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From Brussels to the Village: EU-CBAM, Strategic Autonomy, and the Future of India's Rural Export Economy

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Abstract— *From 1 January 2026, the Carbon Border Adjustment Mechanism (CBAM) of the European Union (EU) moves into a new phase of its implementation. Most scholarship focusses on the aspect of trade law, macroeconomic modelling or heavy industry decarbonisation. This paper provides a focus on the rural side of India's export value chains, where the small producers, cluster-based MSMEs & women-led self-help groups provide carbon intensive inputs and are burdened with compliance requirements they are unable to easily meet. We envision India as facing a Green Trilemma the need to meet external carbon and sustainability standards, growth and strategic independence, and climate action that is aligned with SDG13. Based on critical policy discourse analysis and comparative subnational case study analysis of Gujarat, Jharkhand and Kerala we test two hypotheses. India will be more inclined to go for calibrated strategic resistance rather than full compliance, or retaliation, for the following reason:For the following reasons, India will be more inclined to go for calibrated strategic resistance than full compliance or retaliation: Second, there is a lack of institutional innovation in the subnational and Panchayat level institutions to achieve meaningful progress in addressing rural exclusion, which can only be achieved through radical changes in the existing schemes. We end the report with three policy recommendations: recycling of carbon revenue in the domestic market, capacity development of producer clusters to comply, and creation of verification capacity at the Panchayat and cooperative level. The topics of CBAM, Green Trilemma, strategic autonomy, rural economy and SDG 13 climate federalism are the keywords. 1. Introduction The study of rural development in India has focused primarily on the domestic aspects land reform, credit, provision of water and welfare. The EU's Carbon Border Adjustment Mechanism adds another cost to the mix. Importers of some carbon-intensive products are required to consider the embedded emissions of these products in Regulation (EU) 2023/956. The definitive regime kicked in on 1 January 2026 and the cost is determined in Brussels and not in New Delhi. There is a narrower scope for the mechanism's legal application than was commonly thought. The CBAM is currently limited to the following products: iron and steel, aluminium, cement, fertilisers, hydrogen and electricity. The European Commission has suggested that the current coverage should be expanded to steel- and aluminium-intensive downstream products in December 2025, such as fasteners, parts of machinery, or metal products. That proposition is still subject to the regular session. Currently, CBAM does not cover textiles, leather, footwear, handicrafts or food. Hence, the rural impacts of CBAM are primarily along two value chain pathways: metal value chains, and fertiliser value chains, as well as the institutions establishing linkages between the rural and urban sectors. Rural export commodities do not pass through a direct border tax. This distinction is key to the analysis to be performed below. We ask how rural governance and livelihoods are transformed when a supranational instrument of climate-trade compels a government to balance the attainment of three goals which cannot be*

achieved simultaneously: the obligation to comply with carbon standards; the necessity of economic growth and the SDG 13 commitments. We believe that the outcome is more related to the ability of the panchayati Raj institutions, cooperatives, self-help group federations and state industrial departments to take up, share or shift the burden.

***Keywords*— CBAM; Green Trilemma; strategic autonomy; rural economy; SDG 13; climate federalism**

I. LITERATURE REVIEW

The number of studies focusing on CBAM has increased rapidly. Based on analysis of stakeholder positions in India, key issues with respect to the design of domestic carbon pricing and verification capacity and issues of equity are highlighted (Singh, Sharma & Chaturvedi, 2025). Research on the steel industry paints a picture of a tradeoff between decarbonisation goals and developmental equity (Das & Bandyopadhyay, 2025). The impacts of CBAM-type measures on Indian exporters are modeled by using a sectoral approach (Kathuria, Gupta & Kumar, 2025). Trade-law scholarship puts border carbon measures in a wider context of instruments to address the external costs of trade liberalisation (Meyer, 2024). Another strand deals with the federal climate architecture in India. Pillai and Dubash (2023) characterize climate governance in India as multi-level and fragmented, with states having significant implementation power and fiscal and administrative capacity is uneven. Little of this literature relates federal asymmetries to external trade shocks. So, this paper fills in three gaps. Most of the existing CBAM studies focus only on the big exporters and the big sector, and seldom trace the compliance costs to the small ones. Trade-climate research rarely considers the subnational differences that will impact the impact of a common external rule on different states. There is no system in place for the trade-off between compliance, growth and climate goals for the exporting developing economy.

