Solidaridad SOPA

NEWSLETTER

NARVOS

NATIONAL ALLIANCE FOR REGENERATIVE VEG OIL SECTOR

Initiated Under

Promotion of Regenerative Agriculture Practices for a Food Secure & Climate Resilient Future in the EU-India Partnership Programme

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Solidaridad

Editorial Forward

Dear Readers and Fellow Change-Makers,

With deep conviction, we present this special edition of the NARVOS Newsletter that is entirely dedicated to the women farmers of India, the unsung architects of our food systems, the quiet revolutionaries who have, for centuries, sustained the land with wisdom, care, and an unbroken bond with nature.

This edition recognises that regenerative agriculture, at its very core, is not a new concept for rural Indian women. It is the living memory encoded in their hands, passed from mother to daughter across generations of farming families.

India's agricultural landscape is inseparable from its women. According to the Food and Agriculture Organisation (FAO), women constitute approximately 60–80% of food production in India, yet they remain structurally invisible in policy, ownership, and institutional support. Despite their staggering contribution, less than 13% of women in India hold land titles, and a mere fraction have access to institutional credit, training, or extension services.

Women in rural India perform a multitude of roles in agriculture from seed selection and soil preparation, to transplanting, weeding, harvesting, post-harvest processing, and marketing. They are the primary caretakers of livestock, the managers of kitchen gardens, and the keepers of indigenous crop varieties and traditional ecological knowledge. In tribal and hill farming communities, their role becomes even more pronounced, with women often managing entire farm operations while men migrate for wage labour.

Yet, this immense contribution is rendered invisible by socio-economic systems that deny them ownership, voice, and recognition. The data is stark: women farmers receive only about 7.4% of the total agricultural credit disbursed in India. Gender wage gaps in agricultural labour persist at over 30% in several states. Women-led farming households are disproportionately affected by climate stress, drought, and crop failures.

Regenerative agriculture with its principles of soil health, biodiversity, water stewardship, and ecological balance is not foreign to Indian women farmers. It is, in many ways, the formalisation of what they have always practised. The composting of farm waste, the use of native seed varieties, the maintenance of agro-forestry systems, the application of cow dung and ash to fields these are not novel interventions. They are ancestral practices that women have stewarded for generations.

At NARVOS, we believe deeply that the transition to regenerative food systems in India cannot succeed without the full, meaningful, and equitable participation of women farmers. They are not beneficiaries of this transition they are its leaders.

I urge every reader of this newsletter whether you are a farmer, a researcher, a policy maker, a funder, or a concerned citizen to ask yourself: How am I supporting women farmers in my sphere of work and influence?

Happy Reading!

Dr. Suresh Motwani
Programme Lead

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Reaching the Roots - *Women at the Heart* of Regenerative Agriculture

How the EU-India Partnership Programme is putting women farmers at the centre of climate resilience

10K+

Women Farmers. One Shared Mission.

The EU-India Partnership Programme has set an ambitious target and it is well within reach. Ten thousand women farmers empowered through regenerative agriculture practices.

THE MULTIPLIER MODEL

1 Demo Plot

=

~50 Women Farmers Engaged & Trained

Each dot represents one woman farmer = *Plot leader*

JOURNEY TO 10,000

Women farmers Reached — **On Target ✓**

Programme Launch — Current Progress — Goal 10,000

PROGRAMME REACHED AT A GLANCE

~50
PER DEMO PLOT
Women actively engaged per demonstration plot

10000
TARGET
Women farmers to be empowered through the programme

EU-IN
PARTNERSHIP PROGRAMME

"Every demonstration plot is not just a patch of earth - it is a classroom, a community, and a catalyst. With 50 women gathered around each one, change is not just growing. It is multiplying"

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What The Fields Are Telling Us

Insights from Demonstration Plots - February Field Observations

Across the EU-India partnership supported demonstration plots, the rabi season has entered a decisive phase. Mustard crops are progressing from pod formation to seed filling, while wheat fields are transitioning from jointing to early grain development.

