

POLITICAL CULTURE AND SUSTAINABLE DEVELOPMENT IN THE GLOBAL SOUTH: A COMPARATIVE ANALYSIS OF GREEN POLICIES IN INDIA AND CHINA

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ABSTRACT

Political culture, governance systems, economic interests and environmental policy more and more shape sustainable development in the Global South. In this study, the authors analyze the relationship between political culture and sustainable development by comparing the green policies in India and China. Common challenges of fast industrialization, urbanization, climate change, resources and environmental degradation are shared by both countries but the different political and institutional frameworks result in a discrepancy in their responses. The democratic and federal structure of India is more conducive to public engagement, civil society involvement, judicial action, and experimentation at the state level. China's centralized and state-led governance model enables long-term planning, coordinated implementation, and large-scale investment in renewable energy and green technologies. However, this model also presents challenges concerning public participation, environmental justice, and access to legal and institutional mechanisms for challenging environmental decisions. In contrast, the Indian context demonstrates the importance of community engagement, environmental impact assessment, and public interest litigation as mechanisms through which affected communities can participate in environmental governance and seek accountability. The study makes a comparative assessment of key climate and environmental policies, renewable energy policies and programmes, low-carbon development policies and strategies, and environmental governance mechanisms in both countries. It explores the influence of political priorities, institutional capacity, bureaucratic effectiveness, public participation, economic development goals and state-society relations on policy making and implementation. The issues of economic growth and environmental sustainability are of particular focus, as are issues relating to the effect of political culture on the effectiveness of policies. The study challenges the notion of finding a universal route to sustainable development in either model. Contextual, coordinated and integrated implementation of political will, institutional capability, technological innovations, economics, environmental accountability and participation is essential to good green governance. The case study of India and China helps to understand the influence of political culture on environmental governance in emerging economies and the lessons that can be learned to improve sustainable development strategies globally in the Global South.

KEYWORDS: Political Culture; Sustainable Development; Green Policies; Environmental Governance; India; China; Global South; Climate Policy; Renewable Energy; Green Governance.

1. INTRODUCTION

Political culture is significant in influencing understanding, policy formulation and implementation concerning sustainable development in the field of governance. Almond and Verba define political culture as "the particular distribution of patterns of orientations in political objects among the members of a nation", arguing that the stability of any political regime depends on its political culture being congruent with its political structure. Because the authors project the English model as exemplary for a "democratic state", where civic culture is an amalgam of "participant", "subject" and "parochial" political orientations, thus ensuring the relevance of structure and culture. With this cultural mix that is civic culture, "political action, participation and rationality are balanced by passivity, traditionalism and adherence to provincial values" (1). This understanding of political culture is particularly relevant to environmental governance, as it encompasses the values, beliefs, attitudes, institutional practices, and patterns of political participation that shape public policy and decision-making. Political culture can therefore influence the degree of governmental commitment to ecological protection, the balance struck between economic development and environmental protection, and the extent to which citizens and civil society participate in environmental policy processes. In the context of the Global South, where rapid economic growth and urbanisation are generating increasingly complex environmental pressures, understanding these political and cultural dimensions is crucial for assessing the effectiveness and implementation of green policies (1).

Almond and Verba define political culture as “the particular distribution of patterns of orientations in political objects among the members of a nation” (1), arguing that the stability of any political regime depends on its political culture being congruent with its political structure. In projecting the English model as exemplary for a “democratic state”, the authors conceptualise civic culture as an amalgam of “participant”, “subject” and “parochial” political orientations, thereby emphasising the relationship between political culture and institutional structure. Within this civic culture, “political action, participation and rationality are balanced by passivity, traditionalism and adherence to provincial values” (1). This formulation established political culture as an important framework for understanding political development and the functioning of political institutions, although its explanatory scope and conceptual foundations have subsequently been debated (22; 7). In particular, revisit the political culture approach and highlight the continuing significance of cultural explanations while questioning some of the assumptions and methodological problems associated with earlier approaches.

