars and Kellanova 2025 net sales, we are now a \$65bn+ family-owned business, with a diverse portfolio of quality snacking and food products that delight millions of people every day, and leading pet care products and veterinary services that support pets all around the world. We produce some of the world's best-loved brands including ROYAL CANIN®, PEDIGREE®, WHISKAS®, CESAR®, M&M'S®, SNICKERS®, EXTRA®, Pringles®, Cheez-It®, and BEN'S ORIGINAL™. Our international networks of pet hospitals, including BANFIELD™, BLUEPEARL™, VCA™ and ANICURA™ span preventive, general, specialty, and emergency veterinary care, and our global veterinary diagnostics business ANTECH® offers breakthrough capabilities in pet diagnostics. The Mars Five Principles — Quality, Responsibility, Mutuality, Efficiency and Freedom — inspire our approximately 170,000 Associates to act every day to help create a better world for people, pets and the planet.

B. Success Story / Case Study: Women in Agriculture Value Chain Initiatives

Two stories. One shared ambition: enabling women to thrive.

Mars Snacking India is committed to creating opportunities that help women build stronger livelihoods, greater confidence and a more sustainable future. The two stories below showcase this ambition in action from empowering women farmers to build resilient incomes and enterprises, to creating pathways for women to participate and lead in the evolving food and agriculture ecosystem. Together, they demonstrate how purposeful partnerships, capability building and access to opportunity can translate into measurable economic and social impact on the ground.

Story 1

Shubh Mint - Empowering women farmers to build sustainable livelihoods and stronger futures.

Shubh Mint is Mars' flagship multi-stakeholder livelihoods program, designed to help mint-farming households in Uttar Pradesh achieve a living income. At its heart is the belief that when women have the confidence, skills, and financial means to participate in household and farming decisions, entire communities become more resilient. Through 395 women-led Self-Help Groups (SHGs), Shubh is helping women build financial independence, strengthen their voice in decision-making and create sustainable livelihoods of their own.

Challenges

For many women, marriage means moving to a new village where they have few social or economic connections. Combined with restricted mobility, limited financial literacy and little access to formal credit, these barriers often exclude women from economic opportunities despite their ambition and potential.

How Shubh made a difference

Shubh program's SHGs have opened a pathway to economic independence for thousands of women. Here are two stories that illustrate what that pathway looks like in practice.

- Soni, from Andkha village in Barabanki district, built a thriving microenterprise through the Maa Durga Kisan Samuh SHG. After years of consistent saving and participation since 2017, she opened a flour mill in May 2026 with an investment of ₹80,000, including a ₹26,500 loan she took from her SHG. The mill now generates ₹8,000-₹10,000 in monthly income, strengthening her family's financial security and raising her standing in the community. "Once a woman starts believing in herself, every challenge begins to feel easier," says Soni.
- Shilpa lives in the mint-farming village of Gomti Kheda with her husband and three children. She joined the Shivam SHG in 2021 and took a ₹50,000 loan to open a cosmetics shop, which ultimately did not succeed. Rather than abandoning entrepreneurship after her first business failed, she applied lessons from Shubh's farming-as-a-business training and turned to something she already knew: dairy. She borrowed from her SHG ₹10,000 to buy two calves, then ₹50,000 for a third, and built her herd from there. Today she owns twelve cows and runs the dairy independently, earning ₹60,000-₹70,000 a month, which is enough to fund her daughter's college studies and preparation for government service exams. "My family always cared for me, but after I started contributing financially, they became more respectful. It gave me confidence," says Shilpa.

Impact at Scale

The program's impact demonstrates that these are not isolated success stories, but part of a broader shift in women's economic participation:

- **4,500+** women actively save and borrow through 395 SHGs
- **₹24.1 million** mobilized in group savings
- **₹43 million** awarded from state government for lending, maintaining a revolving corpus of **₹91.3 million**
- **25,860** loans worth **₹190.7 million** accessed by women who previously had little or no access to formal finance
- **1,200+** women and young household members now operate their own income-generating enterprises

Beyond increasing household incomes, the program has strengthened financial resilience, expanded women's decision-making power and created new opportunities for the next generation through greater investment in education, health, and livelihoods.

From individual empowerment to collective enterprise

The program's most significant innovation has been creating a pathway from individual empowerment to collective enterprise. Established in 2018, the Zaidpur Swabhimaan Mahila Farmer Producer Company (FPC) is a fully women-owned and women-led business with 814 shareholder members. Today, the two input-retail shops owned by the company supplies agricultural inputs, procures crude mint oil into Mars' supply chain and generated more than ₹10 crore in revenue during FY 2025-26.

Contributions to agricultural productivity, focused on women, by women

More than 8,500 women have received Good Agricultural Practice (GAP) training for mint cultivation through the program. An independent 2024 evaluation found that farmers participating in the program achieved average mint oil yields of 58kg per acre compared with 42kg among control households, a 38% productivity improvement.

Sustainability and climate-smart agriculture initiatives for women

The program integrates climate-smart agriculture into GAP training, helping 8,500+ women reduce production costs while improving productivity. Farmers adopt lower-cost fertilizer regimes, optimize application rates and improve irrigation efficiency through better field channelling and water management practices. These interventions reduce input costs without compromising yields, making adoption economically attractive.

Technology adoption and digital agriculture for women

More than 1,000 women also receive tailored agronomic advice through a WhatsApp Enterprise platform, delivering timely text and video guidance throughout the growing season. Digital extension has improved access to knowledge while reducing the time and cost of accessing advisory services.

Together, these interventions create a complete pathway for women's economic empowerment, from building confidence and financial inclusion to improving agricultural productivity, adopting climate-smart practices and ultimately leading successful farmer-owned enterprises integrated into global value chains.





Story 2

Corn Farming Project – Seed-to-Mouth

Improving farmer livelihoods through sustainable maize cultivation

India is one of the world's largest producers of maize, yet the productivity of its farms continues to lag significantly behind global averages. While the global average maize yield stands at approximately 5.81 tonnes per hectare, India's average yield remains around 3.07 tonnes per hectare, highlighting a substantial opportunity to improve both productivity and farmer incomes.

Recognizing this opportunity, the Corn Farming Project was launched in partnership with Sambhav Foundation in Sangli, Maharashtra, with the objective of strengthening the livelihoods of smallholder farmers through scientific farming practices, capacity building, and improved market access. Sangli presents a favourable ecosystem for maize cultivation, with fertile black soils, reliable irrigation from the Krishna, Warna and Yerla rivers, and an established agricultural economy. However, despite these natural advantages, maize has traditionally remained a secondary crop, with limited adoption of modern cultivation techniques and inadequate awareness of its commercial potential.

The project adopts a holistic approach that goes beyond improving crop yields. It focuses on building farmer capabilities, promoting sustainable agricultural practices, strengthening linkages with government schemes, improving post-harvest management, and creating stronger market connections to ensure long-term livelihood improvement.

Challenges

The project primarily works with small and marginal farmers, more than 80% of whom cultivate less than two hectares of land. These farmers often face multiple constraints that limit both productivity and profitability.

One of the biggest challenges is the continued reliance on traditional farming practices. Farmers often use low-quality seeds, fertilizers and crop protection inputs, resulting in inconsistent yields

and lower-quality produce. Scientific crop management practices such as soil testing, nutrient management and systematic cultivation are not widely adopted, reducing the overall productivity of maize farms.

Post-harvest management also remains a significant challenge. Limited awareness around scientific drying, storage and quality preservation often leads to quality deterioration, forcing much of the produce into lower-value feed instead of higher-value commercial applications. Weak market linkages further restrict farmers' ability to realize better prices for their produce.

In addition, many farmers have limited awareness of government agricultural schemes and social security programs that could improve their resilience and reduce production risks. This lack of institutional connectivity often prevents them from accessing financial assistance, crop insurance and other important support systems.

Solutions

The project addresses these challenges through an integrated capacity-building and farmer support model designed to improve productivity while creating a more sustainable agricultural ecosystem.

During the first year, the initiative partnered with 700 farmers across five villages, introducing a scientific Package of Practices (POP) developed in collaboration with Krishi Vigyan Kendra (KVK). Farmers received access to quality agricultural inputs along with regular field support throughout the crop cycle. Continuous cultivation monitoring, farm diary pilots and soil testing enabled farmers to make more informed decisions while improving overall farm management.