February field observations highlight how regenerative practices are influencing crop stability, nutrient efficiency, and pest resilience during this yield-defining period.

At this stage, crops require consistent soil moisture, balanced nutrition, and vigilant pest monitoring, making February a critical window for crop management.

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Pod Development and Crop Vigour in Mustard

Across most demonstration plots, mustard crops have moved beyond flowering and are now showing uniform pod formation and healthy plant structure. Fields managed with regenerative practices are demonstrating improved plant vigour and stable crop growth.

Key observations include:

- Better pod formation with minimal flower drop
- Stronger stems capable of supporting higher pod load
- Healthy plant canopy and uniform crop stand

Field message:
Improved soil health and balanced nutrition are helping mustard crops convert flowering into stable pod development.

Wheat Growth and Crop Structure

Wheat crops across pilot plots are now moving into the jointing to early grain formation stage, a phase where nutrient uptake and root development strongly influence final yields.

Field observations indicate:

- Strong tiller survival and uniform crop stand
- Taller plants with improved leaf colour
- Stronger root development in fields with reduced soil disturbance

Field message:
Healthy soil structure and organic matter are supporting better wheat growth and efficient nutrient uptake.

Moisture Conservation During Late Winter

With fluctuating temperatures and limited winter rainfall, soil moisture conservation becomes increasingly important in February.

Fields where regenerative practices are followed are showing:

- Better soil moisture retention due to improved soil organic matter
- Reduced irrigation requirement in wheat fields
- Improved crop tolerance during short dry spells

Field message:
Soils with higher organic matter are acting as natural moisture reservoirs, reducing crop stress during critical growth stages.

Pest Monitoring and Biological Control

Mustard crops during pod formation and wheat crops approaching grain development remain vulnerable to aphids and sucking pests.

Farmers across demonstration plots are prioritising preventive monitoring and biological control methods.

Common practices observed include:

- Installation of sticky traps for pest detection
- Reduced use of chemical pesticides
- Increased presence of beneficial insects in fields

Field message:

Early monitoring and ecological pest management approaches are helping farmers reduce chemical dependence.

Residue Management and Soil Health

Crop residues retained from previous seasons are showing positive results during late winter conditions.

Farmers report:

- Moderated soil temperature during cold nights
- Reduced weed pressure due to soil cover
- Improved soil structure and microbial activity

Field message:

Residue retention and crop diversity are strengthening soil health and improving crop resilience.

Farmer Observations from the Field

Farmers participating in the demonstration plots are increasingly linking crop performance with soil management practices.

Common feedback includes:
“ We needed fewer irrigations this season.”
“ The mustard crop looks uniform across the field.”
“ The wheat crop is stronger even with balanced fertiliser use.”

These experiences indicate a gradual transition from input-intensive farming towards soil-centred regenerative management.

Regenerative Advisories Shared with Farmers – February

Based on field observations and crop stage requirements, farmers were encouraged to follow the following regenerative practices:

- Conduct regular field scouting for aphids and other sucking pests, especially in mustard crops.
- Use bio-based pest management solutions such as neem-based sprays and locally prepared bio-inputs where required.
- Apply need-based fertiliser application in wheat based on crop condition and soil recommendations rather than blanket use.
- Maintain optimum irrigation scheduling and avoid excessive watering during late winter.
- Retain crop residues or organic matter in fields to improve soil moisture retention and soil health.
- Continue integrating bio-inputs such as compost, vermicompost, and botanical formulations to strengthen soil biological activity.

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Vegetable Oil Self-Reliance Gains Momentum

India's First Bharat Sarson Sangam Marks a New Chapter

With India importing over 55% of its edible oil needs, the push for domestic oilseed production has never been more urgent. A growing movement around mustard cultivation is quietly rewriting that story and Mandsaur, Madhya Pradesh, just put itself at the centre of it.

