Why India, why now: Global spotlight on sugarcane transformation

24 March 2026 | News

Exclusive AgroSpectrum interview with Manisha Majumdar, on why India is reshaping the global sugarcane narrative

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*In an exclusive interview with **AgroSpectrum, Manisha Majumdar, Head APAC, Bonsucro**, explains why Indiaâ??s scale as the worldâ??s second-largest sugar producer, combined with its rapid shift toward ethanol and bio-based industries, makes this a pivotal moment to spotlight the country globally.* She highlights how regions like Maharashtra, Uttar Pradesh, and Karnataka are not only production hubs but also emerging centers of sustainability innovation, supporting millions of smallholder farmers.

Manisha emphasizes that India must transition from a volume-driven sugar economy to a climate-resilient, sustainability-led value chain through diversification, water efficiency, and regenerative agriculture. She underscores that credible certification systems such as Bonsucro are becoming strategic tools to ensure traceability, meet global ESG norms, and unlock premium

markets while strengthening Indiaâ??s climate narrative amid ethanol expansion. Looking ahead to 2030, she concludes that aligning policy, finance, and global buyer commitments will be critical to positioning India as a model for climate-smart, inclusive, and competitive sugarcane production.

Why India, Why Now?

India is the worldâ??s second-largest sugar producer. What makes this the right moment for Bonsucro to spotlight India on the global stage, and what signal does choosing New Delhi in the future send to international markets?

Sugarcane production supports the livelihoods of around 50 million farmers in India including a large number of smallholders, making it critical to rural development, food security and climate resilience across the key producing regions of Uttar Pradesh, Maharashtra and Karnataka.

For Bonsucro, India is an important region, and our footprint has grown steadily over the years. Many members stand out for their pioneering activities like investments in regenerative agriculture, strengthening youth and women leadership and championing practices that reduce water use among others. As well as scale, India is emerging as a leader in innovation and transformation, with many of its 500+ sugar mills evolving beyond traditional sugar production, to process ethanol for biofuels, putting India on the stage as a key player helping to shape the future of sugarcane and bio-based industries.

From Output to Outcomes

India has traditionally been a volume-driven sugar economy. What structural shifts are needed to reposition sugarcane from a production-centric crop to a sustainability-led, climate-resilient value chain?

The sugar economy in India has long been volume driven. For the sector to operate more sustainably, shifts that focus on aligning policy, markets, technology and sustainability standards that demonstrate environmental and social performance are essential.

For example, diversification of income streams through ethanol, bioenergy or sustainable aviation fuels would enable mills to optimise the whole sugarcane value chain rather than focusing on sugar output alone, and leading to less waste, more resource efficiency and emissions reductions.

When it comes to natural resources, sugarcane is a water-intensive crop, which is a strain on the environment. Changes like scaling drip irrigation or incentivising soil health and regenerative agriculture practices can make production more efficient. Bonsucro member EID Parry recently launched a project in Southern India supported by the Bonsucro Impact Fund to train a network of rural entrepreneurs to help farmers rebuild their soils. The project combines technology, using a mobile app to monitor soil health, with regenerative practices that test the use of crop residues, press mud and green manure to boost soil carbon, cut fertiliser use and improve yields, with ambitious but achievable expected outcomes that can be scaled to reach more farmers.

Supply chain traceability and credible certification systems like Bonsucro are central to supporting alignment with emerging ESG and due diligence requirements in global markets with certified mills and producers being able to better access international markets and prove their compliance.

Standards as Strategic Tools to Access Premium Buyers and Align with ESG Protocols

How can sustainability standards and certification frameworks move beyond compliance to become competitive tools that enhance market access, price realization, and global credibility for Indian sugar exports?

In order to move beyond compliance, sustainability standards and certification frameworks need to demonstrate impact and value. They must strengthen traceability, provide verified sustainability data, as well as enable credible impact and due diligence claims that align with global frameworks and ultimately build trust with international markets and buyers. As a metric standard, the Bonsucro Production Standard and its suite of climate tools support sugarcane producers in demonstrating their social and environmental performance and provide buyers with the assurance that the products they purchase meet their needs.

Ethanol Expansion & Climate Credentials

With India rapidly scaling ethanol blending, how critical is credible sustainability certification in ensuring that biofuel expansion strengthens â?? rather than weakens â?? Indiaâ??s climate narrative?

Indiaâ??s expansion of ethanol blending presents a significant opportunity to support energy security and climate goals, but itâ??s essential that the growth is coupled with strong guardrails that ensure the ethanol comes from sustainably produced sources.

India has successfully achieved its target of blending 20 per cent ethanol with petrol (E20) five years ahead of schedule and the country's ongoing biofuel blending efforts have contributed significantly to reducing carbon dioxide emissions and conserving financial resources. Nonetheless, concerns remain regarding the diversion of food crops, prompting discussions about the issue of "food versus fuel."

Therefore, to maintain domestic and international confidence, the programme is now focusing on its sustainability credentials, addressing concerns regarding water consumption, food security, and technical compatibility. Certification serves as a key mechanism for demonstrating that production processes yield genuine climate benefits and prevent unintended environmental or social consequences.

Standards such as Bonsucroâ??s EU RED-recognised certification provide a practical pathway for producers to verify emissions performance, traceability, and responsible production practices. When implemented, this certification supports compliance for exports to the EU and strengthens confidence among international buyers and investors, which ultimately reinforces Indiaâ??s climate narrative by demonstrating its ethanol production is aligned with global sustainability expectations.

Water, Carbon & Traceability

Sugarcane is often criticised for its water footprint. How can measurement, data transparency, and traceability systems help India demonstrate real improvements in water efficiency and carbon performance?

