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INDIA & BRAZIL / THE GLOBAL SOUTH AXIS

The New Agricultural *Axis*

How two agricultural superpowers can shape food security, the bioeconomy and climate resilience in a fragmenting world.

Authored by **Suchetana Choudhury**
Deputy Executive Editor, AgroSpectrum Asia & India
Co-authored by **Ankit Kankar**
Chief Operating Officer, AgroSpectrum Asia & India
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TWO SUPERPOWERS, BY THE NUMBERS

$164B
Brazil's record 2024 agri-exports — the world's largest net food exporter

358Mt
India's record 2024–25 foodgrain harvest; also the largest milk producer

~40%
Brazil's share of world soybeans · India's of world rice trade

$15→20B
India–Brazil trade in 2025, with a 2030 target of US$20 billion

One nation feeds itself and steadies its region; the other feeds much of the world. They sit on opposite sides of the planet, compete in several of the same markets, and have never been formal allies. Yet in a world where food and fuel are increasingly weaponised, India and Brazil are quietly assembling the most consequential agricultural partnership of the Global South — and the partners themselves have begun to describe it not as a trade relationship, but as a strategic innovation corridor between two tropical economies.

Geography made India and Brazil rivals in the abstract and partners in practice. Both are tropical agricultural giants. Both carry the burden — and the leverage — of feeding enormous populations while supplying global markets. And both have spent the past two years discovering that the open, rules-based trading system on which agricultural superpowers depend is fragmenting around them. In 2025 the United States imposed punitive tariffs of up to 50% on Brazilian beef, coffee and sugar before partially reversing them in November; India spent the same period managing the fallout of its own rice-export restrictions, which had rattled food-import-dependent economies across Africa. Fertiliser shocks, grain-corridor disruptions and climate volatility completed the picture. The lesson for both capitals was identical: in a fragmenting world, the concentration of food and fuel in a few hands is a systemic risk — and two countries that together command decisive shares of the world's rice, soy, sugar and beef have every reason to coordinate.

This is not a story about a new bloc. India and Brazil are not merging their farm sectors, and they compete as much as they complement. It is a story about an emerging *axis* — a deliberate, issue-based alignment that, if built carefully, could help set the terms on which the Global South feeds, fuels and protects itself. Prime Minister Narendra Modi's July 2025 state visit to Brasília — the first in 57 years, following the BRICS summit in Rio — produced six agreements, including a landmark research pact between the Indian Council of Agricultural Research and Brazil's Embrapa. Bilateral trade reached roughly US$15 billion in 2025, and both governments have set a target of US$20 billion by 2030. The architecture is being assembled in real time.

And the people building it have stopped speaking the language of commodities. In official commentary prepared for this analysis, Brazil's Ministry of Development, Agrarian and Family Agriculture, the country's agricultural-research and bioinput institutions, and private-sector leaders on both sides kept returning to a single phrase: a *strategic innovation corridor*. The ambition is to move the relationship beyond shipping soybeans and sugar toward joint technology, field validation and industry — a corridor between two of the world's leading tropical economies.

PILLAR 01

Food Security

Complementary grain, protein and oilseed strengths to de-risk Global South supply.

PILLAR 02

Bioeconomy & Biofuels

Ethanol, biologicals and SAF — the strongest area of convergence.

PILLAR 03

Climate Resilience

Tropical-to-tropical science and a shared adaptation agenda after COP30.

PILLAR 04

A Global South Voice

Coordinated weight in BRICS, the G20 and the COP on trade and climate rules.

THE STATE OF PLAY

01 Two superpowers, two very different models

The first thing to understand is that India and Brazil are agricultural giants in almost opposite ways. **Brazil is the export engine of world agriculture.** Its agribusiness exports reached a record US$164.4 billion in 2024 — close to half of everything the country sells abroad — and the FAO ranks it as the world's largest net food exporter, with a food-trade surplus exceeding US$115 billion. Brazil leads global exports of soybeans, soymeal, corn, sugar, coffee, orange juice, poultry, tobacco and cellulose, and in 2025 it overtook the United States to become the world's largest beef producer for the first time since the 1960s, with beef exports surging some 40% to a record US$18 billion. It grows roughly 40% of the world's soybeans and supplies close to 60% of those that cross borders. Brazil's model is surplus: frontier land, world-class agronomy from Embrapa, and a machine built to feed other nations.

