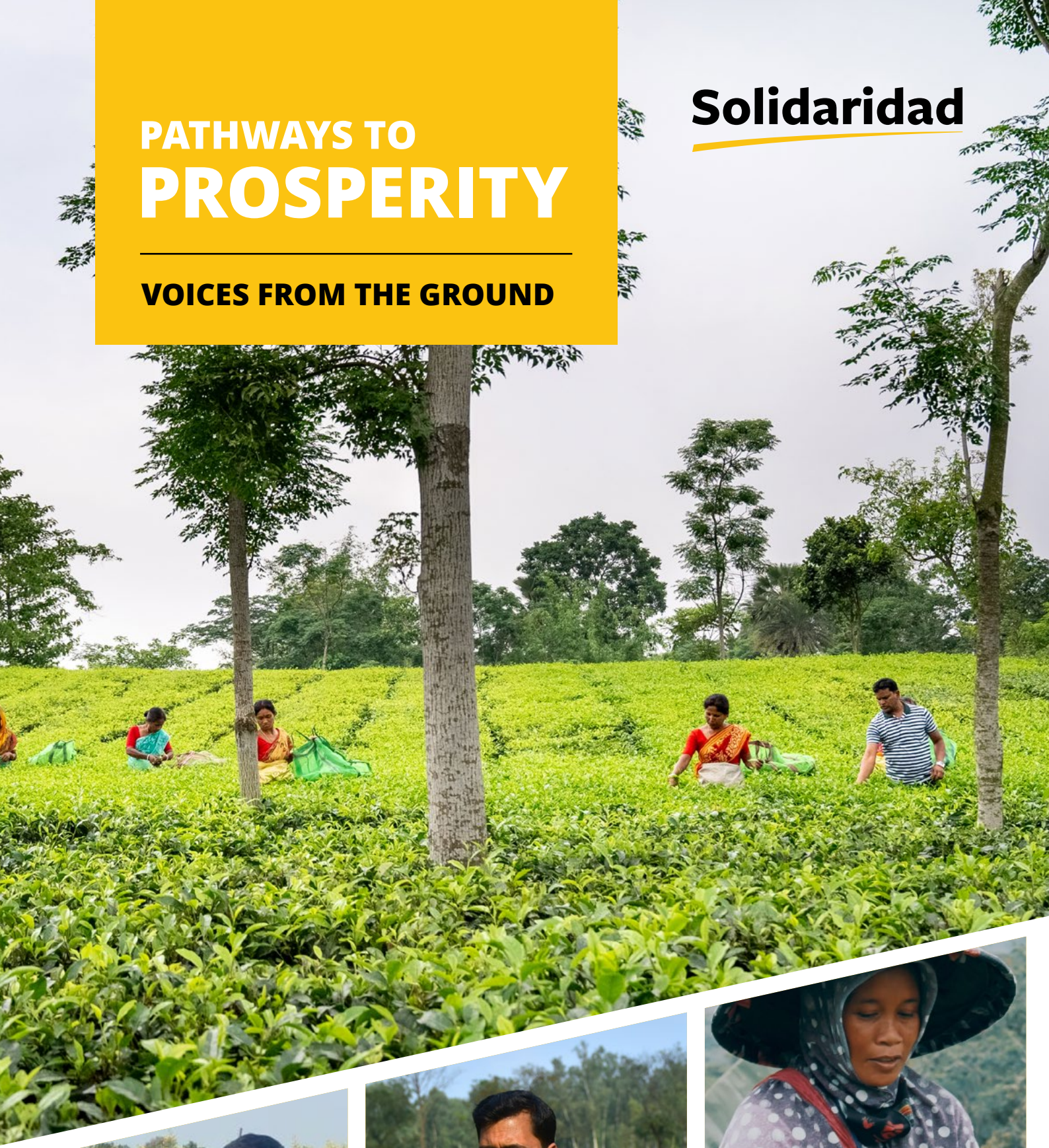
PATHWAYS TO PROSPERITY

VOICES FROM THE GROUND

Solidaridad



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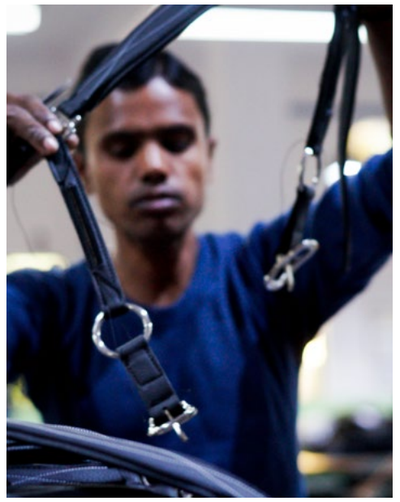


INTRODUCTION

The Pathways to Prosperity programme (2023–2029) aims to scale up sustainable and inclusive production and trade practices using proven concepts across 17 focus countries and priority sectors. Connecting empowered producers, service providers, buyers and other market actors, and governments, we work towards our main goal: producers, men, women and (rural) youth, with improved knowledge and entrepreneurial skills, and improved access to knowledge, inputs, services, technology and markets, sustain their businesses and livelihoods. We take international value chains as the entry point, while local markets are increasingly important to allow farmers to diversify farming systems and generate income in more resilient ways.