Building on the success of year one, the project expanded its ambition in year two by increasing its reach to 1,000 farmers while concentrating efforts entirely within Sangli to create deeper impact. The program focused on educating farmers across both the Zaid and Kharif crop cycles, covering scientific sowing practices, harvesting, drying, storage and quality management. A stronger emphasis was also placed on connecting farmers with government initiatives such as Agri Stack IDs, crop insurance and other agricultural support schemes. Initial efforts were also made to establish direct market linkages with millers to improve commercial outcomes.



Farmer engagement remained central to the program. Regular field demonstrations, knowledge-sharing sessions and community events encouraged peer learning and strengthened adoption of improved practices. Farmer Day celebrations brought together more than 500 farmers and their families, recognizing high-performing farmers, lead farmers and field teams who played an important role in driving behavioural change across participating villages.

Empowering Women Farmers

The project has also encouraged greater participation of women in maize cultivation. During year one, approximately 100–120 women farmers were engaged through scientific farming training, field demonstrations and awareness programs. This helped strengthen their knowledge of improved cultivation practices and ensured that women were meaningfully included in the project's efforts to improve farm productivity and livelihoods.



Impact and Measurable Outcomes

The project has already demonstrated measurable improvements in agricultural productivity and farmer livelihoods.

The most significant achievement during the first year was an average yield improvement of approximately 15% across participating farmers and villages. Nearly 30% of participating farmers recorded yield improvements exceeding 20%, demonstrating the effectiveness of scientific farming practices when consistently implemented.

Beyond production gains, farmer testimonials highlighted improvements in cultivation practices, better crop management and increased incomes resulting from higher productivity. The introduction of quality inputs, regular technical guidance and scientific monitoring helped farmers adopt practices that are likely to deliver long-term benefits beyond the project period.

The program has also contributed to building stronger farmer communities. The recognition of lead farmers has encouraged peer-to-peer learning, creating local champions who can support wider adoption of scientific agriculture within their communities. The expansion from 700 to 1,000 farmers further reflects growing confidence and participation in the program.

The Corn Farming Project demonstrates how a comprehensive, farmer-centric approach can create sustainable improvements in agricultural productivity and rural livelihoods. Rather than focusing solely on yield enhancement, the initiative addresses the entire agricultural value chain—from scientific cultivation and quality inputs to post-harvest management, market access, digital enablement and institutional linkages.

By combining technical expertise with grassroots engagement and long-term capacity building, the project is helping transform maize cultivation from a low-priority subsidiary crop into a more profitable and sustainable livelihood opportunity. As the program evolves, its focus on sustainable farming, farmer institutions and market integration positions it as a scalable model for strengthening agricultural resilience while improving incomes for smallholder farmers across India.

Few glimpses from the ground:



“The future of India’s food system will be stronger when the people who grow our food are stronger too. At Mars Snacking, we believe sustainable growth is growth that creates opportunity for everyone. Through Shubh and Seed to Mouth programs, we’ve seen that when women are empowered with the confidence, capabilities and opportunities to lead, the impact extends far beyond farms – strengthening families, transforming communities, and building more resilient agricultural value chains for the future. Our ambition is to build on these models and help create a more inclusive, productive and future-ready food system for India.”

PRASHANT PERES
GM, Mars Snacking India



A. Company Snapshot

- **Company:** Mosaic India Private Limited
- **Industry Segment:** Crop Nutrition/Agricultural Inputs
- **Company Overview:** A Fortune 500 company, headquartered in the USA, The Mosaic Company is the world's largest combined producer of concentrated phosphate and potash, two of the most used fertilizers needed in the agriculture industry, with a production capacity touching 27 million tons. Mosaic India, a subsidiary of The Mosaic Company, is a trusted leader in the phosphate and potash industry. Known for delivering premium-quality phosphate (Mosaic DAP) and potash (Mosaic MOP) products, we are the only fully integrated mine-to-market supplier of DAP and MOP in India. Mosaic India carries that mission into practice, partnering with best-in-class organizations whose programs create impact across food, water, and community development - supporting agricultural development, research and education, and hunger relief in communities worldwide.

B. Success Story / Case Study: Women in Agriculture Value Chain Initiatives

Project Krishi Jyoti, supported by Mosaic India Private Limited and implemented by S M Sehgal Foundation, was designed to improve farm productivity, strengthen natural resource management, and enhance the livelihoods of smallholder farmers across rural communities. A central pillar of the project was enabling women to move beyond their traditional role as unpaid farm labor and become active participants in the agricultural value chain, as producers, decision-makers, and entrepreneurs.

Across the project villages, women's contribution to agriculture was constant but narrowly bounded: sowing, weeding, harvesting, and post-harvest work, with little independent income and no real say in household financial decisions. Vegetables were bought from the market whenever cash allowed, straining tight budgets, while the handful of plants grown around the house went in without planning or training, and with no expectation they could reliably feed a family or generate income. Turning that afterthought into a managed, productive plot was the starting point for the project's kitchen garden work.



Kitchen / Nutri Gardens

Besides enhancing total farm produce, Krishi Jyoti also works to improve family nutrition by supporting kitchen gardens in rural households. Malnutrition and under-nourishment remain a concern in rural India, especially among small and marginal farmer families, and improving household food security with balanced, accessible foods can counteract nutritional vulnerability. Because women are typically responsible for cooking and household food management, the project's kitchen garden work is deliberately built around them: giving women direct control over what is grown and cooked strengthens their role in household decisions around nutrition and health, not just their labor in the field. The project promotes kitchen gardens to diversify food choices and save money otherwise spent on market-purchased vegetables, training farmer families, particularly women, through hands-on demonstrations.

From Subsistence to Enterprise: Sonpati Devi's Kitchen Garden Journey

Hashimpur village, Bahariya block, Prayagraj district, Uttar Pradesh

For years, Sonpati Devi fed a family of seven, herself and five children among them, on income patched together from a small landholding and irregular wage work. Vegetables were bought in small quantities whenever cash allowed, often the first expense cut when money ran short. Like many women in Krishi Jyoti villages, Sonpati had little independent income and limited say over how the household's land and money were used, decisions that, in most families, rested with the men. A handful of plants around the house supplied vegetables occasionally, but never as a planned source of food or income.

When the project brought its kitchen garden training to Hashimpur, Sonpati took part, learning seasonal crop planning, seed selection, organic cultivation, and soil health, skills that turned an unplanned patch of vegetables into a managed, productive plot. Some neighbors were skeptical, as they were in many project villages, that a home garden was worth the effort compared to buying from the market. Sonpati continued regardless.

The impact on her household budget was immediate: within the first season, she no longer needed to buy vegetables at all, saving an estimated ₹2,000 to ₹3,000 every month. Fresh, chemical-free vegetables grown steps from her kitchen door replaced the smaller, less varied quantities the family had previously afforded, and her livestock benefited too, from surplus fodder and greens, lowering veterinary costs and improving milk yield.

The turning point came when Sonpati began selling surplus produce. In the first year, sales brought in ₹15,000, money she had never earned independently before, and hers to decide how to use. Rather than treat this as a one-off, she leased an additional 0.62 acres and, applying the same training, converted her kitchen garden into a semi-commercial vegetable operation.

That decision carried real risk: leasing land meant committing to rent before knowing whether a larger, market-facing planting would succeed, and required a different order of planning, staggering crops for year-round harvest, managing irrigation and pests across a bigger area, and finding buyers for volume rather than a home garden's small surplus. Sonpati kept applying her training and reinvested part of her early earnings into farm machinery, cutting cultivation costs and improving her soil further.

Within a year, the results were striking. Sonpati earned a profit of ₹1.4 lakhs from the 0.62 acres she had leased, placing her among the project's most successful kitchen garden beneficiaries, and marking her shift from subsistence gardener to small commercial vegetable farmer. The income funded higher education for all five of her children and let the family absorb medical costs that would once have been a financial crisis.



“Health has improved, our diet is better, and our lifestyle has completely transformed.”
- Sonpati Devi, Hashimpur village, Prayagraj district

Sonpati's experience is not an isolated case. Mosaic India Private Limited Kitchen Garden Initiative: Key Findings study, based on a survey of 700 women over one season, found that households produce an average of 225 kg of vegetables per season, of which roughly 80% is consumed at home and 20% sold, contributing an additional 127 Kcal to women's daily diets and an average of ₹380 in monthly income from surplus sales. Sonpati's profit sits well above that average, but it began the same way every other participant's did: with seeds, training, and a plot no bigger than the space beside her home.