India is the self-feeding giant. In 2024–25 it harvested a record 357.7 million tonnes of foodgrain — 150 million tonnes of rice and 118 million tonnes of wheat — and it is the world's largest producer of milk (239 million tonnes), pulses, millets, jute and spices, with the planet's largest cattle herd. But India's orientation is inward: it produces enough of most staples to feed 1.4 billion people and exports a comparatively small share. The crucial exception is rice, where India alone accounts for around 40% of world trade. India is also a major supplier of buffalo meat, sugar, cotton and marine products and — importantly for this story — agricultural inputs: it was the second-largest fertiliser supplier to Brazil in 2023 and is now the third-largest agrochemical exporter globally. India's model is security first, surplus second.

239 Mt
India's annual milk output — the world's largest, up 64% in a decade

77%
of Brazil's rural establishments are family farms — central to inclusive growth

10+
major commodities in which Brazil is the world's #1 exporter

These differences are precisely why the two fit together. Brazil exports the protein and oilseed calories a richer, more carnivorous world demands; India anchors the staples that keep billions fed and supplies the fertilisers and chemistry that keep Brazilian fields productive. Where Brazil is exposed to over-dependence on a single buyer — China takes roughly a third of its agri-exports — India offers diversification. Where India's output is constrained by smallholder scale and climate, Brazil offers frontier agronomy. The Brazilian government frames the next phase as deliberate diversification, pointing to reciprocal market-access talks — Brazilian poultry and pulses moving toward India, Indian fruits and nuts moving the other way. It also stresses an often-overlooked parallel: family farms make up 77% of Brazil's rural establishments, just as smallholders dominate Indian agriculture, which is why both governments insist that cooperation reach past agribusiness scale to extension, credit, cooperatives and digital farm registries.

DIMENSION	BRAZIL — THE EXPORT ENGINE	INDIA — THE SELF-FEEDING GIANT
Core role	Surplus producer for the world	Food security first; selective exporter
Flagship strengths	Soybeans, beef, sugar, coffee, corn, poultry, cellulose	Milk, rice, pulses, millets, spices, cotton, buffalo meat
Global standing	#1 exporter of 10+ commodities; ~58% of soybean trade; largest beef producer	World's largest milk producer; #1 rice exporter (~40% of trade); largest cattle herd
2024–25 milestone	$164B agri-exports (~49% of national exports); net food surplus >$115B	358 Mt foodgrain record; 239 Mt milk; ~20 Mt rice exported
Smallholder base	Family farms = 77% of rural establishments; central to inclusive growth	Smallholder-dominated; security-first orientation
Key vulnerability	Deforestation scrutiny; China over-dependence; tariff shocks	Monsoon & heat volatility; unpredictable export bans; WTO disputes
Bioeconomy edge	Sugarcane ethanol, RenovaBio/CBIOs, sorghum & castor, fast-growing bioinputs	20% ethanol blending, BioE3 policy, vast market & manufacturing capacity

Two superpowers, two models — and a complementarity that is mutual.

WHY AN AXIS, WHY NOW

02 The fragmenting world that makes this urgent

For three decades, agricultural superpowers could assume that markets would clear: surpluses found buyers, deficits found sellers, and trade smoothed the shocks. That assumption is breaking down. The weaponisation of trade — tariffs deployed as foreign policy, export bans deployed as domestic politics — has turned the food and fuel system into an instrument of leverage, and the Global South is most exposed to the consequences.

50%
US tariffs imposed on Brazilian beef, coffee & sugar in 2025 — only partly reversed

7.9Mt
annual Brazilian sorghum-to-China market opened up by US–China fragmentation

>80%
of intra-BRICS trade still settles in US dollars, despite de-dollarisation talk

The evidence accumulated quickly. When Washington placed steep tariffs on Brazilian agricultural goods in 2025, beef shipments to the United States collapsed from nearly 48,000 tonnes a month to under 10,000 almost overnight, and Brazilian coffee was rerouted to Asia and Europe, tightening global supply. When India banned exports of non-basmati white rice in 2023, the countries that felt it first were food-import-dependent economies in Sub-Saharan Africa, which buy roughly half of India's traded rice. Add the fertiliser and grain-corridor disruptions of the Russia–Ukraine war, and the pattern is unmistakable: a handful of chokepoints can swing the food security of dozens of nations.