In Asia, the Pathways to Prosperity programme currently operates in three countries Bangladesh, India, and Indonesia, across value chains of cotton, leather, palm, oilseeds, tea, and textiles.

The programme has identified three pathways to prosperity:

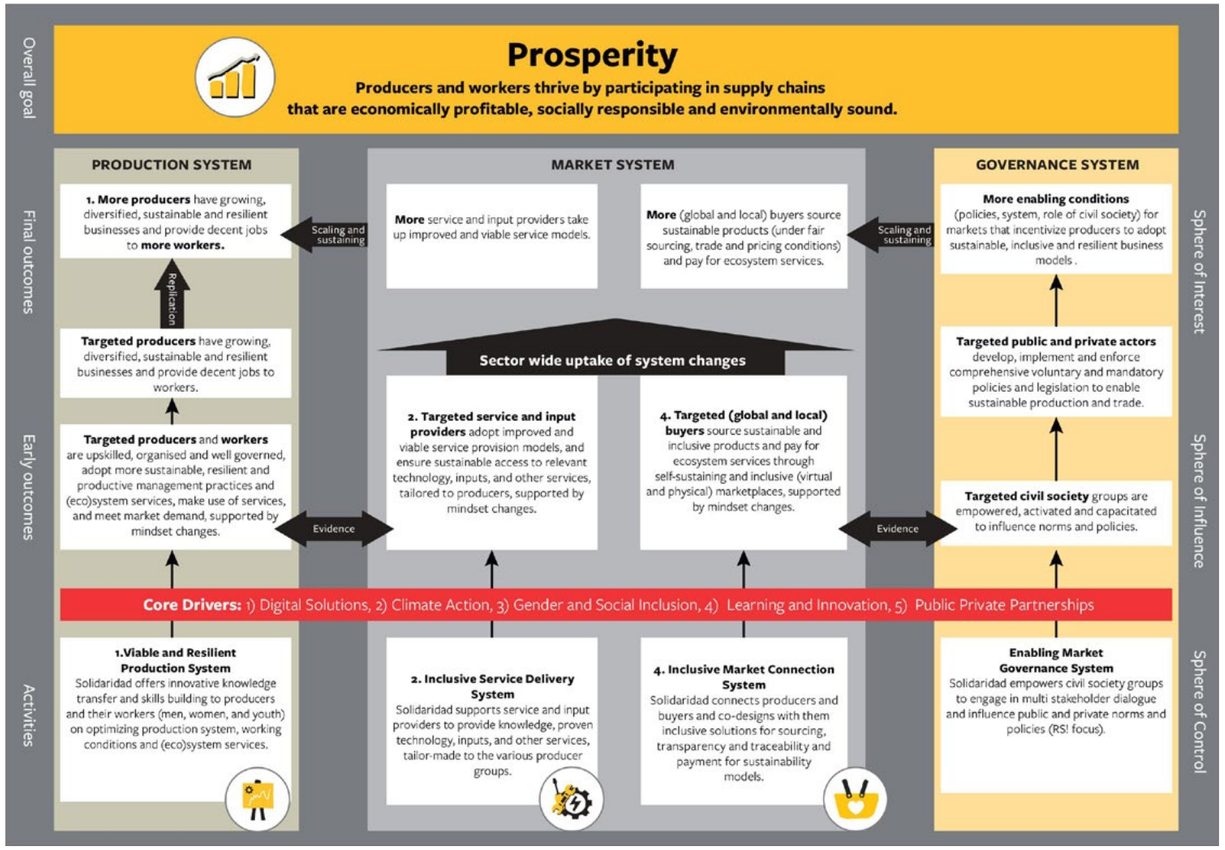
Pathway 1: Viable and Resilient Production System

Pathway 2: Inclusive Service Delivery System (Access to Services and Inputs)

Pathway 3: Inclusive Market Connection System

The three pathways together contribute to a comprehensive overall theory of change that delivers a core goal of the programme: **the prosperity of producers.**

THEORY OF CHANGE



FROM THE GROUND: STORIES OF CHANGE

Central to the programme are the lives and livelihoods of millions of farmers in Asia looking to improve their practices and fortunes through adoption of regenerative agricultural practices. It is also supporting local food enterprises in incorporating inclusivity, traceability and sustainability in their operations and supply chains. In the leather and textiles sectors, the programme has helped brands and units adopt eco-friendly technologies and equipment that have significantly reduced pollution and water-use footprints, besides enhancing workers' safety.

The focus of this publication, however, is not KPI tracking. Rather, it tells stories from the ground: stories of change among farmers, collectives, enterprises, as well as industrial units. After all, what better way to showcase impact than to hear it from those who have experienced it?