This understanding of political culture is particularly relevant to environmental governance, as it encompasses the values, beliefs, attitudes, institutional practices, and patterns of political participation that shape public policy and decision-making. Political culture can therefore influence the degree of governmental commitment to ecological protection, the trade-offs made between economic development and environmental protection, and the extent to which citizens and civil society participate in environmental policy processes. In the context of the Global South, where rapid economic growth and urbanisation are generating increasingly complex environmental pressures, understanding these political and cultural dimensions is crucial for assessing the effectiveness and implementation of green policies (1).

India and China are both major emerging economies with enormous environmental concerns and having ambitious targets for development. India is a democratic and federal state with a high level of variance in policy implementation, electoral competition, civil society engagement and judicial intervention. China, on the other hand, has a governance structure where planning is centralized and long-term, and large-scale policies are implemented under the state's guidance. Contrasting political cultures result in distinct institutional environments when it comes to climate change, renewable energy, pollution abatement, resource conservation and sustainable development.

The environment in the Global South is suffering from a complex set of issues such as climate change, air and water pollution, the loss of biodiversity, deforestation, shortages of resources, waste production, and strain on energy and infrastructure systems. Population growth, industrialization, urbanization and socio-economic disparities exacerbate these challenges. The developing world, in turn, needs to pursue environmental sustainability and at the same time fight poverty, unemployment, lack of energy and economic development. Learning from India and China, the experiences of these two countries show that this balance is complex and it can offer useful lessons in the complex interplay between political institutions and green policy outcomes (2).

This study is important because it attempts to go beyond the traditional practice of measuring environmental policies on their own purpose and looks at the effects of political culture on the formulation, implementation and effectiveness of these policies. The comparative analysis can help to improve the understanding of institutional and political areas that enable or impede sustainable development in emerging economies. It can also recognize policy practices and governance mechanisms that can be of interest to other countries in the Global South.

The study will investigate the linkage of political culture and sustainable development and contrast the formulation and implementation of green policies in the countries of India and China. It explicitly aims to examine the impact of political institutions, governance arrangements, public involvement, and economic agendas and administrative capabilities on environmental policy outcomes. What are the effects of political culture on the formulation and implementation of a green policy in India and China? What are the key similarities and differences of their environmental governance approaches? How does political and institutional landscape influence sustainable development outcomes? What are the lessons to be drawn from India and China for the other countries of the Global South?

The study's scope is restricted to the comparative study of the political culture, environmental governance, climate policy, renewable energy and sustainable development in India and China. It highlights the national level policy frameworks and takes account of the institutional and implementation aspects. The study does not seek to include all of the environmental programmes in both countries, but rather focuses on some key and major green policies and governance mechanisms that illustrate the connection between political culture and sustainable development.

2. Conceptual and Theoretical Framework

Political culture denotes the values, beliefs, attitudes, orientations and behavioural patterns that individuals and institutions have to comprehend political authority, governance, participation and public policy. Political culture affects community and society's understanding of environmental issues, government priorities, and citizen reactions to environmental laws and policies. A political culture that shows a concern for collective responsibility, institutional accountability, long-term planning, and public participation can set the stage for good conditions for environmental protection. But, political systems that are more oriented towards short-term economic considerations, low levels of institutional oversight or low levels of public engagement can struggle to deliver effective environmental results. It is therefore important to look into political culture to understand why in countries facing similar environmental problems, policies may take different forms or may be implemented to a greater or less degree.

The overall conceptual framework of this study is sustainable development. It is about the promotion of economic and social development without compromising the ability of the natural resource base and environmental systems to meet the needs of current and future generations. The idea calls for a harmonious, concurrent economic growth, social integration and environmental preservation. In developing nations like India and China, sustainable development is definitely a challenging issue as governments have to solve the problem of poverty reduction along with jobs, infrastructure, energy security, industrial growth and environment pollution. Governments have introduced green policies that encompass renewable-energy programmes, climate strategies, pollution-control policies, energy-efficiency policies, and low-carbon development plans, which are important policy tools to strive for this balance.