Fragmentation also reshuffles trade — and rewards the agile. A vivid example comes from Embrapa's own scientists: as US–China tensions led Beijing to suspend American sorghum, Brazil moved to fill the gap. The first shipments of Brazilian sorghum to China are expected in 2026, opening a market that could eventually demand up to 7.9 million tonnes a year. The same disruption that threatens one supplier creates an opening for another — which is exactly why two agricultural superpowers are better off coordinating than being buffeted.

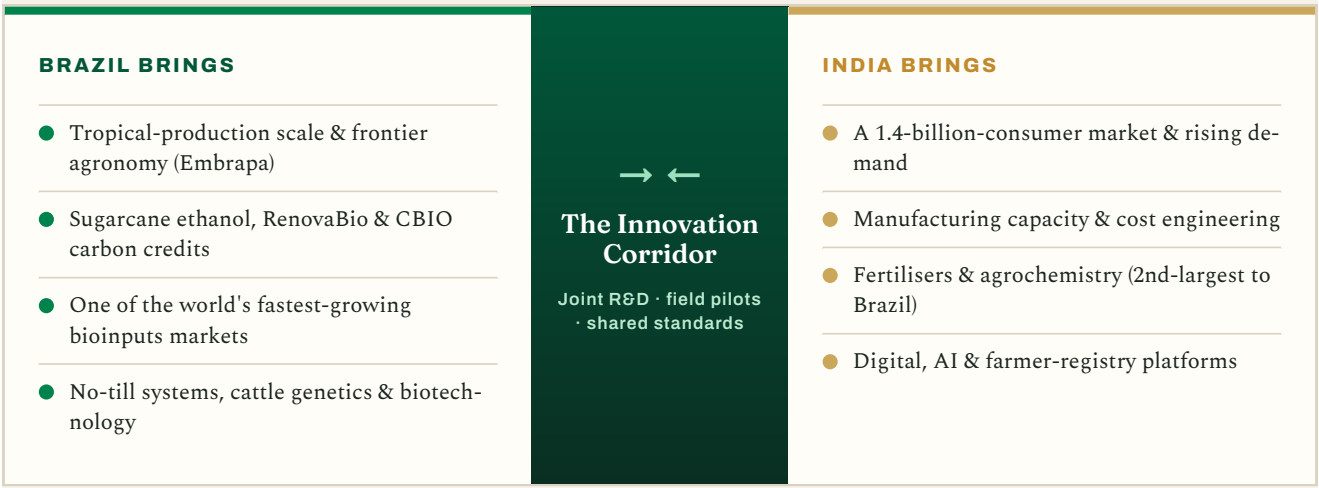
> ***They are not merely large producers but systemic stabilisers. An axis that institutionalised predictability would be a public good for the entire Global South.***

For India and Brazil, this fragmentation is both threat and opportunity. Together they influence decisive shares of the world's most strategic farm commodities, and they already share a dense web of platforms through which to coordinate: BRICS, where India assumes the chair in 2026; the G20, where Brazil launched the Global Alliance Against Hunger and Poverty; the IBSA and BASIC groupings; and the Mercosur–India Preferential Trade Agreement, which both sides want to widen. Whether they behave as reliable, transparent exporters or as opportunistic ones shapes the food security of dozens of nations with no seat at the table.

THE CONVERGENCE

03 From commodities to an innovation corridor

The contributors to this analysis were unanimous on one point: the opportunity should not be judged through the narrow lens of commodity trade. As Ignacio Moyano of DunhamTrimmer puts it, the most transformative agenda lies in *higher value-added agricultural integration* — Brazil bringing scale in tropical production, bioenergy and sustainable systems, India bringing market size, manufacturing capacity and demand for productivity-enhancing technology. That is the foundation for a corridor built on four strands.