Her journey illustrates why a kitchen garden intervention is not simply a nutrition program. It started as a way to put more vegetables on the family's plate; it became an independent income stream, a lever for financial decision-making within the household, and, through her children's education, a multi-generational investment. Sonpati's path, from a few unplanned plants to a leased, income-generating vegetable farm, shows what becomes possible when women are given not just seeds, but training and the standing to treat a kitchen garden as the first step toward a larger agricultural enterprise.

C. Innovation & Impact

Beyond the kitchen garden work detailed above, Project Krishi Jyoti has generated other examples of women moving into productive, decision-making roles across the agricultural value chain:

- **Custom Hiring Center, Sobalgaon, Maharashtra** - a women's savings group now collectively owns a tractor and reaper, cutting machinery rental costs by ₹4-5 lakhs annually and creating a new income stream; members manage accounts and negotiate rentals themselves.
- **Farm mechanization, Aurangabad** - 13 manual multi-seeders distributed specifically to women farmers across 10 villages to reduce labor burden and improve sowing precision.
- **Climate-smart seed, Prayagraj and Rewa** - biofortified, disease- and climate-tolerant wheat seed (DBW-187) distributed to women farmers alongside kitchen garden training.

D. Impact at a Glance

Source: S M Sehgal Foundation, "Kitchen Garden Initiative: Key Findings" (based on a survey of 700 women over a season)

Kitchen Gardens: Nutrition and Income Impact for Women Farmers

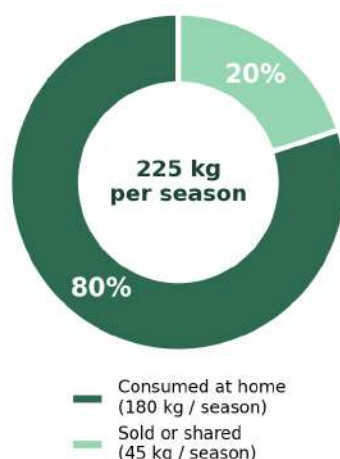
S M Sehgal Foundation — Krishi Jyoti Project, Kitchen Garden Initiative



*ICMR daily caloric requirement guideline for rural women: 2,400 Kcal. Source: S M Sehgal Foundation, "Kitchen Garden Initiative: Key Findings" (700-women survey, one season)

Where the Harvest Goes

225 kg of Vegetables per Household, per Season



Source: S M Sehgal Foundation, "Kitchen Garden Initiative: Key Findings" (700-women survey, one season)



Leadership Voice

“Krishi Jyoti has shown us that when women are given the tools, training, and trust to lead, they don't just improve their own households - they change what's possible for their entire village. Sonpati's journey from a kitchen garden to a commercial farm is exactly the kind of transformation this partnership was built to create.”

ROBIN EDWIN

Country Head and Managing Director
Mosaic India

The background is a solid dark green color. It features abstract, wavy, light green and yellow-green shapes at the top and bottom, resembling stylized hills or a horizon line. The text is centered in the middle of the page.

DEVELOPMENT AGENCIES

BETTER THAN CASH
ALLIANCE



Better Than Cash Alliance

United Nations Development Programme • Sustainable Finance Hub

A. Organization Profile

- **Organization:** Better Than Cash Alliance (UNDP Sustainable Finance Hub)
- **Submission Focus:** Assam Tea Garden Digital Wage Payments Proof of Concept, with the Department of Financial Services, Ministry of Finance, Government of India
- **Region:** India, Upper Assam (Dibrugarh and Tinsukia districts), North East Region

Areas of Work

- Agricultural finance and responsible digital payments
- Gender equality and women's economic empowerment
- Rural development and resilient livelihoods
- Financial inclusion and digital public infrastructure
- Policy support, research, evidence generation and institutional strengthening
- Inclusive value chains and market access

Organisation Overview

The Better Than Cash Alliance is a global partnership of over 80 member, that includes governments, companies and international organisations accelerating the shift from cash to responsible digital payments to drive inclusive growth. Its Secretariat sits within UNDP's Sustainable Finance Hub, and it is an implementing partner of the G20 Global Partnership for Financial Inclusion.

The Alliance works with governments and members to digitise payments in ways that are safe, transparent and beneficial to the people receiving them, particularly women, who make up the majority of workers in agricultural value chains yet remain furthest from the formal financial system. In India, it partners with the Department of Financial Services, Ministry of Finance, on evidence-led digitisation of plantation and agricultural wage flows, with a flagship proof of concept in Assam's tea estate belt. Its method: diagnose the real constraint, design with the user, hand government a replicable playbook.



B. Case Study: Advancing Women in Agriculture and Food Systems

Paying Her Directly

Digitising wages for women tea garden workers in Assam: a proof of concept with the Department of Financial Services

AT A GLANCE

- Geography: ~140 tea estates across Dibrugarh and Tinsukia districts, Upper Assam
- Population: ~158,000 estate workers, a majority of them women
- Cash flow to be addressed by the project: ~₹24 crore (~USD 2.8 million) circulating in physical cash every month
- Government counterpart: Department of Financial Services, Ministry of Finance; State Level Banking Committee (SLBC) Assam
- Stage: Diagnostic complete; field implementation from Q3 2026

Note on stage: this submission describes a flagship initiative currently in delivery. Diagnostic findings are established and verified against source data. Forward-looking figures are stated explicitly as targets and are not presented as achieved results.

Background and context

Assam grows about half of India's tea (Tea Board India, 2025), and its estate sector runs on women's labour. The Ethical Tea Partnership, an industry body, estimates that around 365,000 women work in Assam's tea estate sector alone; women make up more than half of India's tea workforce and the overwhelming majority of pluckers, the industry's most labour-intensive task. They hold roughly 15% of managerial positions. She picks the leaf that built the region's economy, and she is paid for it in cash, in a queue, on wage day.

In 2026, the Department of Financial Services (DFS), Ministry of Finance, with technical support from the Better Than Cash Alliance through UNDP India, initiated an integrated proof of concept to digitise wage payments and activate the surrounding merchant economy across the Dibrugarh-Tinsukia tea belt. Field implementation is underway.

The challenge, and the assumption we had to break

Baseline diagnostics across approximately 140 estates covering some 158,000 workers established that roughly ₹24 crore (about USD 2.8 million) moves through this belt as physical cash every month, overwhelmingly as wages.

Our diagnostic found that digital hesitancy among women is not a consequential explanation for the lack of usage and trust. In 66% of estates surveyed, we found no observable worker fear of digital tools, though roughly a third of estates did record it, and trust, recourse and fraud remain live constraints. The binding constraint sat firmly on the supply side: 80% of merchants surveyed around the estates, the haats and kirana shops where a woman actually spends her wage, could not accept a digital payment at all. A wage credited to her account had nowhere to go but straight back out as cash. Where women did attempt digital cash-out, Aadhaar-enabled Payment System(AePS) biometric authentication failed at 1.5 to 2 times the national average. (Whether plucking work

degrades fingerprint quality is a hypothesis under investigation, not an established finding.) The primary constraint was not her willingness. It was that there was nowhere to spend.

The national picture rhymes. Analysis of Global Findex 2025 data shows that the gender gap in basic account ownership has effectively closed, yet women remain 18 percentage points less likely than men to hold a digitally enabled account and 11 points less likely to make or receive a digital payment. Account ownership is not financial inclusion. Our operating rule follows: a bank account is not evidence of a digital wage. The estate cash management sheet, that is, whether cash brought for wage day still matches wages disbursed, is the authoritative signal, and what we classify every estate against.

Approach and implementation

The proof of concept is designed around four tracks, deliberately simultaneous rather than sequential:

- **Track A — Estate classification and wage digitisation:** every estate will be classified against the cash management sheet, not account-ownership rates, with bank and estate management onboarding sequenced against that classification.
- **Track B — Merchant ecosystem activation:** the priority track, not an afterthought. Acceptance will be activated at the haats, kirana shops and estate-adjacent traders where women spend, in parallel with wage digitisation, so that the first digital wage lands in a working ecosystem.
- **Track C — Trust, assistance and redress, grounded in the UN Principles for Responsible Digital Payments:** Assamese-language champion films, awareness content and IVR clips for low-literacy users; assisted onboarding through women's self-help groups and ASRLM structures; and a grievance redressal mechanism for pilot estates, tabled as a policy ask with SLBC Assam.