Green governance is the institutional frameworks, regulatory structures, policy tools and involvement that are implemented to govern environmental resources and solve environmental problems. This comprises intergovernmental coordination, public participation, market-based instruments, public accountability, monitoring systems, environmental standards, governmental regulation. Green governance is not only being based on environmental policies, but also on institutional capacities, and the capacity of political and administrative systems to implement environmental policies. The way these political institutions shape the process of decision-making on the environment through the process of policy formulation, the distribution of authority, negotiation between competing interests and balancing the environment with economic and political priorities (3).

This study builds on the theoretical underpinning of the relationship between political culture, political institutions, governance, and policy outcomes. Based on the comparison, it can be seen that the political values and political institutional structures influence the formulation and implementation of green policies. India's democratic participation, federalism, judicial activism, civil society activity, and differences among its states constitute pluralistic environmental policy environment in India. In China, coordinated policy implementation on a large-scale scale is supported by the coordinated efforts of political and administrative authorities, long-term planning, and the strength of the state. The differences offer important insights into the nature of the impact of different forms of political and institutional arrangements on environmental governance and sustainable development.

The study thus understands outcomes of sustainable development as the result of interplay between the political culture, institutional capacity, governance mechanisms, economic priorities and public participation. Values and orientations that influence environmental priorities are set by political culture, while the institutions through which this influence is realised in policies are determined by political institutions. Governance capacity is related to implementation, monitoring and enforcement, while economic conditions and development goals relate to feasibility and direction of green transitions. This framework allows to the study to make a systematic comparison of India and China and to discuss the role of the factors influencing similarities and difference in their approaches towards sustainable development from the political and institutional perspective.