What each partner brings to the corridor — complementary strengths feeding shared R&D, pilots and standards.

Food security and inclusive growth

The July 2025 memorandum between the Indian Council of Agricultural Research and Embrapa commits the two to joint work on crop improvement, animal genetics, natural-resource management and climate-change mitigation. The Brazilian government adds another vehicle: **Maitri 2.0**, an agritech-incubator partnership framing collaboration on tropical-crop innovation, climate-resilient and precision agriculture. This matters because Brazilian and Indian agronomy is tropical agronomy — directly transferable in a way temperate-zone research from North America or Europe is not. Embrapa's transformation of the acidic, low-fertility Cerrado into a global breadbasket is one of the great agronomic achievements of the past half-century, and its lessons in tropical soil science, pasture recovery and breeding speak directly to Indian and African conditions.

Industry voices sharpen the point. Bernhard Kiep of Bermad notes that Brazilian expertise could lift Indian productivity not only in soybean, sugar, ethanol and poultry but in beef — India's buffalo and minority-community beef consumption is substantial, and quality could be improved with Brazilian cattle and farming know-how. He highlights Brazil's strength in **no-till practices and agricultural biotechnology**, and, in the other direction, India's potential to introduce specialty crops less common in Brazil. The harder, more valuable work is behavioural: pairing complementary production with coordinated transparency — shared stock and harvest data, advance notice of policy changes — and extending Indian and Brazilian agronomy jointly to African partners through bodies like the Global Alliance Against Hunger and Poverty.

Bioeconomy and biofuels — the strongest convergence

If food security is the intuitive pillar, the bioeconomy is the transformative one. India and Brazil, with the United States, founded the Global Biofuels Alliance at the 2023 G20 summit in New Delhi. Brazil has run a sugarcane-ethanol programme and a flex-fuel fleet for decades and steadily raises blending mandates under its 2024 Fuels of the Future law; India has moved with remarkable speed to 20% ethanol blending and is building policy for sustainable aviation fuel and compressed biogas, where both countries' feedstock bases align almost exactly.

Brazil's policy machinery offers India a working model. As Embrapa's Alexandre Ferreira da Silva explains, the country's **RenovaBio** framework decarbonises transport through certification and tradable Decarbonisation Credits, or CBIOs — each equivalent to one tonne of avoided emissions — that reward low-carbon feedstocks with an additional revenue stream. Embrapa is now quantifying the carbon footprint of **sorghum ethanol**, a drought-tolerant, climate-resilient complement to corn ethanol that doubles as agronomic insurance against a volatile climate. It is precisely the kind of monetised-sustainability architecture India will need as its own blending economy matures.

The bioeconomy also answers its own toughest objection. The food-versus-fuel tension is real — but complementary cropping defuses it. Ofer Haviv, CEO of Casterra (an Evogene company), describes **castor grown as a second crop after the soybean harvest**, using residual soil moisture without displacing food, while improving soil health and subsequent soybean yields. Looking ahead, he sees castor oil moving beyond fuel into bio-based chemicals, materials, lubricants and polymers — the convergence of energy, materials and chemicals that defines a true bioeconomy.

2023
Global Biofuels Alliance founded by India, Brazil & the US at the New Delhi G20

1 CBIO
= one tonne of avoided CO_2, the credit at the heart of Brazil's RenovaBio

80–85%
of India's cashew-apple pulp is wasted — the opening for the corridor's flagship pilot

Then there are the biologicals. The Brazilian Association of Bioinput Industries (ABINBIO) notes that Brazil has built one of the world's fastest-growing **bioinputs markets** — biofertilisers, biological crop protection, microbial solutions and regenerative-agriculture technologies — and that joint research between Embrapa and Indian institutions could accelerate microbial solutions and soil-health strategies adapted to tropical systems while reducing dependence on conventional chemicals. India's own **BioE3 policy** — biotechnology for economy, environment and employment — points the same way, and Brazil used its COP30 presidency in Belém to put the bioeconomy formally on the global climate agenda for the first time.