- **Track D — Person-to-merchant incentive design:** a structural response to the sustainability risk of subsidy-dependent acceptance infrastructure, so that acceptance survives. The merchant catchment activated under Tracks B and D contributes directly to the Alliance's Strategy 2030 goal of 100 million or more MSMEs using digital payments, at least half of them women-led, with women-run merchants prioritised in Assam.

Gender intentionality is a design parameter, not a reporting category. The design is grounded in the UN Principles for Responsible Digital Payments, in particular the commitments to treat users fairly, to provide recourse, and to prioritise women. Alliance own diagnostic evidence indicates that fear of fraud and weak grievance redress weigh more heavily on women than men, and that interventions succeed when designed alongside prevailing norms rather than against them. Accordingly: Assamese content with voice-first options; assisted access through women's collectives; grievance redress built in before scale, not after failure; and prioritisation of women-run merchants.

Partnerships and collaboration

- Government and regulatory: Department of Financial Services, SLBC Assam, Assam Finance Department, NPCI, Punjab National Bank as lead bank, Tea Board India, ABITA and ASRLM.
- Industry and civil society: Ethical Tea Partnership and estate management associations.

Outcomes to date, and what is being measured

This is a flagship initiative in delivery, and we report it as such. Established outcomes to date are diagnostic and institutional:

- An evidence base that challenges the sector's prevailing gender assumption and has redirected the programme's priority to the supply side, where over 80% of cash-out behaviour originates.
- A classification methodology, designed for replication, anchored on the cash management sheet rather than the misleading proxy of account ownership.
- A partnership architecture spanning national policy, state banking, industry and community institutions, with a live policy ask on grievance redressal.

Forward targets, stated as targets and not as results, cover digital wage receipt, merchant acceptance density, AePS failure rates and sustained account usage by women workers, disaggregated by sex and reported by the independent evaluation partner.

Key learnings and potential for replication

1. Diagnose the merchant, not the woman. The gender narrative in agricultural digitisation defaults to women's literacy and fear. Ask where she spends before concluding why she does not.
2. Account ownership is a weak proxy and a dangerous one. It flatters dashboards and conceals exclusion. Classify on cash-flow behaviour.
3. Design alongside norms, not against them. Voice-first content, collective onboarding and pre-built grievance redress do more for adoption than awareness campaigns.
4. Build the exit into the entry. Subsidy-funded acceptance infrastructure with no incentive model behind it will not survive the pilot. Track D exists for that reason.
5. Wage digitisation is a gateway, not an endpoint. Global Findex 2025 data indicates that receiving a wage digitally is among the strongest triggers for women's sustained account use, making agricultural payrolls the highest-leverage entry point in rural India.

The model is designed to travel: an estate-based, employer-anchored wage flow with a defined merchant catchment recurs across tea, coffee, rubber, spice and sugar value chains in India and across South and Southeast Asia.

C. Innovation & Impact

The initiative is in delivery. What follows describes the mechanisms through which impact is expected, and the design decisions behind them, rather than results achieved.

Women's economic empowerment and leadership in agriculture and food systems

Direct, verifiable wage payment into a woman's own account will convert an in-kind, intermediated, cash-in-hand transaction into a traceable financial identity she controls. In a workforce where women plucking the leaf hold barely 15% of managerial roles, payment integrity is the most immediately actionable lever on economic agency available.

Inclusive agricultural value chains and market access

The initiative is designed to treat the merchant catchment around each estate as part of the agricultural value chain rather than as background. Activating digital acceptance among haat vendors, kirana shops and estate-adjacent traders, with deliberate prioritisation of women-run enterprises, is designed to address the acceptance gap that renders wage digitisation meaningless in isolation.

Agricultural innovation, digital agriculture and technology adoption

The programme will run on India's existing digital public infrastructure, namely UPI, AePS and BBPS, rather than building parallel systems. Recorded AePS biometric failure at 1.5 to 2 times the national average among this workforce is an early finding, pending independent validation by the evaluation



partner, on DPI performance at the last mile for manual agricultural labour, with potential implications for authentication design nationally.

Capacity building, skills development and extension services

Assamese-language champion films, awareness content and IVR audio clips for low-literacy users will be delivered through women's self-help groups, ASRLM structures and business correspondent networks. Content production is contractually sequenced to follow field observation, so that materials answer the barriers women actually report rather than those assumed on their behalf.

Policy support, research, evidence generation and institutional strengthening

An independent academic partner, LEAD at Krea University, has been appointed to lead field observation, monitoring and evaluation, and peer-reviewable knowledge outputs, with a policy convening and dissemination mandate. Findings will feed a live governance channel through SLBC Assam and DFS, including a current policy ask on establishing a grievance redressal mechanism for pilot estates. The 12-month deliverable is a replication playbook for DFS.

Food security, nutrition and resilient livelihoods

Reliable, on-time, verifiable wage receipt creates conditions for household food security in a workforce where Assam records among the country's highest maternal mortality rates (Sample Registration System, Registrar General of India) and anaemia is widespread in tea communities (National Family Health Survey, NFHS-5). Digital wage rails also create the substrate for future delivery of social protection, savings and insurance to a population currently reached only in cash.

Sources and Data Notes

All programme figures are drawn from Better Than Cash Alliance / UNDP India baseline diagnostics across the Dibrugarh-Tinsukia tea belt (2026). Sample sizes and survey dates: [insert for estates surveyed, merchants surveyed, workers covered and AePS transactions observed]. External figures are sourced as follows:

- Assam's share of national tea production: Tea Board India, 2025.
- Women in Assam's tea estate sector (~365,000); women as >50% of India's tea workforce; ~15% of managerial positions: Ethical Tea Partnership, Women in Tea Factsheet, 2021. Industry estimate; to be re-sourced to Tea Board India, the Labour Bureau or ILO where possible.
- Assam maternal mortality: Sample Registration System, Office of the Registrar General of India. Anaemia prevalence in tea communities: National Family Health Survey (NFHS-5).
- India gender differences in digitally enabled account access (18 pp) and digital payment usage (11 pp): Dvara Research, "Examining 'Gender Gap' in Financial Inclusion in India using the Global Findex Database 2025," 2026 (unconditional specification).
- Wage and government payment receipt as a trigger for women's account activation; global account ownership trends: World Bank, Global Findex Database 2025.
- Alliance membership and institutional hosting: Better Than Cash Alliance / UNDP Sustainable Finance Hub.



**Food and Agriculture
Organization of the
United Nations**

Organization Profile

- **Organization:** Food and Agriculture Organization of the United Nations
- **Areas of Work:** Sustainable agricultural production; Food and nutrition security; climate resilience and sustainable natural resource management; Inclusive, gender responsive agrifood systems governance.
- **Organization Overview:** The Food and Agriculture Organization (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger. Our goal is to achieve food security for all and ensure that people have regular access to enough high-quality food to lead active, healthy lives. With 194 members, comprising 193 countries and the European Union, FAO works in over 130 countries worldwide. FAO supports countries in transforming agrifood systems to be more efficient, inclusive, resilient and sustainable, contributing to better production, better nutrition, a better environment and a better life for all.

From Participation to Leadership: Strengthening Women's Leadership Through Village Implementation Committees for Green Landscape Governance

The Food and Agriculture Organization of the United Nations (FAO), through the Global Environment Facility (GEF)-funded project, Green-Ag: Transforming Indian agriculture for global environmental benefits and the conservation of critical biodiversity and forest landscapes (Green-Ag Project), is supporting the sustainable transformation of India's agricultural sectors by mainstreaming biodiversity conservation, climate change adaptation and sustainable land management across agricultural production landscapes.

Recognizing that long-term landscape resilience depends on strong community institutions and local ownership, the project promotes participatory landscape governance through the preparation and implementation of **Green Landscape Management Plans (GLMPs)**. To support implementation of GLMPs, the project established and strengthened **Village Implementation Committees (VICs)** as local governance platforms for participatory planning, coordination and monitoring. A key feature of this approach is the inclusion of women as members and leaders within these institutions, ensuring that their perspectives contribute to local decision-making and landscape governance.