II. CONCEPTUAL FRAMEWORK

3.1 The Green Trilemma We label this condition of India as the Green Trilemma, where India cannot simultaneously: (a) fully adopt the logic of carbon pricing at its borders, (b) keep export-led growth in carbon-exposed sectors at current cost levels, and (c) pursue SDG13 commitments through a domestically paced and equity-sensitive transition. Any progress towards one of these objectives increases the expense for the other two. As is, institutional arrangements can result in swift compliance if without rural buffering which can exclude small producers. If EU rules are not complied with, exporters face punitive default values and carbon costs by merely resisting them through diplomacy. Large companies are better placed to absorb the costs of implementing EU rules, and this is likely to happen more easily in the free market. Concept is new in comparison to the existing trilemma frameworks. The World Energy Council's energy trilemma is about energy security, equity and sustainability in national energy systems. Rodrik's political trilemma is the inability to have all three: economic integration, democratic politics and national sovereignty. The Green Trilemma relates to a climate-trade shock that comes from external sources and is met locally by institutions that are not prepared for such a shock. Therefore, it's also a governance issue, not just an economic one.

3.2 Strategic Autonomy In this article, strategic autonomy refers to the policy space a state has for determining its reaction to an external rule, but not fully accepting it or rejecting it. For CBAM this means a ‘calibrated position' one which allows for regulatory choice whilst controlling economic exposure. The autonomy of rural producers at the national level is less dependent on the result of negotiations in Brussels and Geneva than on fiscal and institutional space available for the State governments to protect producers from the carbon price.

3.3 Channels of Exposure There are three pathways of exposure, as summarised in Table 1. Direct exposure occurs when a product is in the scope of CBAM. This includes iron/steel producers, aluminium input producers, and those agricultural producers that use fertilisers. Many small producers are situated upstream of the regulated importer. Prospective exposure comes from the proposed downstream extension which will reach many MSME metal-product clusters if implemented. Where a product is outside, it is considered indirect exposure. CBAM buyers, financiers or upstream suppliers pass carbon-related costs down the chain. This channel is important for leather, textile, handicraft and agri-processing exporters, but it is harder to document.

Table 1. CBAM coverage and channels of exposure for rural producers

Product group	Status under CBAM	Channel of exposure for rural producers	Timing
Iron and steel	In scope	Direct for upstream inputs; relevant to metal-producing rural regions	Since 1 Jan 2026
Aluminium	In scope	Direct for upstream inputs	Since 1 Jan 2026
Fertilisers	In scope	Input-cost channel for agri-processing	Since 1 Jan 2026
Cement, hydrogen, electricity	In scope	Indirect, through energy and construction inputs	Since 1 Jan 2026
Steel- and aluminium-intensive downstream goods	Proposed extension	Prospective direct exposure for MSME metal-product clusters	Proposed from 1 Jan 2028
Leather, footwear, textiles, handicrafts	Not in scope	Indirect only	Not applicable under current proposals
Agri-processed food (excluding fertiliser inputs)	Not in scope	Indirect only	Not applicable under current proposals

Source: Regulation (EU) 2023/956; European Commission legislative proposal on downstream goods (December 2025).

Compliance costs such as energy sourcing, emissions verification and certification fall disproportionately on small producers, which lack the scale to spread them or relocate production. This distributive risk is largely absent from national debates unless it is addressed deliberately.