PATHWAY 1

VIABLE AND RESILIENT PRODUCTION SYSTEM

PRODUCTION SYSTEM

Final outcomes

More producers have growing, diversified, sustainable and resilient businesses and provide decent jobs to more workers.

Early outcomes

Targeted producers have growing, diversified, sustainable and resilient businesses and provide decent jobs to workers.

Upskilled producers adopt more sustainable, resilient & productive management practices and (eco-)system services.	Female and youth producers have better and safer occupations and more opportunities for entrepreneurship.	Organised producer groups create economies of scale and aggregate supply and demand.	Producers offer more jobs and decent working conditions.

Activities

Offer knowledge and skills, and gender-sensitive (IT) tools to producers for: • Sustainable, (climate-) resilient and inclusive & diversified production models. • Business Development (formalisation, business acumen, literacy, IT tools, etc). • Complying with decent working conditions and other social criteria. • Accessing alternative jobs (especially for women and youth). • Stewardship over natural resources and ecosystem services.	Offer knowledge and skills to workers on decent working conditions and best practices.	Organise community and household sensitisation dialogues to develop knowledge and awareness (mindsets) on more equal divisions of (domestic) work and decision-making.

WATER-AND CHEMICAL-EFFICIENT FARMING

NARENDRA RAUT: IRRIGATING SUCCESS WITH REGENERATIVE FARMING

For Narendra Raut, a progressive cotton farmer in the village of Waroda in Maharashtra's Nagpur district, the transition to regenerative farming has been marked by significant savings on water and inputs. "I used to practise flood irrigation before, but that required a lot of water," he says. Raut, who has since shifted to drip irrigation, saves as much as 42 per cent on water use today.

Raut has been farming cotton for more than 35 years. He came to be associated with Solidaridad four years ago when the field team installed a soil gateway (an IoT equipment measuring soil moisture) and a crop view camera (to monitor the state of the crops). Along with this, Raut also made a conscious decision to adopt good agricultural practices, supported by Solidaridad. "Now, I am able to experience the results of these practices," he states.

On his 4-acre farm, Raut cultivates cotton on nearly 3 acres. Previously, he used to rely on chemical inputs and fertilizers for pest management, which not only adversely affected the quality of soil, but also increased the annual cost of cultivation. However, after participating in training sessions conducted by our field team and experts, he has successfully adopted integrated pest management (IPM), involving the use of *jeevamrut*, vermicompost, biochar, yellow and blue sticky traps, pheromone traps, and neem-based pesticides. The result? A significant decrease in annual cultivation costs—by nearly 13 per cent.

BENEFITS FOR NARENDRA RAUT

Annual cost of cotton cultivation decreased from **₹93,604 (1,023.77 euros) to ₹81,620 (892.96 euros)**

Annual yield of cotton increased from **21 quintals to 23.8 quintals**

Raut is also using precision agriculture techniques to improve his decision-making. Furthermore, access to regular weather and crop advisories helps him stay better-prepared to face the effects of climate change. Additionally, the soil gateway helps him prepare irrigation schedules well in advance, while the drip irrigation system, powered by electricity from solar panels, leaves minimal environmental footprint. For Raut, this complete overhaul of practices has resulted in a 17–18 per cent increase in overall cotton yield.

Raut has also increased the diversity of crops he grows on the remaining 1 acre of his farm. By maximizing its potential, he now cultivates various mixed crops and inter crops such as cotton, *toor*, soybean, gram, fodder, other vegetables and perennial crops, ensuring that the land rarely remains fallow. The practice provides him with extra income as well.

> "**The increased income from agriculture has helped me pay for my daughters' education,**" says Raut, whose two daughters are now college-bound.

WATER AND CHEMICAL OPTIMIZATION

Q COLLECTION: MINIMIZING ENVIRONMENTAL IMPACT, MAXIMIZING EFFICIENCY

The optimum use of water and chemicals is critical to reducing the environmental footprint of the textiles sector. And, as more global brands turn eco-friendly, sustainability is a necessity rather than a choice for textile manufacturers.

Q Collection (previously known as SQ Group in Bangladesh) supplies to leading brands such as H&M, Marks and Spencer, Inditex, Gap, Tesco, Ralph Lauren, HEMA, Sainsbury's, etc. This company is setting an example on implementing sustainability in its operations. At SQ Hues, the dyeing and washing plant of Q Collection, a biological wastewater treatment plant ensures water is treated according to national and international guidelines before discharge.

Dyeing inherently is a water-, chemical-, and energy-intensive process, typically involving multiple baths. Each bath for 1,000 kg of fabric or yarn requires around 6,000 litres of water with chemicals, along with substantial energy to maintain temperatures between 60–90°C and above, depending on the fabric/yarn composition. By replacing conventional chemicals with more efficient multifunctional alternatives like bio-scouring and wetting agents, the company has reduced the number of dye baths required per batch. These innovations result in savings of up to 6,000 liters of water per batch for each eliminated bath—sometimes reducing two baths per cycle—while also cutting energy consumption by approximately 10% for heating, machine operation and wastewater management.