Across India's diverse agricultural production landscapes, effective implementation of GLMPs depends on strong, inclusive and accountable community institutions capable of coordinating collective action. However, many village-level institutions lacked clearly defined roles, adequate capacities and participatory governance processes to support integrated landscape planning, implementation and monitoring. Another challenge was that while women play a central role in agriculture, livestock management, natural resource stewardship and household food security, they remain underrepresented in community decision-making and leadership. Consequently, their knowledge, priorities and perspectives are often insufficiently reflected in landscape governance and local development decisions related to agriculture, natural resource management and landscape restoration.

The Green-Ag Project hence adopted an institutional approach to strengthening local governance for integrated landscape management by establishing and strengthening VICs as community institutions responsible for facilitating the implementation of GLMPs. Constituted through Gram Sabha or village-level consultations, VICs bring together representatives of local communities, Gram Panchayats, Self-Help Groups, user groups and other key stakeholders to support participatory planning, implementation, monitoring and convergence of landscape interventions.

Gram Panchayats and **line departments** supported convergence with local development and natural resource management initiatives, while VICs served as the institutional platform for participatory planning, implementation, monitoring and coordination of GLMPs. Furthermore, **Green Landscape Implementation Unit (GLIU)** and **Community Resource Persons (CRPs)** provided continuous training, mentoring and field-level facilitation to strengthen the capacities of VICs and build women's confidence and leadership skills.

Today, the project landscape has seen 421 VICs established, bringing together 12,706 community representatives, including 5,868 women members representing approximately 46% of the total membership, to strengthen local ownership of sustainable landscape management. Women have been actively encouraged to join VICs and take on leadership roles. Through training, mentoring and participation in committee processes, women have strengthened their capacity to contribute to decision-making and oversight of GLMP implementation. As a result, women are increasingly serving as leaders within community governance systems and contributing directly to the planning, implementation and monitoring of GLMPs.

This collaborative governance model has strengthened local ownership, reinforced institutional accountability and created the foundation for sustaining community-led landscape governance beyond individual project interventions. Through the VICs, communities are increasingly coordinating landscape restoration, sustainable agriculture and biodiversity conservation activities while strengthening convergence with Gram Panchayats and relevant government departments.

Furthermore, by embedding women's leadership within community institutions and linking them with Gram Panchayats and government departments, the project has encouraged inclusive local governance and expanded opportunities for women to serve as leaders within community governance systems. Women are now chairing VICs across multiple landscapes and contributing directly to planning, implementation and monitoring of GLMPs, and examples from Uttarakhand and Mizoram demonstrate that women can effectively lead collective action when provided with institutional support, capacity development and opportunities to engage in decision making. Contributing to the success of the project are the operating partners in these locations, the **Department of Agriculture and Farmers' Welfare, Mizoram and the Watershed Management Directorate, Uttarakhand.**

In Uttarakhand, 52 of the 77 VICs are chaired by women at the Gram Panchayat level, covering nearly 250 villages. In Mizoram, women constitute approximately 34% of the membership of VICs, with women serving as Chairpersons in several committees, including one elected through an open community voting process. These experiences demonstrate growing community confidence in women's leadership and their ability to guide collective action for sustainable landscape management.

The experiences of Ms. Nirmala Devi, a VIC and Self-Help Group member from Uttarakhand, and Ms. Lal Rin Kimi, Chairperson of a VIC in Mizoram, illustrate how strengthened community institutions translate into meaningful local outcomes. Under her leadership, the VIC has strengthened community participation in GLMP implementation while promoting inclusive decision-making within the village.



©FAO/Sangeeta - Ms. Nirmala Devi with fellow women SHG members

In Uttarakhand, Ms. Nirmala Devi used her leadership role within the VIC and Self-Help Group to bring community concerns on wildlife-related crop losses to the Gram Sabha, advocate for protective fencing and encourage greater participation of women in local governance. Reflecting on this experience, she says, "As members of the Village Implementation Committee and our Self-Help Group, we raised our concerns together and requested fencing for our village. When women participate in decisions, real change becomes possible."



©FAO/Jacob Lalrinawma - Mrs. Kimi and Village Council Members

In Mizoram, as Chairperson of her VIC, Ms. Kimi has helped foster inclusive decision-making, mobilize community participation and build stronger local ownership of GLMP implementation.

These experiences demonstrate that when women lead community institutions, they strengthen collective decision-making, local ownership and sustainable outcomes for agriculture, biodiversity conservation and rural livelihoods.

By strengthening existing local governance systems and fostering collaboration among communities, Gram Panchayats and government departments, the Green-Ag Project offers a practical and scalable model for advancing women's leadership, strengthening community governance and supporting integrated landscape management beyond the life of individual projects.

Section C – Innovation & Impact

Women's Leadership & Inclusion

The Green-Ag Project introduces an institutional approach to advancing women's leadership by embedding gender inclusion within community governance systems responsible for integrated landscape management.

Rather than treating women's participation as a standalone project activity, the project institutionalized women's leadership through Village Implementation Committees (VICs), enabling women to serve as members, elected leaders and decision-makers responsible for planning, implementing, monitoring and periodically reviewing Green Landscape Management Plans (GLMPs).

Women now serve as Chairpersons and active members of VICs across multiple landscapes, contributing to collective decision-making, coordinating implementation of GLMPs and promoting convergence with Gram Panchayats and government departments. Their leadership demonstrates increasing community confidence in women's capacity to guide sustainable landscape governance.

Sustainable Agriculture and Landscape Management

Through their leadership roles within VICs, women contribute to the implementation of landscape restoration, sustainable agriculture, biodiversity conservation and natural resource management activities identified through GLMPs. By facilitating community participation and local coordination, they help translate landscape priorities into collective action that strengthens ecosystem resilience, sustainable livelihoods and locally owned development outcomes.

Capacity Development and Institutional Strengthening

The project combined institutional strengthening with continuous capacity development through Green Landscape Implementation Unit (GLIU) and Community Resource Persons (CRPs). Regular training, mentoring and field-level facilitation enhanced the functionality of VICs while strengthening women's confidence, leadership skills and participation in community decision-making. By linking VICs with Gram Panchayats, local communities and government departments, the project established sustainable governance mechanisms capable of supporting integrated landscape management beyond individual project interventions.

Broader Impact and Replication

The Green-Ag experience demonstrates that strengthening community institutions provides an effective pathway for advancing both women's leadership and integrated landscape management. The approach is adaptable across diverse socio-cultural and ecological contexts because it builds on existing local governance systems while promoting inclusive participation, shared accountability and community ownership. As a practical and scalable institutional model, VICs offer valuable lessons for future programs seeking to strengthen gender-responsive community governance, landscape restoration and sustainable agrifood systems.

The Women Seed Keepers of Odisha

Based on FAO Technical Cooperation Programme - community-managed seed systems for local landraces and farmers' varieties in Odisha (2023–2025).¹

Across the diverse landscapes of Odisha, from the red soils of Mayurbhanj to the lush hills of Koraput and the sun-drenched fields of Bargarh, farmers are reclaiming their heritage, restoring biodiversity and cultivating resilience by farming with indigenous seed varieties. Odisha is widely recognized as a center of origin for rice and the Koraput region stands out as one of the 22 agrobiodiversity hotspots of India, internationally recognized as a Globally Important Agricultural Heritage System (GIAHS) by the Food and Agriculture Organization of the United Nations (FAO). The region is home to a wide range of indigenous crop varieties, including numerous landraces (LRs) and farmers' varieties (FVs) of paddy and other crops. Yet the increasing focus on higher-yielding commercial crops has heightened production risks, particularly in rainfed areas that are more vulnerable to climatic variability.



@FAO/Pooja Chowdhary
Storing native finger millet seeds in traditional earthen pot at the Nuaguda seed bank.

Between 1st, December 2023 and 31st, December 2025, FAO, in collaboration with the Ministry of Agriculture and Farmers' Welfare, Government of India, and the Department of Agriculture and Farmers' Empowerment, Government of Odisha, implemented the Technical Cooperation Programme 'Support for quality seed of local LR/FVs through community-managed seed systems (CMSS) in Odisha and other rainfed areas.' Through Participatory Varietal Trials (PVT), training in participatory plant breeding and support for community seed banks (CSB), FAO helps build local capacity, empowers farmer breeders and ensures that resilient seeds remain locally available and affordable.