III. METHODOLOGY

A two-part, qualitative study was employed. The first part is crucial policy discourse analysis of the EU legal instruments, industry-association submissions and the Indian government statements. It maps the framing of the Green Trilemma by various actors, and highlights the moments at which rural issues were present or absent in national negotiating positions. The second part features a comparative subnational case study of Gujarat, Jharkhand and Kerala. The three states were chosen to provide a variety in export structure, rural industrial composition and institutional capacity. Every case is based on the following indices developed by NITI Aayog (2024), the Ministry of Panchayati Raj (2024), and documentary evidence from the state. The analysis compares early definitive-phase signals instead of outcomes at the household level, due to the fact that the obligations of the CBAM certificate are still being phased in, as are downstream regulations. The study is therefore exploratory in its empirical statements and in the future, district-level surveys should be carried out once compliance cycles have been completed.

- Gujarat's export potential and the addition of renewable sources to industrial complexes could mitigate the impact of CBAM more than other states. However, the informal sector of its internal producers, such as small textile and craft operations, do not participate in compliance mechanisms of large exporters. If there is no aggregation at the cluster level, the state runs the risk of a split transition: large companies gain at the expense of small supplier.
- Jharkhand Jharkhand economy is closely linked to its coal and steel industry, and the metal inputs into the Jharkhand economy are covered under the CBAM's current scope. The Panchayat institutions have low level of capacities and rural livelihoods are dependent on carbon-exposed activities. This is the worst possible combination of the Green Trilemma fiscal constraint, carbon exposure and limited local capacity to absorb a shock.
- Kerala- CBAM has a more indirect impact on India's rural economy in Kerala. It has rich experience of decentralised planning since the People's Plan Campaign and women-led enterprise networks, which can be used as compliance-support centres and certification intermediaries. The lesson for other states is that institutions matter as much as national negotiating positions do in determining distributive outcomes.

IV. COMPARATIVE CASE STUDIES

Table 2 summarises the three cases.

Table 2. Comparative summary of the case-study states

Dimension	Gujarat	Jharkhand	Kerala
Export base	Large share of national exports; diversified industry and agriculture	Steel and engineering goods; significant mineral and metal base	Agriculture, marine and traditional produce; services-led economy
Relevance to CBAM	Mixed: large exporters adapt, while inland MSMEs face exposure	Direct, through steel and metal inputs	Mainly indirect
Local governance	Strong industrial and export-promotion institutions	Weak Panchayat capacity relative to need	Long-standing decentralised planning
Main vulnerability	Delinking of informal inland suppliers from European chains	Carbon-intensive base with limited rural buffers	Certification burden on small fragmented producers
Relevant evidence	NITI Aayog EPI 2024; PDI 2024 [insert verified scores]	NITI Aayog EPI 2024; PDI 2024 [insert verified scores]	NITI Aayog EPI 2024; PDI 2024 [insert verified scores]

V. POLICY DIRECTIONS

There are three directions of analysis.

- First, the State needs to keep and utilise a portion of the carbon-related revenue for support of rural green transition and push for the domestic carbon pricing to be recognised in CBAM, thereby rendering the net fiscal transfer from Indian producers to the EU budget lower.
- Second, priority should be given to second tier of compliance and certification support, which should reach metal-product and handicraft producer clusters and small enterprises, rather than the large exporters, particularly in the context of downstream extension.
- Third, there should be a clear mandate and resources provided to Panchayati Raj and cooperatives for conducting shared verification, batch level traceability and record keeping for small producers. A decentralisation model as adopted in Kerala offers a blueprint, and states with less local capacity need to be supported on a targeted basis in the context of federal transition arrangements.

VI. CONCLUSION

CBAM is frequently referred to as a trade diplomacy issue. In this paper, it has been suggested that its most significant impacts for India could be felt at the 'rural end' of export chains, where small producers will be required to comply with demands that are not well suited to those institutions. The Green Trilemma can be addressed but not by national trade policy alone. It necessitates institutional innovation at subnational and Panchayat level, avoiding the imposition of carbon-border measures by the most vulnerable rural producers unknowingly. Rural India is a victim not just of external policy shocks. It is also a place of institutional innovation to buffer those shocks and promote rural transformation in a climate-smart way.

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