Additionally, the use of high-end software and technology effectively reduces reprocessing and enhances Right First Time (RFT) performance. This optimization minimizes consumption of resources such as chemicals, water and energy. Furthermore, a chemical auto-scaling system synchronized with dyeing recipes significantly reduces chemical-exposure risks for the plant's 350–400 workers.

KEY INTERVENTIONS	RESULTS
Replacing conventional chemicals with bio-scouring and wetting agents	Process consumes 6,000 litres less water per batch of fabric
Use of high-end software and technology	10% less energy consumed for heating, machine operations, and wastewater management
Implementation of a chemical auto-scaling system synchronized with dyeing recipes	Less exposure to chemicals for 350–400 workers

Ali has attended Solidaridad's capacity-building sessions on sustainable chemical management in the textile sector. Inspired by the learnings, he and his team are now conducting regular in-house training sessions for workers who handle chemicals and supervise processes, ensuring they learn, improve and retain the best practices.

> "The changes that we are trying to bring in our operations benefit both the environment and the business," says Ahammed Ali, Lead (Operational Sustainability), at Q Collection. "We must act now towards sustainability to ensure that our industry runs responsibly and with accountability."

OHS AND POLLUTION MITIGATION

SAFETY FIRST: PROTECTING WORKERS, PREVENTING POLLUTION IN SMALL TANNERIES

H Rahman Tanning Industries, a tannery unit in Kanpur, Uttar Pradesh, used to face the problems that thousands of small tannery units in India are accustomed to. The unit consumed massive quantities of water during processes such as fleshing—and poor standards of leather processing meant that the unit released pollutants in large quantities, significantly increasing its environmental footprint, and struggled to maintain market competitiveness.

"There were incidents where workers fainted due to toxic gases," says Hifzur Rahman, owner of the unit and President of the Small Tanners' Association. "We neither had the knowledge nor access to resources for effective pollution control. Our workers handled chemicals without gloves or masks. Salt was manually removed from hides, using hand brushes, as we had virtually no idea of enzyme-based dehairing."

However, with Solidaridad's support, things have now changed at this unit. "Solidaridad provided safety gear (gloves, masks, boots) for the workers," says Rahman. "They also provided hydrogen sulphide and water flow metres, introduced solenoid valves for fleshing machines, and installed bar screens and drum screens."

TOOLS TO MAKE A DIFFERENCE

OUTCOME

Bar screens and drum screens → Pollutants removed before they enter effluent treatment plant

Solenoid valves in fleshing machines → 50% reduction in water wastage

Hydrogen sulphide and water flow metres → Precision monitoring of pollution and water use

Safety gear (gloves, masks, boots) → Maintenance of occupational health and safety of workers

(Images used here for representative purposes only)

In addition to introducing these tools, training sessions on enzyme-based dehairing have helped the tannery improve the quality of products and make them eco-friendly. Another significant aspect of the interventions is the training of Sustainability Service Providers (SSPs).

> "SSPs play an important role in improving occupational health and safety in the tannery. Through fortnightly sessions, they train workers in the best safety practices, such as the use of PPE kits and safe handling units. They also maintain records of pollution parameters, and report any issue where we need to take preventive action," Rahman states.

GOOD AGRICULTURAL PRACTICES

MUSTARD FARMER BALKRISHNA PATIDAR FINDS THE RECIPE FOR SUCCESS

For Balkrishna Patidar, a mustard farmer, recent years have been marked by learning, adaptation, and success. Patidar, a resident of Paheda village in Madhya Pradesh's Mandsaur district, has now emerged as a lead farmer in his community.

"I've been farming for most of my life, but [procuring] good-quality seeds always seemed to be a luxury for small farmers like me," he says. "For years, I relied on traditional methods, often struggling with low yields and rising costs."

In 2023, Patidar started experimenting with a superior variety of seeds on a 1-bigha (0.11-hectare) demonstration plot. "That season, I witnessed an increase in yield from 4 quintals to 5 quintals in the plot," he says. This increase in yield also led to a rise of ₹5,500 (60.48 euros) in his income. Seeing the improvements, Patidar decided to increase the land under regenerative agriculture by 4 bighas. "The yield on the expanded field has gone up to 5.5 quintals per bigha.

Patidar has sold 4 quintals of these improved seeds directly to fellow farmers at the rate of ₹6,500 (71.43 euros) per quintal—a win-win scenario for both Patidar and the farmers. In the case of the farmers, they are able to save ₹3,500 (34.83 euros) per quintal, compared to market rate (for buying).