Gender equality considerations were integrated throughout the initiative as women, particularly from tribal communities, are key knowledge holders in the conservation, selection and management of traditional crop varieties and play a central role in sustaining local seed systems. Gender-responsive consultations held during the program further promoted the meaningful participation of women and youth, recognizing women as knowledge holders and farmer breeders, and enhancing inclusivity and equity within seed management and conservation activities.

Across Koraput, Mayurbhanj and Bargarh districts, 115 LR were identified, comprising 90 rice, 23 brinjal and 2 niger LR, based on their value in cultivation and use traits. PVTs were conducted for 53 rice and 14 brinjal LR, while the Nialimali Desi Seed Bank documented 170 rice LR under the CMSS "Rejuvenation Block," creating a permanent resource for future conservation. Four rice LR, Suna Khati, Jagannath Bhog, Baru Baba and Dasarajhati, received Rank I in participatory varietal selection. These activities supported food security and nutrition, improved livelihoods and increased the resilience of smallholders to climate variability.

1. FAO. 2026. The seed champions of Odisha – Stories of Odisha's farmers and their role in climate-resilient agriculture, community-led agroecological revival and preserving native seeds. New Delhi. ISBN 978-92-5-140677-9. <https://doi.org/10.4060/cd9552en>

Handbooks, digital posters, data books and documentary videos were produced to promote the success stories of seed keepers and farmer breeders. Roundtable discussions and field exchanges further amplified community voices and highlighted the role of seed keepers in securing food, health and identity.

Another output, the seed champions of Odisha, serves as a compendium that brings together the stories of women seed keepers who are not only growing food but nurturing futures. Below, are a few such inspiring stories.

Raimati Ghiuria, in the red-soiled village of Nuaguda, nurtures memory, biodiversity and resilience. Known as the 'Millet Queen,' she has revived 30 millet varieties and more than 70 traditional paddy varieties, transforming her home into a living seed archive. Guided by her grandmother's wisdom and supported by the M.S. Swaminathan Research Foundation (MSSRF), she launched demonstration plots, built a CSB and trained fellow farmers in seed storage, organic practices and climate-resilient cultivation. Her work has restored lost grains, empowered women through knowledge-sharing and inspired a movement rooted in ancestral pride.

Subasa Mohanta, known as 'Mandia Didi,' pioneered millet cultivation in Goile village, transforming leased land into thriving fields and earning seven quintals from just 250 grams of millet seeds. Her success challenged assumptions about barren soil, hybrid dependency and women's roles in agriculture, and she has trained more than 300 women in native seed cultivation.

Bhagwati Majhi cultivates more than crops; she nurtures ancestral wisdom, community health and ecological resilience. Her organic methods restore soil fertility and protect against chronic diseases; her fields have become classrooms and her seeds have become symbols of healing and dignity.

Devaki Majhi, a key figure in the Nialimali seed bank, helps small farmers access indigenous, climate-resilient seeds through a community credit model that empowers women, elders and youth to grow, save and return seeds, creating a cycle of shared abundance.

Basanti Mohanto has transformed a handful of heirloom paddy seeds, gifted by her mother-in-law, into a movement for seed sovereignty and women's empowerment. In 2023, Basanti and her SHG



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A member of a local community seed bank during a training session organized by FAO under the TCP to strengthen local knowledge and promote the conservation and exchange of traditional seed varieties.



©FAO/Pooja Chowdhary

Aladin Khila (left) displaying preserved millet seeds.

established a seed bank that now houses over 30 to 40 LRs of rice, alongside millets, pulses and vegetables.

Puspalata Mahanta, 25 years old, is reviving native seeds and organic farming to restore soil and community health, blending agroecology, seed banking and farmer-to-farmer learning to empower local farmers across Jashipur block.

Tikeshwari Majhi, a graduate and community resource person, is not just preserving native seeds; she is preserving identity, resilience and hope.

These stories are not just about farming; they are about dignity, agency and the transformative power of community-led change. Women, particularly from tribal communities, were actively engaged in capacity-building activities and community seed systems, reflecting their role as custodians of traditional knowledge.

While challenges remained in ensuring consistent gender-responsive resourcing across all activities, the project contributed positively to strengthening women's access to knowledge, resources and decision-making processes. By actively engaging local communities, community resource persons and Community Seed Bank members, the project reinforced farmer ownership of seed systems, while the Odisha SOP LVRC model emerged as a practical, scalable approach for state-led replication of landrace conservation and farmer-led varietal evaluation across rainfed regions.

Through this collaborative initiative with the Department of Agriculture and Farmers' Empowerment, Government of Odisha, FAO supports farmer-led efforts to conserve agrobiodiversity, strengthen seed sovereignty, and connect traditional knowledge with scientific innovation.



**World Food
Programme**

Organization Profile

- **Organization:** United Nations World Food Programme
- **Areas of Work:** Food Security and Nutrition
- **Organization Overview:** WFP is the world's largest humanitarian organisation and a 2020 Nobel Peace Prize laureate, operating in over 123 countries. In India, WFP supports the Government's priorities under SDG 2 – Zero Hunger through Country Capacity Strengthening, Innovation, and South–South & Triangular Cooperation. WFP's pilot-to-scale approach enables the design, testing, and scale-up of high-impact solutions that enables food security and nutrition and strengthens resilience across India's diverse socio-geographic contexts.

Women Farmers Driving Climate-Resilient Livelihoods in Assam and Odisha

The United Nations General Assembly's declaration of 2026 as the 'International Year of the Woman Farmer' celebrates the role of women in global agriculture while raising awareness of their challenges, including property rights and access to inputs, information, credit, and markets.

Women contribute nearly half of the global food supply, accounting for 60% to 80% of food productionⁱ in developing nations and representing 39% of agricultural labour in South Asia. These statistics underscore women's crucial role in agriculture, despite ongoing barriers and inequalities. In India, women own a much smaller share of agricultural land than men, despite making up a large portion of the farm workforce. Around 80% of economically active women work in agricultureⁱⁱ, yet they own only 14% of agricultural land in rural landowning households across nine Indian states in 2014 and own approximately 11% of the agricultural land area. The most recent National Family Health Survey reports female land ownership at just 8.3%ⁱⁱⁱ.

Women farmers in India lack land ownership or titles, making it difficult to access formal credit and limiting their access to financial schemes and institutions' provisions. Women also have limited access to information and technology, including mobile phones, which hinders investment and the adoption of technologies that contribute to improvements in livelihoods.

The Government of India supports small-scale women farmers by enhancing skills and promoting sustainable agriculture. The Mahila Kisan Sashaktikaran Pariyojana, an initiative by the government aimed at enhancing women's participation in agriculture, upgrades skills and expands resource access for women, while the Sub-Mission on Agricultural Mechanisation offers subsidies of 50% to 80% for machinery. Additionally, 30% of the National Food Security Mission's budget is allocated to women farmers in a few states and Union Territories. To ensure women can fully benefit from these initiatives, it is important to strengthen their capacities to support their uptake of these schemes.

i. <https://www.fao.org/family-farming/detail/en/c/1634537/>

ii. <https://www.niti.gov.in/rural-women-key-new-indias-agrarian-revolution>

iii. <https://india.unfpa.org/en/publications/asset-ownership-women-india-insights-nfhs-data>

Empowerment for resilience

Women face disproportionate impacts of climate shocks, which often intensify the structural barriers they face, including insecure access to productive assets, limited market influence, inadequate extension support and unequal access to timely information and finance.

Globally, the United Nations World Food Programme (WFP) strengthens climate resilience among women farmers through a gender-transformative approach that provides financial protection, clean energy, and climate-smart training. Because women often bear the primary responsibility for household food security while facing severe barriers to land rights and resources, WFP targets them directly to transform global agricultural food systems.

WFP in India works to strengthen women's roles at key points across the food system value chain. This includes supporting women smallholders to adopt climate resilient crops and practices and to manage community seed banks. It also involves training women's self help groups in storage, grading, and basic processing to reduce losses and improve quality. It further links women's groups to markets and government schemes to secure better prices and diversified income sources. It positions women as leaders in farmer collectives and village institutions, informed by WFP led symposia on women farmers and climate resilience.

