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Turning bamboo into business: Scaling green livelihoods across India

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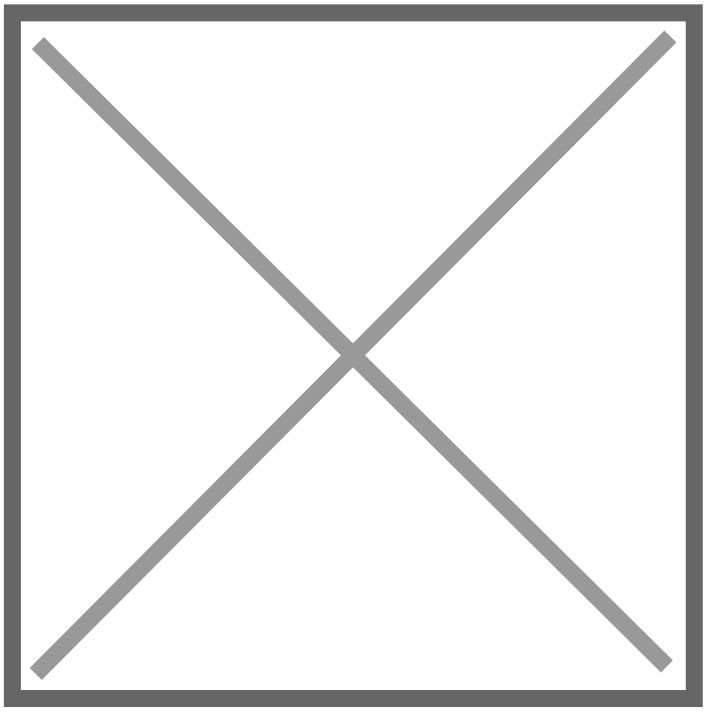

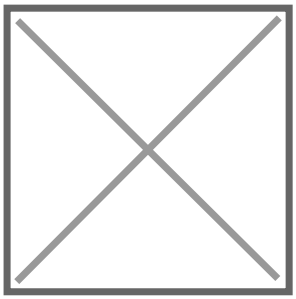

Neju George Abraham shares how Industree Foundation is building globally competitive, climate-positive supply chains

In an exclusive interaction with AgroSpectrum, Neju George Abraham, CEO of Industree Foundation, outlines a bold vision for scaling women-led, climate-resilient livelihoods through nature-based value chains. He emphasizes that women are not beneficiaries but central economic actors, driving both sustainability and commercial viability in sectors such as bamboo and natural fibres.

Drawing on two decades of experience, Abraham highlights how structured, traceable supply chains and producer-owned enterprises are unlocking market access while delivering measurable environmental and social impact. He also underscores persistent gaps in climate finance, market pricing, and policy implementation that continue to limit the full potential of these enterprises. Looking ahead, he positions women-led, nature-based enterprises as core infrastructure for Indiaâ??s climate and economic future, rather than a niche sustainability solution.

You often speak about building â??green livelihoods at scale.â? Whatâ??s the business case for putting women at the centre of climate-resilient, nature-based value chains - and is the market finally ready to price that value correctly?

At Industree, we see women not as beneficiaries but as central economic actors in building climate-resilient, nature-based value chains that respond to a growing global market for sustainable materials. Women already form the backbone of agriculture and forest-based livelihoods across rural India. When they are organised into producer collectives and connected directly to markets, they drive both productivity and long-term sustainability.

Over the past two decades, the Industree Foundation ecosystem has demonstrated that inclusive and climate-positive value chains can also be commercially viable. Our work has impacted more than 600,000 lives and enabled nearly $ 60 million in cumulative market access for rural producers. These value chains focus on regenerative materials such as bamboo and other natural fibres that align ecological restoration with stable income generation.

The market for nature-based products already exists and continues to grow as industries seek alternatives to carbon-intensive materials like plastic, steel, and conventional timber. The challenge is not demand but building supply chains that connect rural producers to that demand efficiently and fairly.

Industreeâ??s approach focuses on creating end-to-end, traceable value chains that link farmers and producers directly to buyers without multiple layers of intermediaries. By organising women into producer collectives and enterprises, and providing support in skills, aggregation, processing, and market access, we help ensure that a greater share of the value flows back to the communities that create it.

An example of this model is GreenKraft Producer Company Ltd, a 100 per cent women-owned enterprise incubated by Industree that works with natural fibres such as bamboo, sal/siali and banana bark. By integrating rural producers into formal supply chains and connecting them with national and global markets, such enterprises demonstrate how climate-resilient, nature-based value chains can generate both environmental and economic value.