BENEFITS FROM REGENERATIVE MUSTARD AGRICULTURE

Increase in yield from 4 quintals to 5.5 quintals per bigha

Increase in income by ₹5,500 (60.48 euros)

₹500 (5.50 euros) saved due to use of yellow sticky traps

Profit of an additional ₹1,000 (10.99 euros) per quintal from selling improved seeds to fellow farmers, compared to market sale rate

Number of irrigation cycles reduced from 5 to 3, ₹500-₹700 (5.50 euros-7.70 euros) per bigha saved as a result

Expansion in area under regenerative agriculture: 4 bighas (0.44 hectares)

Certain improvements in agricultural practices—his adoption of integrated pest management techniques, for instance—have also contributed to Patidar's success. "By using yellow sticky cards to trap insects, I am saving ₹500 (5.50 euros) that I would have otherwise spent on chemical sprays. This also protects my crop from exposure to chemicals. These days, I am also using vermicompost instead of chemical fertilizers," he explains. The efficient use of water has also helped Patidar minimize the number of irrigation cycles from 5 to 3, saving him an additional ₹500–₹700 (5.50 euros–7.70 euros) per bigha.

> **"Today, I'm proud to say that not only am I growing better crops, I have also developed a good seed variety that I share with other farmers in my village. Their success now feels like my own,"** he says.

CIRCULAR APPROACH FOR WASTE UTILIZATION

A SUSTAINABLE STEP: MD ZAFAR IS BUILDING A VIABLE BUSINESS WITH ECO-FRIENDLY PAVER BLOCKS

In Bangladesh, the resource-intensive nature of conventional tilemaking is often a major challenge for local tilemakers and entrepreneurs such as Md. Zafar from Narayanganj, Dhaka. Zafar, who has been running Meghna Paver Tiles Limited since 2008 along with his wife, had been struggling with conventional tilemaking that limited his enterprise's production to only 1,000–1,200 units a day. "Maintaining a workforce and turning a profit was a huge challenge," he says.

As an eco-friendly alternative, Solidaridad is now training local entrepreneurs in the production of paver blocks from leather tannery sludge. One such entrepreneur is Zafar himself.

He is now using the sludge from a common effluent treatment plant under the Dhaka Tannery Industrial Estate Wastage Treatment Plant Company Limited (DTIEWTPCL) to manufacture pavers.

CONVERSION OF TANNERY SLUDGE INTO PAVER BLOCKS

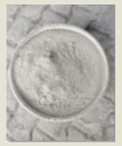
LIME SLUDGE

Granite stone chips (6 & 12 mm)