Over 1,500 farmers gathered in Village Kanghatti for the first-ever Bharat Sarson Sangam- a conclave dedicated to mustard cultivation, regenerative agriculture, and farmer income enhancement. Leading agri-companies, government authorities, and technical institutions joined hands, making the event as much a statement of intent as a platform for knowledge exchange. District Collector Mandsour Ms. Aditi Garg, attending as Chief Guest, underlined why this moment matters. Regenerative agriculture, she emphasised, is key to restoring soil health and reducing India's dependence on imported edible oils.

Dr. B.V. Mehta, Chairman of the Solvent Extractors' Association of India, acknowledged Solidaridad's regenerative mustard initiative and pointed to the surging domestic demand that India's farmers are well-positioned to meet. Representatives from Adani Wilmar Limited, Louis Dreyfus Company, and VVF Limited participated as active partners sharing insights on quality procurement, value addition, and supply chain opportunities. Exhibition stalls showcased improved seed varieties, bio-inputs, and regenerative practices, while agricultural experts guided farmers on crop rotation, soil testing, and residue management to reduce costs and improve yields.

Farmers from Mandsaur, Ratlam, Neemuch, Haryana, and Rajasthan made the journey to Kanghatti signalling that this momentum is not confined to one geography, but part of a wider, coordinated shift toward mustard-led edible oil self-reliance.

STORIES FROM THE GROUND

FROM CHEMICAL DEPENDENCY TO REGENERATIVE ROOTS

The Story of Ikhlesh Verma, Lead Farmer
Village Narela, District Bhopal, Madhya Pradesh

"When I started farming 10-15 years ago. I used only DAP and Urea. Now I watch my soil breathe again and that tell me I am on the right path"- Ikhlesh Verma, Lead Regenerative Farmer

A Farmer Who Dared to Listen

In the village Narela, Bhopal district, Ikhlesh Verma had been farming his 4.5 acres for over a decade the way every farmer around him farmed. Bags of DAP were stacked at the season's start. Bottles of insecticide stood ready. Urea went in by the sacksful. It was the only language the land had been taught to speak. And yet, something was changing slowly, silently, and troublingly. Where once a single spray of insecticide protected the crop through 90 days, the same field now demanded more and more chemicals each season to deliver the same results.

The soil, once rich and forgiving, had grown dependent. The ecosystem had thinned. The costs were climbing. Ikhlesh noticed but like many farmers, he pressed on, because the alternatives felt distant and uncertain.

Then, a series of training programmes arrived at his village. Organised under the EU-India initiative **"Promotion of Regenerative Agriculture Practices for a Food-Secure & Climate-Resilient Future,"** these sessions spoke a different language- one of soil biology, balance, and long-term resilience. Ikhlesh attended every session. He listened closely.

A Lead Farmer

Recognising his enthusiasm and commitment, the Solidaridad programme team selected Ikhlesh Verma as a Lead Farmer. A one-acre demonstration plot of wheat was established on his land a living classroom for the community. Under expert guidance, Ikhlesh began rebuilding his soil from the ground up. The transformation was not sudden. It was deliberate, patient, and grounded in knowledge.

Cost Transformation in Wheat

In the 2024 rabi (wheat) season, Ikhlesh put regenerative agriculture to the test on his one-acre demonstration plot. The results on input costs were striking:
On his one-acre demonstration plot, Ikhlesh made two major changes: he cut his urea use by half and replaced DAP with just one sack instead of the usual two to three. Alongside this, he used vermicompost, Jeevamrit, Kanda Tonic, and Panch Patti Kadha as natural alternatives. He also set up a bio-resource centre on his farm where he prepares all these bio-inputs himself.
The result was simple his input cost dropped to nearly half.

To put that in perspective, a conventional farmer on the same one acre would typically spend:

- **DAP (50 kg): Rs. 1,400**
- **Urea (100 kg / 4 sacks): Rs. 4,800**
- **One insecticide spray: Rs. 1,500**
- **Total: approximately Rs. 7,700**

Ikhlesh spent significantly less not by giving up productivity, but by replacing expensive chemical inputs with low-cost, homemade bio-inputs.