EXCLUSIVE TO AGROSPECTRUM / ABINBIO INSIGHT

PROFERT: Brazil puts bio-inputs at the centre of national industrial policy

Mauro B. Heringer
ABINBIO — Brazilian Association of Bio-Input Industries

"The programme does not require the biological sector to change — it rewards what the sector already is." Nowhere is Brazil's bid to set the rules of the tropical bioeconomy clearer than in PROFERT.

In exclusive commentary shared with AgroSpectrum Asia, ABINBIO describes **PROFERT** — the Fertilizer Industry Development Program advanced through Bill PL 699/2023 and approved in substitute form by the Chamber of Deputies in May 2026 — as the most ambitious answer yet to Brazil's chronic dependence on imports for roughly **85% of the fertilisers it consumes**. In place of ad-hoc tax relief, PROFERT is an active industrial policy built on five instruments: a mandatory domestic-blending mandate (2% from July 2027, scaling to 10–30% by 2037); a structural tax credit of up to 20% of production costs, capped at BRL 10 billion over five years; a national stimulus fund offering guarantees, price hedges and R&D money; dedicated BNDES credit lines; and freight-charge exemptions.

Crucially, bio-inputs, biofertilisers and remineralisers are named as core beneficiaries while conventional chemical fertilisers and pesticides are excluded — and the mandatory blend creates captive demand, shifting the market question, ABINBIO says, from "whether" to "from whom." The aim is to cut import dependence to 45% by 2050, accelerating a curve already visible: Brazil went from just 8 companies with registered biological products in 2014 to 53 by 2024.

85%	**BRL 10bn**	**2→30%**	**8→53**
of Brazil's fertilisers are imported — the dependence PROFERT targets	structural tax-credit capacity over five years	mandatory bio-input blend, 2027 → 2037	registered biological-product firms, 2014 → 2024

For the India–Brazil corridor, PROFERT is both template and opening — exactly the standard-setting the bioeconomy pillar anticipates: a Global South power writing a durable rulebook for tropical-agriculture biologicals that ABINBIO expects to become a benchmark others adapt, while pulling in foreign investment as capacity scales. For India, with its own fast-growing bio-input market and BioE3 ambitions, that is a model to learn from and a market to engage — from joint microbial and soil-health research with Embrapa to co-developed standards that let biologicals move more freely between the two tropical giants.

Exclusive commentary provided to AgroSpectrum Asia by ABINBIO (abinbio.com.br), based on Bill PL 699/2023 (Chamber of Deputies substitute bill, 27 May 2026). Views reflect ABINBIO's institutional position.

The flagship pilot: a cashew corridor

Abstractions become credible when a pilot proves them, and one is already taking shape. Navneet Ravikar, Chairman of LeadsConnect Services and CEO of BL Agro, is building a cashew value-chain corridor with Embrapa and Amazonika Mundi. Both India and Brazil are among the world's largest cashew producers, yet 80–85% of the cashew-apple pulp produced alongside the nut in India goes to waste — a vast, untapped bio-economic opportunity. The corridor brings proven Brazilian food-processing technology and plantation science to India to upcycle that fibre into high-value food products, wrapped in a 360-degree model that links plantation science, AI-enabled farm advisory, value-chain analytics, finance and structured market access. Its real significance is replicability: once a traditionally inefficient commodity ecosystem is digitised and optimised, the same waste-to-wealth architecture can extend to other crops and geographies.

Climate resilience

Both nations are climate-vulnerable agricultural giants — India facing intensifying monsoon variability and extreme heat, Brazil contending with drought cycles and the fragility of the Amazon and Cerrado. COP30 in Belém, on the edge of the Amazon in November 2025, brought agriculture and food systems closer to the centre of climate negotiations, folding them into the Global Goal on Adaptation indicators (albeit voluntarily) and launching a Tropical Forest Forever Fund. India brought its own assets: the International Solar Alliance, the Coalition for Disaster Resilient Infrastructure, a 500-gigawatt renewable-energy target and a national push on climate-resilient millets. The diplomatic dividend is a coordinated India–Brazil voice pressing for adaptation finance that actually reaches farmers, and for tropical-agriculture solutions to be funded and traded rather than merely acknowledged.