M Sand

Cement

Water



PAVER BLOCKS

DAILY PRODUCTION: 1,000-1,200 units → 1,500-2,000 units

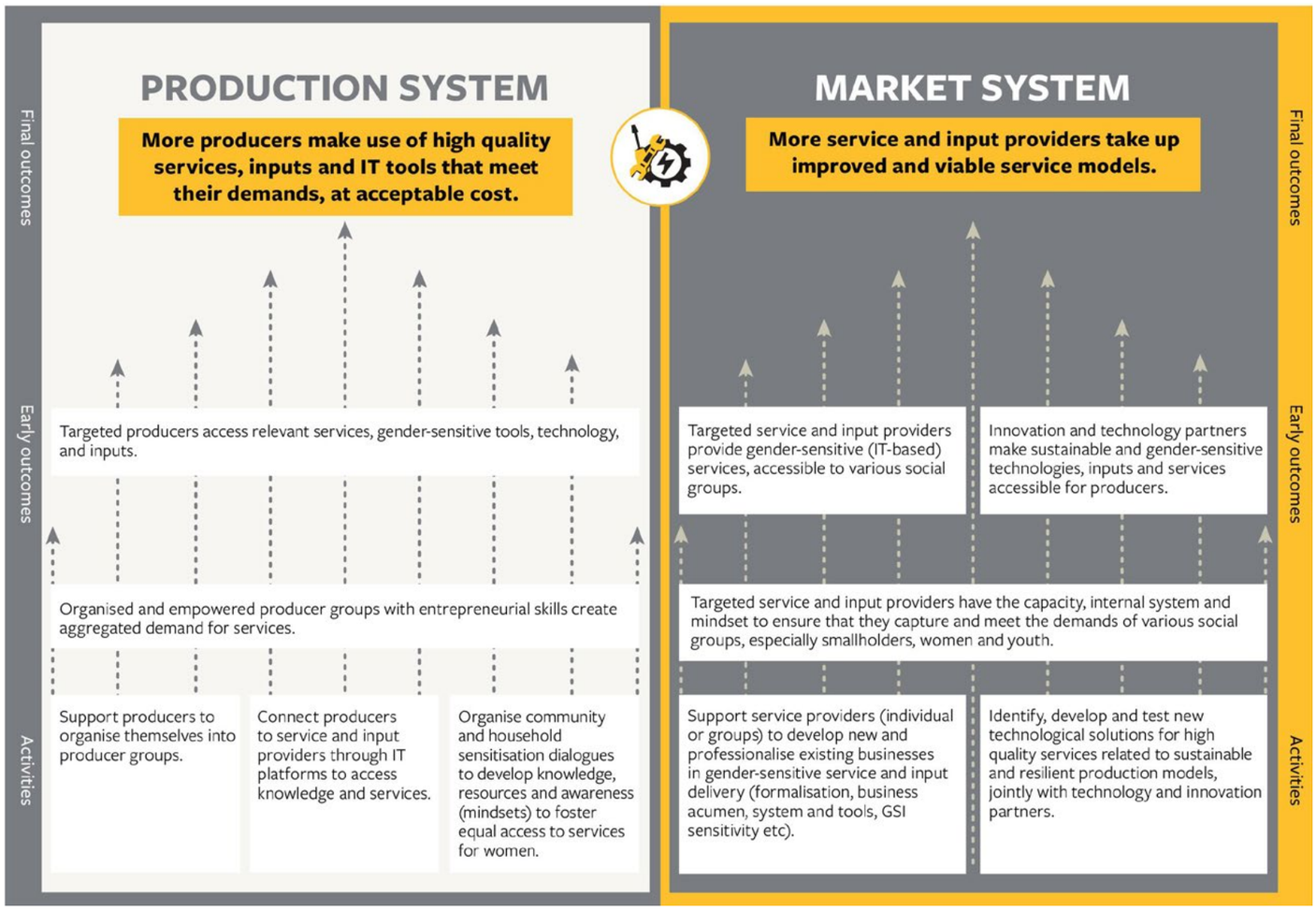
SAVIINGS: BDT 2 (0.014 euros) per unit

With the readily available raw material, Zafar does not have to pay for the sludge, and the cost of production has dropped as well. He currently employs 13 full-time workers, including three women.

> "Now, I am excited to teach others how to build these tiles to contribute to environmental safety and create economic opportunities for other entrepreneurs," Zafar adds.

PATHWAY 2

INCLUSIVE SERVICE DELIVERY SYSTEM (ACCESS TO SERVICES AND INPUTS)



MODERNIZING HARVESTING PRACTICES

TEA FARMER NAZMUL HUDA HARVESTS BENEFITS OF MECHANIZATION

Tea plucking has, traditionally, been a labour-intensive process. Further, the quality of leaves is inconsistent with the presence of branches in the harvest. The low quality produce fetches low earnings for small farmers.

For young, perceptive farmers such as Nazmul Huda, the training in mechanized pruning and harvesting has been an eye-opener. Huda, a tea garden owner, hails from Panchagarh district, a region that faces labour shortages. He realized that harvesters could be a viable alternative, but the prevailing perception that machines reduce yield significantly prevented him from adopting this process.

Huda's journey as a farmer has been defined by constant experimentation. At various points in his career, he has tried cultivating sugarcane, rice, and jute. "However, I have found tea to be the most profitable crop," says Huda, who became a tea farmer in 2010.

This time too, after receiving training in how to use the machines on his farm, Huda finally decided to carry out a bold experiment during monsoons last year. "There are people who think that the machine-cutting method provides fewer leaves," he says. "But, last monsoon, I tried both methods. And, the results told a different story." Contrary to expectations, machine-cut leaves fetched Huda a better price in the market.

MANUAL HARVESTING

Quantity
1,400 kg from 1.5 bigha (0.375 hectares)

Earnings
BDT 12,600 (87.56 euros)

Number of labourers
14

VS

MACHINE HARVESTING

Quantity
1,400 kg from 1.5 bigha (0.375 hectares)

Earnings
BDT 15,800 (109.80 euros)

Number of labourers
6

"Two years ago, when the tea-cutting machine was introduced in Panchagarh district, farmers rejected it wholeheartedly. In fact, I was among the first to adopt the machine," recalls Huda.

"It is only natural to replace inefficient methods with better practices. Therefore, the tea-cutting method farmers employ in Panchagarh is changing as well," he states.

> **"Take a look at Panchagarh district today—and you will hardly find a farmer using sickles to harvest tea leaves. The farmer who tried to stop me from buying a machine now has two of them."**

THE POWER OF FARMER COOPERATIVES

DEWI SRI FARMERS CHART A COURSE IN SUSTAINABILITY

Besides supporting oil palm farmers in sustainable cultivation, Solidaridad is also committed to the capacity-building of women in regenerative farming practices. And, what better way to show the virtues of regenerative agriculture than a demonstration plot?

Beside an oil palm plantation in the village of Bukit Indah in Central Kalimantan, a 0.5-hectare demonstration plot stands as a testament to the steadfast efforts of the Solidaridad-supported Dewi Sri, a female farmers' group. Consisting of 34 women, the group cultivates a variety of crops such as chayote squash, chillies, collards, corn, peanuts, tomatoes, water spinach, and medicinal plants, based on the principles of regenerative agriculture, and sustainable land management, that they have learned. In the first year, the harvest ensured adequate food security for the village community.