"When I started farming, one spray in 90 days was enough in soybean. Now, with chemicals alone,, the field demands more every year. The soil had forgotten how to protect itself. I had to help it remember". – Ikhlesh Verma

This perspective rooted in understanding rather than anxiety is the hallmark of a true regenerative farmer. Ikhlesh knows that the investment is in the land's future, not just the season's output. He also understands, and lives by, the core principle of this programme: regenerative agriculture does not ask farmers to abandon all chemistry overnight. It asks for a balanced approach reducing dependency, rebuilding biology, and moving gradually toward resilience.

His Regenerative Toolkit:

- **Neem Khali (Neem Cake):** Applied at sowing to enrich soil health naturally replacing synthetic soil amendments.
- **Vermicompost & Potash:** Substituted for urea and synthetic fertilisers, feeding the soil's living biology.
- **Kanda Tonic:** A fermented bio-stimulant prepared at home in a simple 20-litre drum, applied 5-6 times across the crop season.
- **Jeevamrit:** A traditional microbial preparation that revitalises soil biology and boosts the crop's natural immunity.
- **Panch Patti Kadha**: A five-leaf herbal extract known for its role in strengthening plant defences without chemicals.
- **Mustard Border Crop:** Planted along field edges as a natural insect deterrent replacing the need for chemical sprays.
- **Pheromone Traps & Marigold Borders:** Used in the kharif season for soybean, attracting and trapping pests without chemical intervention.

The Yield

The wheat yield from the demonstration plot came in at 19 quintals compared to the 22-24 quintals Ikhlesh had achieved in previous seasons with conventional inputs. A drop. And yet, Ikhlesh was not shaken.

"The land that has relied on chemical for years will take time to completely embrace regenerative practices. I know this. That is why I have taken wheat again in rabi 2025. The soil improving. I can feel it- it is moister now."- Ikhlesh Verma.

Beyond Wheat - Soybean Season 2025.

- Ikhlesh's regenerative journey extended beyond wheat. In the 2025 kharif season, he applied the same principles to soybean on his field. The results were encouraging:
- Yield of 7-8 quintals of soybean achieved with dramatically reduced inputs.
- Complete elimination of DAP - saving 15-20 sacks worth of costs.
- Two insecticide sprays avoided - saving Rs. 4,500.
- Pheromone traps and marigold border crops replaced chemical pest management entirely.
- Bio-inputs applied in onion and garlic cultivation as well, extending the practice across the farm.

The Bio- Resource Center: Knowledge Becomes Community

Perhaps the most powerful development in Ikhlesh's journey is the establishment of a Bio-Resource Centre on his farm. Here, he prepares all his bio-inputs Kanda Tonic, Jeevamrit, Panch Patti Kadha not just for his own fields, but as a resource for his community.

His demonstration plot has become exactly what it was designed to be: a living classroom. Nearby farmers, witnessing the reduction in his input costs, the visible improvement in his soil, and the sustained yields across seasons, are now adopting the same practices on their own lands. Knowledge, once received, is being passed forward.

"Many farmers from nearby village come to see what I am doing. They ask questions. I share what I know. If my land can show them, it is possible, that is enough for me."- Says Ikhlesh.

VOICES FROM THE STAKEHOLDERS

D.N. Pathak,
Executive Director,
Soybean Processors Association of India (SOPA)

"Women form the invisible spine of India's soy sector comprising nearly 60–70% of farm labour across key growing states like Madhya Pradesh yet remaining largely outside formal support systems. Research shows that equipping women farmers with equal access to inputs and credit can boost productivity by up to 20-30%.

The industry must act by integrating women into FPO networks, ensuring direct access to quality seeds, and building women-led procurement centres at the village level. At SOPA, we believe that empowering women farmers is not just a social imperative it is the smartest investment the soy industry can make for long-term, sustainable growth."