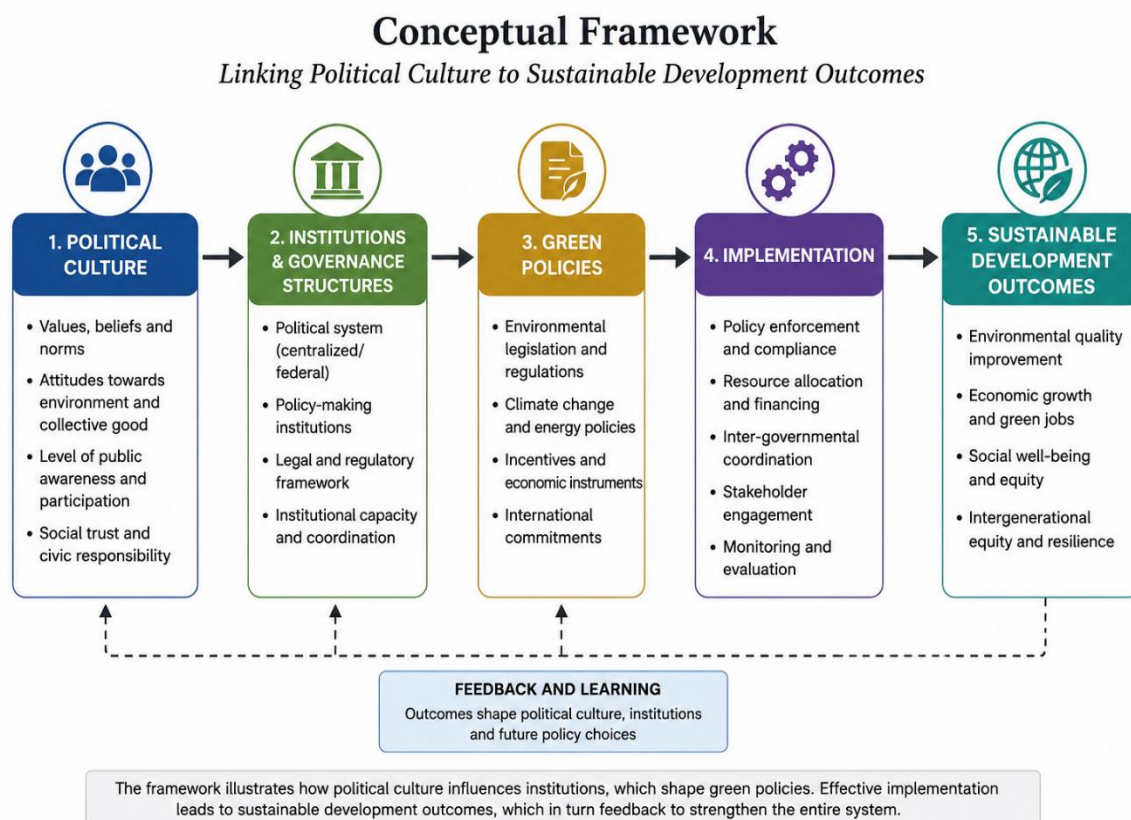


Figure.1 Conceptual Framework

3. REVIEW OF LITERATURE

In recent research, the link between political culture and environmental governance has been a growing area of focus, especially in the face of the multiple challenges of climate change, resource depletion, pollution and sustainable development faced by governments. The nature of political culture impacts on how citizens and policy makers view an environmental issue, how just they believe environmental policies are, and how much emphasis they put on long-term ecological goals. Research on environmental governance typically shows that the effectiveness of policy implementation depends not only on the design of the policy itself, but also on institutional capacity, political will, administrative coordination, public engagement, and accountability mechanisms (21–23). These factors can lead to significant disparities in environmental outcomes even between countries facing similar socio-economic and ecological challenges (21–22).

The literature on Sustainable Development in the Global South refers to the conflict between environmental protection and the ongoing demand for economic growth, poverty reduction, job creation, infrastructure expansion and access to energy. The situation in developing countries has been claimed to present a unique sustainability challenge, given the environment of socioeconomic inequality, fast urbanization, population growth, and scarce institutional resources. Increasingly, there is a need to embed environmental sustainability within social and economic goals and agendas, and not as an issue separate from development. The importance of international climate commitments, technological innovation, financial resources, and domestic political institutions in influencing sustainable development pathways are also cited in the literature (4).

The study of green policy development in India has focused on climate governance, renewable energy, environmental regulation, sustainable urbanization and transition to low carbon economy. The Government of India has established various policies and programmes for the promotion of renewable energy, energy efficiency, climate adaptation, pollution control and sustainable development. There is a general consensus in the existing research on the significance of India's democratic institutions, federal structure, role of the judiciary, civil society institutions, and regional differences in creating environmental policy. Meanwhile, researchers point out implementation capacity issues, the need for multi-governmental coordination, conflicts among various development priorities, environmental enforcement, and the need for energy security and decarbonization. The literature thus offers the image of India as a complex country with both democratic engagement and institutional pluralism, and also with deep challenges to implementation. Coastal states like Odisha prioritize storm-surge resilience and mangrove restoration in their SAPCCs, whereas Himalayan states like Himachal Pradesh tailor their plans around glacier monitoring and sustainable mountain tourism.

Much of the scholarly research on environmental governance in China has been on the importance of strong political centralization, state capacity, long-term planning, industrial policy and massive public investment in greening. China has been investing heavily in renewable energy, electric mobility, energy efficiency, pollution control and low carbon technologies. The country's environmental policy process is often linked with high administrative coordination and capacity to mobilize resources quickly towards nationally agreed targets. The drawbacks associated with policy enforcement and regional differences, local implementation, economic reliance on resource-intensive industries and the trade-offs between environmental goals and future economic development, however, are also noted. China is thus a contrasting case where a centralised decision-making process can enable policy to be implemented quickly but can also give rise to specific governance and accountability issues (5).

Comparative study of India and China suggests that both countries have gradually shown their inclination towards green development but have different institutional frameworks, political involvement, policy execution and governance mechanisms. The democratic and federal nature of India's structure offers several avenues for participation, contestation, and judicial action, while China's centralized approach allows for concerted action at the national level and the slow and gradual implementation of long-term policy. Research on comparative environmental performance, climate pledges, economic transitions, renewable-energy developments, or other comparative studies generally focuses on one of those aspects of sustainability and environmental performance, with few studies systematically analyzing the relationship between political culture and the formulation, implementation, and outcomes of green policy.