Two initiatives by the United Nations World Food Programme (WFP) in India – **ENACT Assam** and **RIISE in Odisha** – are demonstrating how to address some of these challenges while enhancing women's leadership across the agricultural value chain, building resilience through risk diversification.

These projects operate across diverse agro-ecological contexts and are founded on the common understanding that building resilience requires more than just supplying inputs or weather alerts. It relies on existing local systems and government schemes that connect women farmers to climate information, improved practices, diversified livelihoods, collective enterprises, markets, and the utilization of government schemes and services.

From information to agency

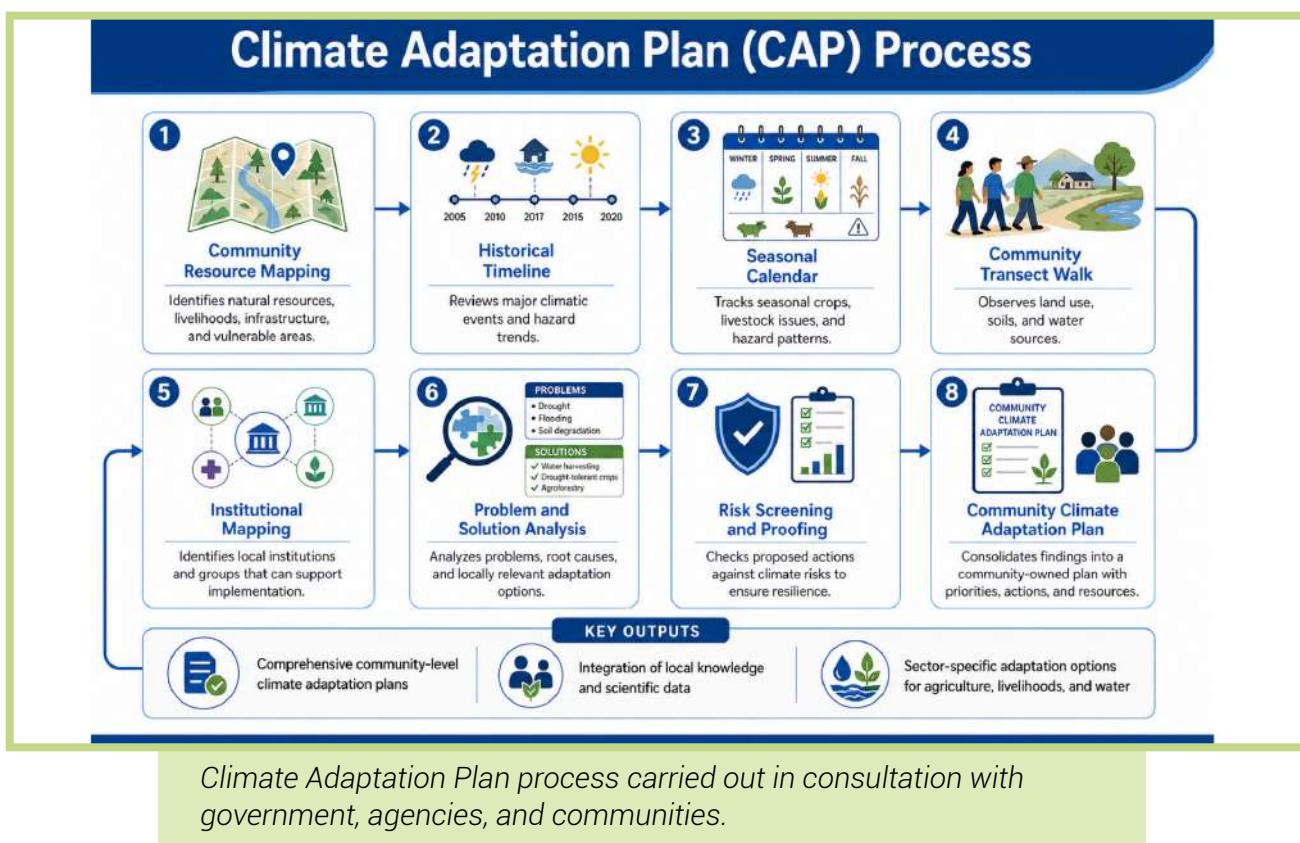
In Odisha's Ganjam district, small and marginal farmers contend with erratic monsoons, severe dry spells, floods and changing pest and disease patterns. More than 62% of the state's cultivable land is rain-fed, leaving households particularly exposed when rainfall becomes less reliable. The consequences extend beyond a single crop season: lower farm income can affect household food consumption, nutrition, education and the capacity to reinvest in livelihoods—especially for women, who often manage these competing priorities.

The **Resilient and Inclusive Initiatives for Sustainability and Empowerment in Ganjam, Odisha (RIISE)** project addresses this reality by integrating climate information, community-based adaptation planning, agricultural innovation and livelihood diversification. Implemented by WFP in close collaboration with the Government of Odisha, it brings together government departments, technical institutions, farmer collectives, women's self-help groups and local communities to strengthen food and income security.

In 2024, RIISE began with a scoping study, identifying intervention areas, forming partnerships with the Department of Agriculture and Farmers' Empowerment, India Meteorological Department (IMD), Odisha University of Agriculture and Technology, and Indian Farmers Fertiliser Cooperative Limited (IFFCO) Kisan Sanchar Limited; identifying farmers; and developing Climate Adaptation Plans. In 2025, it shifted to Rabi and Kharif demonstrations, capacity-building for farmers and women's groups, creating Climate Adaptation Information Centers, piloting an app, and social behaviour

change communication. By early 2026, the project conducted cascade trainings for master trainers, self-help groups, and farmers; revised Climate Adaptation Plans; piloted alternative livelihoods; and set up Climate Field Schools.

The project has established **four Climate Adaptation Information Centers**, one in each block. These centers, supported by Krishi Vigyan Kendras (KVK) and the state government, function as practical local hubs connecting farmers and their collectives with scientists, extension workers, government departments and technical experts. They support training, hydrometeorological and agrometeorological advisories, Climate Field Schools, Plant Health Clinics and access to relevant inputs. To provide reliable, accurate weather information to enable livelihood decisions, two Automatic Wireless Weather Stations—in Hinjlicut and Jagannathprasad—provide real-time, ground-based data on rainfall, temperature, humidity, wind and soil moisture.



The RIISE application and dashboard complement these physical centers by delivering not only tailored weather and crop advisories but also market and government scheme-related information. The project's July 2026 progress update reported that **11,165 farmers had been reached through Climate Adaptation Information Centers, the RIISE app**, voice and SMS advisories, with 7,020 farmers registered on the app. This combination of digital and offline outreach is particularly important for women, for whom smartphone access, digital literacy, mobility constraints and time poverty may otherwise create barriers to accessing services.

The value of this approach is captured in the experience of **Gayatri Parida**, a farmer from Ganjam. Facing unpredictable rainfall and crop threats, she explained the practical benefit of receiving timely information:

"Now we can find out about the rainfall for the day and get other important information... We also get to know the market prices... If any disease or pest attacks our crops, we learn what it is and what we should do," she says.



Climate information from the RIISE mobile app is helping women farmers like Gayatri Parida, a smallholder farmer from Odisha's Ganjam district, to take farming decisions and adapt to changing weather patterns.

Her perspective highlights the shift from reacting to climate shocks after they occur to making informed decisions before they become losses.

Resilient livelihoods

RIISE is also helping women and smallholder households reduce dependence on a single, climate-sensitive source of income to build resilience. It has supported demonstrations of **27 climate-resilient and alternative livelihood options**, including stress-tolerant varieties of paddy, ragi, green gram, black gram, groundnut and tomato; improved vegetable cultivation; marigold and dragon-fruit cultivation; mushroom production; poultry; pisciculture; goat rearing; incense-stick making; and nutri-gardens.

The project promotes climate-resilient agricultural practices aligned with government schemes, including mulching, line sowing, intercropping, organic manure application, integrated nutrient and pest management, crop diversification, and water-saving techniques.