While global markets are increasingly valuing responsibly sourced materials, this recognition has yet to translate into consistent and equitable price premiums for producers, with smallholder farmers and rural enterprises continuing to capture only a limited share of the added value. This underscores the need for stronger market mechanisms that reward sustainability more fairly and reliably. Scaling these models will require sustained investment in traceable supply chains, farmer collectives, and direct market linkages, enabling women producers to capture the full economic value of the growing demand for nature-based products.

Climate adaptation is now a boardroom issue. How do you translate abstract climate risk into tangible income security for rural women producers on the ground?

Climate adaptation becomes meaningful for rural communities when it delivers stable livelihoods and predictable income, particularly in regions where rainfall-dependent agriculture makes households highly vulnerable to climate shocks, often leading to income loss and migration. Addressing this requires shifting from input-intensive crops to resilient agroforestry systems. At Industree Foundation, this begins with enabling the cultivation of climate-resilient resources like bamboo on degraded or fallow land, restoring ecosystems while creating a long-term, low-input income stream that can last 40â??45 years without displacing food crops.

To convert this into sustained income, Industree builds structured, market-aligned value chains by aggregating women farmers into producer collectives and equipping them with training, tools, and machinery for primary processing and enterprise management. This is complemented by decentralised processing, adherence to quality and certification standards, and integration with direct market linkages that reduce intermediaries and improve price realisation. Industree also enables smallholder women farmers to acquire international certifications such as the Forest Stewardship Council (FSC) Certification,

which serve as a gateway to high-value markets by ensuring that bamboo is sustainably grown, legally compliant, and fully traceable across global supply chains.

Through this end-to-end ecosystem spanning cultivation, skilling, processing, certification, and market access, Industree translates climate resilience into dignified, stable jobs, enabling women-led producer enterprises that are economically viable and embedded within regenerative, globally connected value chains.

Nature-based enterprises are often seen as artisanal and small-scale. What will it take to make them competitive with industrial supply chains - without compromising ecological integrity?

Nature-based enterprises are often perceived as artisanal or small-scale, not because of limited potential but due to fragmented value chains. To compete with industrial supply systems, these enterprises must be structured as end-to-end value chains that integrate production, aggregation, quality assurance, certification, and market access.

At Industree Foundation, the focus has been on building traceable and certified supply chains that meet global standards while maintaining ecological integrity. Certification plays a crucial role in enabling access to higher-value markets. Alongside Forest Stewardship Council (FSC) certification for responsibly sourced bamboo, producer enterprises within the Industree ecosystem also align with global compliance frameworks such as SMETA and other international quality and ethical sourcing standards. These certifications help ensure transparency, responsible production practices, and credibility with global buyers.

Equally important is the producer organisation. Industree has supported the incubation of 32 producer collectives and 12 farmer-producer organisations, demonstrating that scale becomes possible when rural producers are organised into structured enterprises. Through these institutions, producers are able to aggregate supply, maintain consistent quality, and participate in formal markets.

Ultimately, competitiveness comes from combining institutional partnerships, certification, market alignment, and organised producer networks. When these elements are integrated, nature-based enterprises can operate at scale, access global markets, and remain both economically viable and environmentally responsible.

Access to capital remains a bottleneck. Why do women-led, climate-positive enterprises still struggle to attract mainstream investment, and what needs to shift in the impact and climate finance ecosystem?

Women-led, climate-positive enterprises often operate in sectors with long gestation periods and distributed production systems, which do not align with traditional investment expectations. These models require collective ownership, livelihood security, and ecological outcomes, which are not always captured in conventional financial metrics.

At Industree, we work with a mix of public programmes, CSR, and impact capital to enable enterprise growth. There is a need for financial models that recognise blended value with economic, social, and environmental returns. As nature-based industries scale, they must be recognised as viable economic sectors. Unlocking capital will require patient financing, risk-sharing mechanisms, and stronger market linkages.

Producer ownership is central to your model. In a world obsessed with hyper-growth and exits, how do you defend collective ownership as a scalable and investable structure?

While the broader business ecosystem often prioritises hyper-growth and rapid exits, rural enterprises require a different lens, where sustainable scale is built through strong institutions, organised producer groups, and long-term market linkages.