"I believe regenerative agriculture is the easiest and most women-friendly form of farming. The methods and practices are simple to adopt and give the soil a new life. At home, I personally take responsibility for preparing bio-inputs. With the support of my Self-Help Group, I have also begun selling these bio-inputs to fellow farmers in my village."

Deepika Singh,
Regenerative Farmer,
Village Bankhedi, District Raisen, Madhya Pradesh

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Policy Thought - NARVOS Editorial Desk

Making Regenerative Farming Work for Women

Women make up the backbone of India's farming communities, yet regenerative agriculture policies continue to be designed around them rather than for them. As the movement grows, it is time to ask a hard question who is this transformation really serving?

The tools don't fit. Most farm equipment is built for male bodies. Women farmers work longer hours with heavier, ill-fitted tools that cause fatigue and injury. Policy must fund the development of lightweight, ergonomic, and affordable farming devices designed specifically for women tested in real fields, by real women.

The trainers don't look like them. Women learn best from women they trust. Yet extension workers and master trainers remain predominantly male. A mandatory target of at least 50% women trainers within every regenerative agriculture programme drawn from local communities and supported with fair stipends would change this overnight.

The land is not in their name. A woman can farm the same land for decades and still own nothing legally. Without land title, she cannot access credit, subsidies, or carbon incentive programmes. Joint land titling and simplified legal pathways for women to claim farming rights must become standard policy not optional add-ons.

The knowledge does not reach her. Asking women farmers to attend distant institutes is asking the impossible. Awareness programmes must come to her through SHG meetings, community radio, village demonstrations, and WhatsApp knowledge circles in local languages, at times that respect her daily responsibilities.

And the community must carry it forward. Women-led farming collectives are among the most powerful and underused vehicles for lasting change. Recognising and resourcing them formally is not charity it is smart policy.

Regenerative farming promises to heal the earth. But that healing must begin with the women who tend it every single day.

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Practice Highlight

This Month: The Bio-Digester

Waste In. Fuel Out. Fertility Back.

A bio-digester is a sealed anaerobic chamber that converts organic waste cattle dung, kitchen scraps, agricultural residue into two valuable outputs: biogas (primarily methane) for cooking and lighting, and bio-slurry, a nutrient-rich liquid fertiliser. The process is called anaerobic digestion, where microorganisms break down organic matter in the absence of oxygen, releasing biogas that can be directly piped to a stove.

A standard household bio-digester processes 25-40 kg of dung daily, producing enough gas for 2-3 hours of cooking. The slurry it generates contains readily available nitrogen, phosphorus, and potassium making it comparable in nutrient value to chemical fertilisers, while simultaneously improving soil organic matter and microbial health over time. Unlike synthetic inputs, it does not degrade soil structure. It builds it.

Lalita's kitchen and Lalita's fields.