Stress-tolerant seeds and improved crop management can reduce exposure to seasonal losses. A nutri-garden can improve household diets and generate a small surplus for sale. Mushroom production or poultry can provide quicker returns, even with limited access to land, making them suitable for landless and resource-constrained households. Non-farm enterprises, such as incense stick making, are comparatively less vulnerable to climate-related shocks. Diversification of activities can strengthen women's ability to make decisions about household nutrition, savings and reinvestment.

Community planning provides the foundation for this work. RIISE has developed **29 Climate Adaptation Plans** through participatory processes that bring together local knowledge and scientific data. These plans identify practical adaptation actions and enable convergence with agriculture, horticulture, livestock, water and women's empowerment programs. This is a critical lesson for scale:

women farmers should not simply be consulted about climate risks; they should help define the solutions, investments and institutional partnerships required to address them.

The project has further reinforced this approach through **85 social and behaviour change communication sessions**, reaching more than 5,000 community members through awareness activities and street plays. These efforts help position resilient agriculture and women's participation as community priorities rather than individual responsibilities.

Resilience through collectives

In Assam, climate risks present a unique yet equally disruptive challenge. Floods, waterlogging, irregular rainfall, dry spells, pest outbreaks, and human-wildlife conflict can quickly threaten smallholder farming's sustainability. Women farmers frequently bear the brunt of these impacts, taking on responsibilities such as ensuring household food security, recovering crops and livestock, and seeking income sources during times of reduced production.

Launched in March 2024 and running through December 2026, **ENACT Assam** – *Enhancing Climate Adaptation of Vulnerable Communities through Nature-based Solutions and Gender-Transformative Approaches in Assam* – operates in the Raha, Kathiatoli and Pakhimoria blocks of Nagaon district. The WFP India initiative is implemented in collaboration with the Government of Assam, with support from the Royal Norwegian Embassy in India. The pilot engages more than **500 direct participants** across five to seven project villages in each block, with a particular focus on women smallholder farmers.

ENACT Assam, in collaboration with the Department of Agriculture and Assam State Rural Livelihoods Mission (ASRLM), combines three mutually reinforcing elements: **climate information, advisory services, and participatory planning for adaptive agriculture; gender-transformative approaches; and diversified, resilient rural livelihoods**. It strengthens institutional capacity to support climate adaptation among vulnerable smallholders. The wider vision is to generate evidence for approaches that can be integrated into government systems and replicated in similar agro-ecological zones across India.



Women from local self-help groups in Nagaon Assam at a community meeting to discuss activities of the ENACT Assam project with Elisabeth Faure, Representative & Country Director, WFP India

Like RIISE, ENACT Assam treats last-mile climate services as a foundation for better and informed decision-making. Climate Adaptation Information Centers serve as local spaces for farmer learning and technical support. ICT-enabled services through government and academic institutions such as AAU and IMD provide weather forecasts, pest and disease alerts, and crop advisories, while Climate Field Schools enable women and men farmers to test and learn climate-resilient practices in practical settings. Additionally, climate adaptation planning helps the community deliberate on climate risks and solutions through a participatory process. 21 Climate Adaptation Practices (CAPs) were developed in collaboration with local panchayats.

ENACT's contribution extends across the value chain. Smart Seed Production Systems serve as an alternate livelihood, improve local access to quality seed, and strengthen seed sovereignty by linking farmers to expert consultations for crop diversification, intercropping, and climate-smart practices aligned with good agricultural practices that support production across seasons, led by women farmers. Nutri-gardens contribute to household nutrition and, in some cases, partner with schools for midday meal programs while enabling surplus sales. Nature-based solutions – including vermicomposting and beehive boxes for improved pollination and protection from elephants, which also provide an additional income source through honey – are paired with green technologies such as solar-hybrid-powered cold storage solutions and drone demonstrations.

Putuli Saikia, a 50-year-old farmer from Kasoiguri village, cultivates paddy and vegetables and rears livestock. Through ENACT Assam demonstrations and seed linkages, she accessed the flood-tolerant Ranjit Sub-1 paddy variety alongside her traditional Ranjit and Bao rice. In the previous season, she reported harvesting approximately 170 mans of paddy from 12 bighas—equivalent to an estimated yield of around **4,000 kg per hectare**. On her vegetable plots, she grows cabbage, broccoli, flat beans and potatoes, while also using cow manure, neem oil and yellow sticky traps to reduce chemical dependence.

For Putuli, farming is also personal: vegetables, she says, are “**my passion**.” Yet her experience reveals the hard reality behind this commitment. Elephant raids and a lack of cold-storage options often force farmers to sell quickly, even when prices are low, to avoid complete loss. Her diversified farm system—crops, cows, poultry, ducks and goats—therefore functions as a risk-management strategy, generating income from milk and periodic livestock sales when crop earnings are uncertain.

Archana Saikia Tamuli, a 35-year-old farmer from Borpathori Panigaon, reports that her farming income has increased by **30–35% over the past three years**, which she attributes to a combination of improved varieties, diversification and utilizing potential for multi-cropping in some seasons. Her next aspiration is integrated farming—combining crops with fishery, duck-rearing and horticulture—to build a more stable livelihood that is less dependent on a single seasonal crop.



Putuli Saikia, a farmer from Assam, is adopting climate-smart farming practices through ENACT Assam to strengthen her crops, livestock-based livelihood, and build resilience to climate risks.

Mridusmita Bora, a 36-year-old farmer and secretary of her self-help group, cultivates paddy, mustard, peas and green gram on six bighas (~0.8 hectares) of rain-fed land while managing a substantial goat-rearing enterprise. With information and facilitation linked to ENACT Assam and the National Rural Livelihoods Mission ecosystem, she received support to construct a goat shed worth ₹8,000. She estimates that selling four to five goats annually can generate ₹20,000–30,000—an important buffer against crop loss.

Her self-help group is also a platform for savings, credit, knowledge-sharing and collective problem-solving. In areas affected by elephant raids, women's groups help coordinate community guarding of fields.

Lessons for replication

ENACT Assam and RIISE point to five lessons on advancing women's leadership in resilient food systems.

- **Deliver information to the last mile.** Climate information and advisories must be local, contextual, timely and usable, and paired with trusted human support through community resource persons and extension workers, Climate Adaptation Information Centers and farmer learning platforms. Women are great disseminators of information, so women volunteers such as Krishi Sakhi's Pashu Sakhis are effective translators of climate information for risk reduction and adaptation decisions.
- **Strengthen women's agency through collectives and as leaders.** Self-help groups, producer groups and women-led enterprises can improve access to credit, training, inputs, markets and community-level problem-solving.
- **Support diversified livelihoods.** Resilience is strengthened when women can combine climate-smart crops with livestock and non-farm enterprises.
- **Link pilots to public systems.** Both projects work through government departments, agricultural universities, meteorological services, rural livelihoods institutions and community organizations. Leveraging the existing institutional capacity, opportunities and infrastructure is demonstrating sustainability and scalability.

Conclusion

By linking women farmers with localized and contextualised climate advisories, Climate Adaptation Information Centers and women centric/gender-responsive community adaptation planning, improved stress-tolerant crops, training programs, self-help groups, producer collectives, and market opportunities, these initiatives empower women to shift from unpaid contributors to informed decision-makers and economic participants. Women are now better able to safeguard crops against climate shocks, diversify income through livestock, mushroom farming, or other enterprises, enhance household nutrition with nutri-gardens, and achieve higher profits through collective marketing.

Scaling integrated models like ENACT Assam and RIISE through government systems, women's collectives, and market partnerships can foster more climate-resilient, nutrition-focused, inclusive, and economically vibrant food systems. When women take leadership along the value chain, the positive impacts go beyond individual farms, reaching households and communities, and supporting India's long-term food security.



The American Chamber of Commerce in India (AMCHAM India) is the leading apex chamber of U.S. industry in India. Established in 1992, AMCHAM has over 400 U.S. companies as members and plays a pivotal role in fostering strong ties between the U.S. and India. The incumbent U.S. Ambassador to India is the Honorary President of AMCHAM. The chamber enjoys a close relationship with the U.S. Embassy and complete support in fulfilling its objectives.

Country Heads of leading U.S. companies constitute the elected national executive board. The chamber's mission is to assist member companies to succeed in India through advocacy, information, networking and business support services. Headquartered in New Delhi, AMCHAM extends its influence through regional chapters in Bengaluru, Chennai, Hyderabad, Kolkata, Mumbai and Pune.



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