THE FRICTION — AND THE REALISTIC PATH

04 Where the corridor strains, and where it will deliver first

Honesty about the obstacles is what separates analysis from advocacy, and the contributors were candid. The two countries compete as well as complement: both export sugar, both court the same buyers in Asia, Africa and the Middle East, and India's oilseed ambitions sit awkwardly beside Brazil's soybean dominance. Distance and logistics erode the gains from trade. Sanitary and phytosanitary requirements and mismatched regulatory frameworks — including for biological inputs, ABINBIO notes — slow commerce in both directions, and the Mercosur–India preferential agreement remains narrow in its tariff coverage. Brazil faces mounting deforestation scrutiny, including under the European Union's deforestation regulation; India's periodic export bans make it an unpredictable supplier, and its public-stockholding and minimum-support-price programmes remain entangled in WTO disputes. The BRICS ambition of de-dollarised trade, meanwhile, stays largely rhetorical, with more than 80% of intra-BRICS transactions still settling in dollars.

None of this is fatal, but it dictates where the corridor should focus. The priority, as Moyano argues, is implementation over grand bargains: expanding the trade framework, institutionalising regulatory dialogue, and linking existing cooperation mechanisms to concrete work plans and pilots. The realistic first wins are clear. **Biofuels and sustainable aviation fuel** are the obvious prize — the policy intent, the feedstock and the institutional vehicle already exist. **Bioinputs and biologicals**, paired with regulatory harmonisation — and, on the Brazilian side, the structural pull of PROFERT — are the fastest route into higher-value trade. **Value-chain pilots like the cashew corridor** turn waste into industry and prove the model. **Joint tropical R&D** through ICAR–Embrapa and Maitri 2.0

delivers climate-resilient varieties, animal genetics and soil science. And underpinning all of them is a **coordinated Global South voice** in BRICS, the G20 and the COP process, where two agricultural superpowers speaking together carry far more weight than either alone.

THE TAKEAWAY

India and Brazil will not feed the world together. But they can build a strategic innovation corridor between two tropical economies.

This is not a march toward a bloc, and the two will keep competing in sugar, in oilseeds and for the same export markets. Yet in a fragmenting world where food and fuel have become instruments of leverage, a deliberate India–Brazil axis — anchored in biofuels and the bioeconomy, advanced through shared tropical science and concrete pilots like the cashew corridor, and amplified by a common voice in BRICS, the G20 and the COP — has a credible claim to becoming the most consequential agricultural partnership of the coming decade. The architecture is already being built: a historic state visit, the ICAR–Embrapa pact, the Maitri 2.0 incubator, structural bio-input policy like PROFERT, and the first value-chain pilots. What remains is the discipline to treat it as strategy rather than symbolism.

CONTRIBUTORS & SOURCES

Contributing commentary (prepared for this analysis): Mauricio Polidoro, Government of Brazil — Ministry of Development, Agrarian and Family Agriculture (MDA); Ignacio Moyano, VP Market Development for Latin America, DunhamTrimmer; ABINBIO — Brazilian Association of Bio-Input Industries (exclusive PROFERT analysis; Mauro B. Heringer); Navneet Ravikar, Chairman & MD, LeadsConnect Services / CEO, BL Agro; Alexandre Ferreira da Silva, Principal Scientist, Embrapa; Ofer Haviv, CEO, Casterra (Evogene); Bernhard Kiep, MD, Bermad.

Data sources: Brazilian Ministry of Agriculture & Livestock and CONAB (2024–2026 export and production data); FAO (net food-trade analysis); USDA and S&P Global Commodity Insights (soybean and beef shares); India's Ministry of Agriculture & Farmers Welfare and PIB (2024–25 foodgrain, milk and rice figures); OECD Agricultural Policy Monitoring 2025 (India); Ministry of External Affairs / Embassy of India, Brasília (July 2025 state visit; ICAR–Embrapa MOU); Global Biofuels Alliance and India–Brazil energy joint statements (2023–2025); ABINBIO / Bill PL 699/2023 (PROFERT); COP30 Presidency, UNFCCC and FAO (Belém 2025 outcomes); India's BioE3 policy. Figures current as of mid-2026. This is an editorial analysis for discussion, not investment or policy advice.