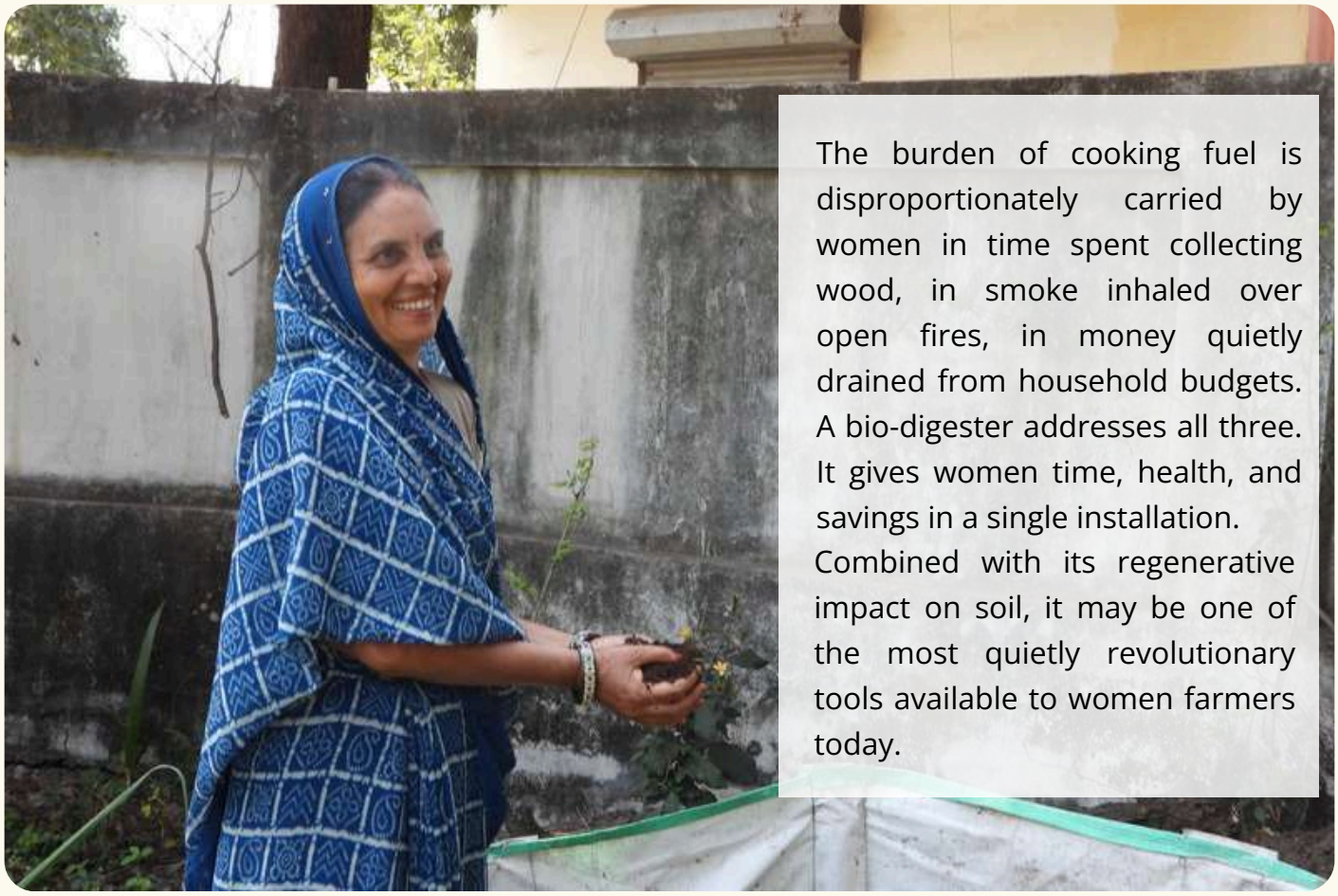
Twenty kilometres away in Dewas district, Lalita Parmar from Village Rajoda tells a different version of the same story.

A bio-digester installed in her home has changed how she thinks about waste entirely. Each day, she feeds it cow dung. In return, it gives her fuel saving her two LPG cylinders every month, Rs. 2,000 she no longer spends. The slurry goes straight to 2-3 bighas of her farmland, quietly building the soil fertility that chemical fertilisers had been slowly destroying for years.

What was once a disposal problem is now a production cycle. Her cattle waste feeds her stove. Her stove's input feeds her soil. Her soil feeds her family.

For Lalita, the bio-digester is not a technology it is a logic of abundance where nothing is wasted and everything returns.

Why it matters for women farmers



The burden of cooking fuel is disproportionately carried by women in time spent collecting wood, in smoke inhaled over open fires, in money quietly drained from household budgets. A bio-digester addresses all three. It gives women time, health, and savings in a single installation.

Combined with its regenerative impact on soil, it may be one of the most quietly revolutionary tools available to women farmers today.

NARVOS Secretariate

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