Bonsucro is leveraging digital tools, satellite monitoring, and farm-level data systems to enable sugarcane producers to track water use and carbon performance with increasing precision, often in near-real-time. These technological advancements facilitate the monitoring of environmental, social, and economic sustainability across the sugarcane supply chain.

Being able to understand and measure water and other resource use is essential to show what concrete improvements are happening and for highlighting where changes need to be made. Linking this data to traceable supply chains helps demonstrate measurable progress over time. Certification systems like Bonsucro provide a framework for verifying this data and translating it into credible sustainability claims. The latest data shows that Bonsucro certified farms reduce water us by 31 per cent on average over five years of certification.

Satellite data is used to map sugarcane fields and monitor growth. This helps estimate water requirements, identify water logging or drought, and monitor biomass, which is used for carbon calculations. The use of these digital tools helps farmers shift towards practices that manage water scarcity and reduce carbon emissions in India, a critical step considering that sugarcane is a major water user in states like Maharashtra.

Smallholder Inclusion

Indiaâ??s sugar economy is dominated by millions of smallholder farmers. What models has Bonsucro seen globally that successfully integrate smallholders into certified supply chains without imposing prohibitive compliance costs?

India already stands out globally for the sheer scale of its certified farming base, with a large and diverse network of growers engaged in sustainability standards across the sugarcane sector. This matters in a country where production is dominated by smallholders, for whom certification can otherwise feel complex and costly.

Group certification models have proven particularly effective in this context. By enabling sugar mills to support and coordinate networks of farmers under a single certification framework, these models reduce compliance costs and administrative burdens for individual smallholders. Mills play a central role in providing training, data collection and technical assistance, while farmers benefit from shared systems and collective progress. This approach can accelerate certification uptake and strengthens long term relationships between mills and farming communities, making sustainability more accessible and scalable across Indiaâ??s sugarcane landscape.

Bonsucro takes two approaches: we introduced our first Production Standard for Smallholder Farmers in 2018, adapting the original Bonsucro Production Standard to facilitate collecting data on a smaller scale and thereby reducing implementation costs and making certification more accessible. Context can vary between regions which is why itâ??s important to tailor the approach and develop collective efforts from the whole supply chain. Bonsucro is currently in the process of revising its Production Standard for Smallholder Farmers and the draft standard is open for public consultation.

Through the Bonsucro Impact Fund we also invest in initiatives on the ground to support smallholders on their sustainability journey.

Trade & Carbon Border Mechanisms

As global markets move toward carbon border adjustments and stricter ESG-linked import norms, how exposed is Indiaâ??s sugar sector â?? and how can proactive certification future-proof exports?

Indiaâ??s sugar sector is becoming increasingly exposed to evolving global trade rules that link market access to climate and sustainability performance. While sugar itself is not currently a priority commodity under the EU Deforestation Regulation, the introduction of EUDR sends a clear signal about the direction of travel for agricultural supply chains more broadly. Alongside expanding ESG disclosure and due diligence requirements in major markets, expectations around traceability, land use transparency and carbon reporting are rising rapidly.

Together, these trends are reshaping how sustainability performance is assessed and communicated, increasing the strategic importance for sugar producing countries like India to demonstrate credible, verifiable progress across environmental and social dimensions.

In this context, proactive certification can play an important future-proofing role. Standards such as Bonsucro provide verified data on emissions, land use, and supply chain traceability, helping producers demonstrate alignment with emerging sustainability requirements and meet the expectations of international buyers and regulators. By adopting credible certification and transparent data systems early, Indiaâ??s sugar sector can position itself ahead of regulatory shifts, protecting export competitiveness while strengthening its reputation as a responsible and climate-aligned supplier in global markets.

Financing the Transition

Can sustainability certification unlock preferential finance, green bonds, or blended capital for Indian mills and farmer cooperatives? Are lenders beginning to price climate performance into sugar value chains?

Yes, we have seen that certification can unlock sustainable finance in various markets.

As lenders and investors place greater emphasis on ESG performance, they are looking for credible and verifiable data on emissions, resource use, and supply chain practices. Certification systems like Bonsucro provide exactly that - independent verification that mills and farmer groups meet recognised sustainability benchmarks.

This can support access to preferential finance mechanisms, including sustainability-linked loans, green bonds, and blended finance facilities, where terms are linked to environmental performance indicators such as emissions reductions or water efficiency. Development banks and private lenders are increasingly exploring these models in agriculture, particularly where certification provides trusted performance metrics. Bonsucro certification can support certified mills in India with this, but the vast majority currently operate without being able to independently prove sustainability performance.

The 2030 Vision

Looking ahead to 2030, what would define success for Indiaâ??s sugarcane transition â?? and what must industry, policymakers, and global buyers do today to ensure sugarcane becomes a model for climate-smart agriculture?

By 2030, success for Indiaâ??s sugarcane transition would mean moving beyond a production-driven model to one where productivity, climate resilience, and sustainability performance go hand in hand. This would include measurable reductions in water intensity, verified lower carbon emissions per tonne of cane, and a growing share of mills participating in traceable and certified supply chains.

It would also mean a more diversified value chain, where sugarcane supports not only sugar production but also ethanol, bioenergy, and other bio-based products, helping strengthen Indiaâ??s energy transition while improving the overall economics of the crop. We are already seeing this through Bonsucroâ??s members, with many of Indiaâ??s 524 sugar mills already evolving beyond the traditional sugar production.

Achieving this will require coordinated action, with industry investment in climate-smart farming practices and efficient irrigation amongst other things, policymakers aligning incentives with resource efficiency and low-carbon production, and global buyers recognising and rewarding sustainability performance through long-term sourcing commitments and support for standards such as Bonsucro. If these pieces come together, sugarcane could become a strong example of how a major commodity sector can combine farmer livelihoods, climate action, and global market competitiveness.

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