At Industree, the model is rooted in the belief that when women are entrusted with ownership, they build more resilient and enduring enterprises, drawing on their deep knowledge of local resources, production systems, and community networks. Over the past decade, government has invested in collective ownership models. We wish to leverage and build upon these in the rural sector.

Collective ownership is central because it ensures that value remains within the community, with women producers transitioning from participants in value chains to owners and decision-makers. Through targeted capacity building, leadership development, and enterprise management training, they are equipped to run and govern their businesses, while external support gradually transitions to community ownership to ensure long-term sustainability.

This approach redefines empowerment in economic terms, as women-led enterprises influence how resources are allocated, profits are reinvested, and opportunities are shared, often prioritising stability and collective welfare. Industreeâ??s vision is to build networks of women-led collectives that are both commercially viable and socially transformative, where scale is defined not just by growth, but by deepened ownership, stronger leadership, and greater community resilience.

Measurement drives markets. How do you quantify the dual return - economic empowerment for women and measurable environmental outcomes - in a way that resonates with global buyers and investors?

At Industree Foundation, impact measurement is embedded within the business model to align social outcomes with market demand and investment. On the economic front, the organisation tracks indicators such as income enhancement, enterprise ownership, and market access, with more than 40,000 women trained and integrated into nature-based value chains. These systems ensure that rural producers are not only participants but also stakeholders in the enterprises they help build.

Environmental metrics are equally important. Regenerative value chains such as bamboo cultivation enable measurable outcomes, including carbon sequestration, land restoration, and improved biodiversity. Certification frameworks such as Forest Stewardship Council certification strengthen these efforts by ensuring traceability and responsible sourcing across the supply chain.

As global buyers increasingly prioritise transparency and sustainability, such verified systems help link environmental and social impact directly with market access. By aligning measurable outcomes with buyer expectations, nature-based enterprises can unlock stronger market opportunities while demonstrating long term ecological and economic value.

Across all three value chains 94 per cent women reported there has been increase in new employment opportunities, 85 per cent reported improved competency and access to productive economic resources, 76 per cent women have reported their increased participation in family decision making.

Policy ambition on climate is rising in India. Where do you see the biggest gap between national climate commitments and the lived realities of women working in forest and farm-based economies?

Indiaâ??s climate ambitions are significant, but the key gap lies in translating policy into viable livelihood opportunities for women in forest- and farm-based economies. While access to land and finance remains a challenge, the more critical constraint is the lack of reliable market linkages, which limits their ability to convert climate-positive production into stable income. This is further compounded by the absence of standardised certification and quality assurance systems, restricting access to higher-value domestic and export markets.

Climate solutions may be framed at a national level, but their success depends on enabling women producers to participate competitively in markets. Bridging this gap requires stronger convergence between government systems, institutions, and industry players to ensure not just access to resources, but also robust market connect and certification frameworks. This is essential to making climate action both economically viable and truly inclusive.

If you look 10 years ahead, do you see women-led, nature-based enterprises as a niche sustainability play, or as core infrastructure for Indiaâ??s climate and economic future?

Yes, over the next 10 years, women-led, nature-based enterprises will become core infrastructure for Indiaâ??s climate and economic future, not a niche sustainability play. Industreeâ??s work over the past two decades has consistently shown that these enterprises are inherently women-led, because they are rooted in locally available natural resources like bamboo and other fibres, and built on generations of knowledge that women already possess. What women need is structured early-stage support; with the right hand-holding through training, institution-building, and market access, they are able to take ownership, scale operations, and build stable, long-term income streams.
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Industree has demonstrated the scalability of this model by training over 40,000 women and integrating them into organised, market-linked value chains, where they transition from workers to enterprise leaders. Its â??Lakhpati Didiâ? vision aligns with national priorities to enable rural women to achieve annual incomes of Rs 1 lakh and above through sustainable livelihoods, ensuring that income growth is both scalable and climate-resilient. Building on this momentum, Industree is partnering with State Rural Livelihood Missions (SRLMs) across India to empower one million women farmers across 500 collectives over the next five years, driving bamboo-based livelihoods at scale.

As climate risks intensify, the alignment between womenâ??s livelihoods and natural resource-based economies will only strengthen. These value chains not only offer long-term economic resilience, often sustaining incomes for decades, but also contribute to ecological restoration. The shift ahead is therefore structural, with climate action and enterprise development working hand in hand, positioning women-led, nature-based enterprises as a foundational pillar of Indiaâ??s future growth.

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