"Before the training, we were indifferent to the abundant materials around us, like oil palm waste. We never thought of utilizing them for our soil and plants," explains Ibu Sudarwati, a member of the group. "Now, thanks to the training we received on processing oil palm factory waste into compost, we possess the skills to create organic fertilizer for our own plots. We've learned which raw materials are needed to make compost efficiently."

Thanks to the training, Sudarwati and others like her have regained confidence.

> **"It's like cooking in our kitchens—we are taking raw ingredients and transforming them into nourishing food, but this time, for our land and crops. As a group, we now make compost for both our collective and personal needs, significantly reducing our reliance on costly chemical fertilizers, whose long-term use, we now understand, can harm our soil's quality,"** says Sudarwati.

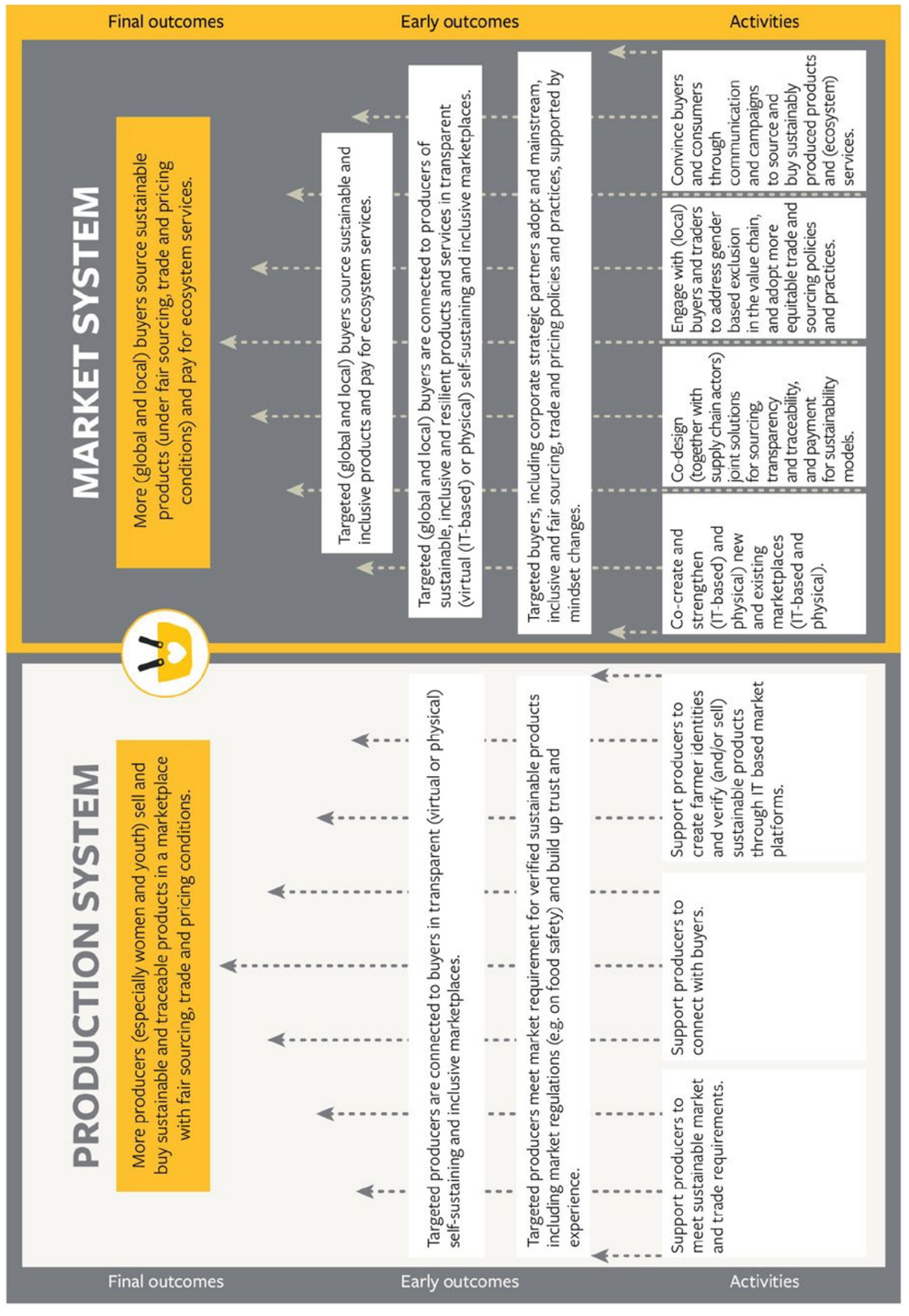
While balancing daily household responsibilities, the members of the Dewi Sri group have also been instrumental in the recent revival of a compost house in the village. By collaborating with Sumber Usaha Farmers' Group, another farmers' collective, the group is now producing a high grade of laboratory-tested compost/fertilizer, derived mainly from empty oil palm fresh fruit bunches sourced from a nearby mill. As recently as July 2025, the group sold 300 kg of the compost locally, generating a profit of IDR 2,375,000 (131.94 euros). The Dewi Sri group's committee is currently reserving these profits for future production cycles—particularly for procuring raw materials. However, once the profits become substantial, the members will enjoy equitable dividends.

BENEFITS OF COMPOSTING

- Beneficial for soil and plants
- Compost production follows a circular model, using oil palm waste, such as empty fresh fruit bunches, sourced from local mills
- Profit of IDR 2,375,000 (131.94 euros) from 30 kg of compost

PATHWAY 3

INCLUSIVE MARKET CONNECTION SYSTEM



FEMINIZATION OF SUPPLY CHAIN

SAY IT WITH SOY: WOMEN ENTREPRENEURS ENJOY IMPROVED ACCESS TO MARKETS

Women are generally not part of soybean supply chains in Bangladesh. However, the crop plays an important role in ensuring adequate food and nutrition security. Furthermore, soy and soy-based products can also provide women a sustainable means of livelihood.

In the districts of Noakhali and Lakshmipur, Solidaridad is promoting the sustainable cultivation of soybean, with a market-focused approach. The programme largely targets women cultivators and entrepreneurs—and in 2024, the project engaged 200 women entrepreneurs in the branding, packaging, and marketing of soy-based products (such as tofu, soy nuggets, soy roti and soy paratha). These products now feature traceable QR codes, and are sold locally and in urban superstores all across Bangladesh.

> **“We started Fowzia Foods after noticing a gap—that there weren’t enough healthy, locally-made soy-based products in Bangladesh,” says Afroza Sultana, Founder of Fowzia Foods.**

“With a passion for sustainable food but with limited resources, we set out to make nutritious options more accessible while empowering local farmers, especially women.”

“Moving ahead, we aim to grow across the country and beyond, introduce more plant-based products, support rural communities, especially women, and lead the way in eco-friendly, innovative food solutions,” she adds.

The collaboration with Fowzia Foods, a women-led startup, has helped scale up the training of cultivators in good practices and provided them with a direct linkage to markets. Sharmin Akter, an entrepreneur in Kamalnagar, Noakhali, says: “After attending the training sessions, I switched to a new seed variety and learned to make soy roti and soy paratha. Last year, I could generate profits and contribute to my family. Now I’m planning to expand my business.” From her soy enterprise, Sharmin makes an average monthly income of BDT 15,750 (110.96 euros). On an average, the entrepreneurs associated with the project are now earning an annual income of BDT 108,000 (848.69 euros).

TOWARDS SUSTAINABLE SOY: THE FOWZIA FOODS APPROACH

Collaboration
Fowzia Foods has brought together women entrepreneurs and farmers.

Improved income
Entrepreneurs associated with the project earn an average annual income of BDT 108,000 (848.69 euros).

Food security
Fowzia Foods addresses a critical gap, by providing affordable, locally made, healthy soy products.

Traceability
The products from Fowzia Foods come with QR codes, which reveal the journey of the items: from farm to table.

PROMOTING WOMEN'S ENTREPRENEURSHIP

TEA FARMER SRIPAH TURNS OVER A NEW LEAF WITH TEH NDESO

For Sripah, a small tea farmer in Kalimba village, the opportunity to be a micropreneur was all it took to trigger a change in her outlook.

Every day, Sripah goes about plucking and collecting tea leaves, while performing her household duties as well. However, in the past, the hectic routine used to leave her with little time and freedom to make her own decisions. "I hardly participated in group activities, and was completely dependent on my husband's decisions," she says.

That all changed once she started to sell Teh nDeso products to her neighbours. Teh nDeso is a brand run by Paguyuban Tani Lestari, an umbrella organization of more than 40,000 Indonesian tea smallholders in 14 districts supported by Solidaridad and Business Watch Indonesia. Under this initiative, 900 rural women and smallholders sell traceable, QR code-embedded tea products to households and local shops.

TEH NDESO: USHERING IN A NEW PARADIGMFOR INDONESIAN TEA

Teh nDeso
A tea brand run by Paguyuban Tani Lestari, an organization of more than 40,000 Indonesian tea smallholders in 14 districts

Both Lestari and Teh nDeso are supported by Solidaridad and Business Watch Indoneia, in their operations.

Under the Teh nDeso initiative, 900 rural women and smallholders sell traceable, QR code-embedded tea products to households and local shops.

The income from selling these tea products to households and tea shops has allowed women to gain financial independence.

Sripah sells around 8 boxes of tea bags and 10 bales of loose tea packages worth US$42 (35.94 euros) every month. With her entrepreneurial spirit and newfound sense of confidence, she now acts as a host and speaker during village events and functions. She has also been able to expand her business network, and can now negotiate with companies and government actors.

> **"My opinions now hold weight, and even my husband pays attention to them,"** she states.

Solidaridad

Scan to know more about
the programme

CHANGE THAT MATTERS