The literature thus shows a gap of study on the interdependent nature of political culture, institutional framework, the implementation of green policy, and sustainable development results in the two countries. Very little scholarship exists on the study of individual environmental policies, or on wider economic and technological transitions, and insufficient work exists that analyzes how different political cultures affect how green policies are prioritized, implemented, involve public participation, and work. This study attempts to bridge this gap by adopting a comparative approach between India and China as well as factoring in political culture as an explanatory variable in the understanding of differences and similarities in the approaches of the two nations to sustainable development (6).

4. RESEARCH METHODOLOGY

The study is based on the qualitative comparative research design, using the analysis of the green policies of India and China to explore the relationship between political culture and sustainable development. A comparative approach is suitable since both countries are large emerging economies under similar environmental pressures and with different political and institutional systems. The study centres on highlighting similarities and differences in

policy priorities, governance and implementation procedures, institutional capacity, public involvement and environmental outcomes. This study is not only based on numerical indicators but focuses more on the interpretation of policy frameworks and institutional practices so as to understand how political culture affects environmental governance.

The study is largely based on secondary data sources of credible academic, government, intergovernmental and institutional sources. These include peer-reviewed journal articles, books, research reports, government policy documents, official environmental and climate reports, publications of international organizations, and databases. Information about India and China is systematically studied to make sure a comparable area of policy and time frame is used for comparison. Secondary data are preferred since the study is based on the national level political institutions, policy frameworks and governance practices that can be studied by examining existing documentary evidence available (7).

The main approach of investigation is policy and document analysis. A few environmental and climate policies of India and China are examined to understand their goals, institutional framework, implementation mechanisms, regulatory policies and sustainability priorities. Climate action, renewable energy, control of pollution, energy efficiency, low carbon development and environmental governance are key issues analysed. Policies are chosen based on their relevance to sustainable development and their capacity to show the impact of political and institutional systems on environmental decision-making.

A comparative analysis is based on the following dimensions: Political culture, Governance structure, Institutional capacity, Policy formulation, Policy implementation, Public participation, Economic priorities, and Environmental accountability. India and China are explored individually before comparing their strategies on these dimensions. Thematic analysis has been adopted in this study to look for patterns and variations in the available evidence. The results are then discussed in the light of the conceptual framework developed in the study, paying special attention to the effects of political institutions and political values on green policy results.

This methodology also acknowledges some limitations. Some local level experiences of implementation may be limited in access because of reliance on secondary sources and there may be differences in data availability between the two countries. Political and institutional environments are also complex and are not always measurable by a limited number of policy indicators. In addition, the study does not claim to make a causal connection between political culture and any particular environmental outcomes. Rather, it aims to uncover significant relationships and illuminating patterns by making systematic comparison. However, the methodology offers a suitable approach to the political and institutional aspects of sustainable development in India and China, given the limitations.

5.Green Policies and Sustainable Development in India

India's strategy for green development embodies the synergy between environmental protection, economic development, energy security, social development and its democratic and federal political system. India is a fast growing economy with high energy demand and rich regional and socio-economic diversity where expansion of economic opportunities is found to be challenging in the context of mitigating environmental pressures. It has consequently come to pay increasing attention to the strategies of climate change mitigation and adaptation, renewables, energy efficiency, sustainable urban development, forest protection, climate change resilient agriculture, water management, and low carbon development in its green policy. The National Action Plan on Climate Change (NAPCC), which was launched in 2008, is a country-wide roadmap towards action on climate change, encompassing national missions on solar energy, energy efficiency, sustainable habitat, water, the Himalayan ecosystem, Green India, sustainable agriculture, strategic climate knowledge. The framework aims to integrate climate action into the development agenda and does not view environmental protection as a development concern (8).

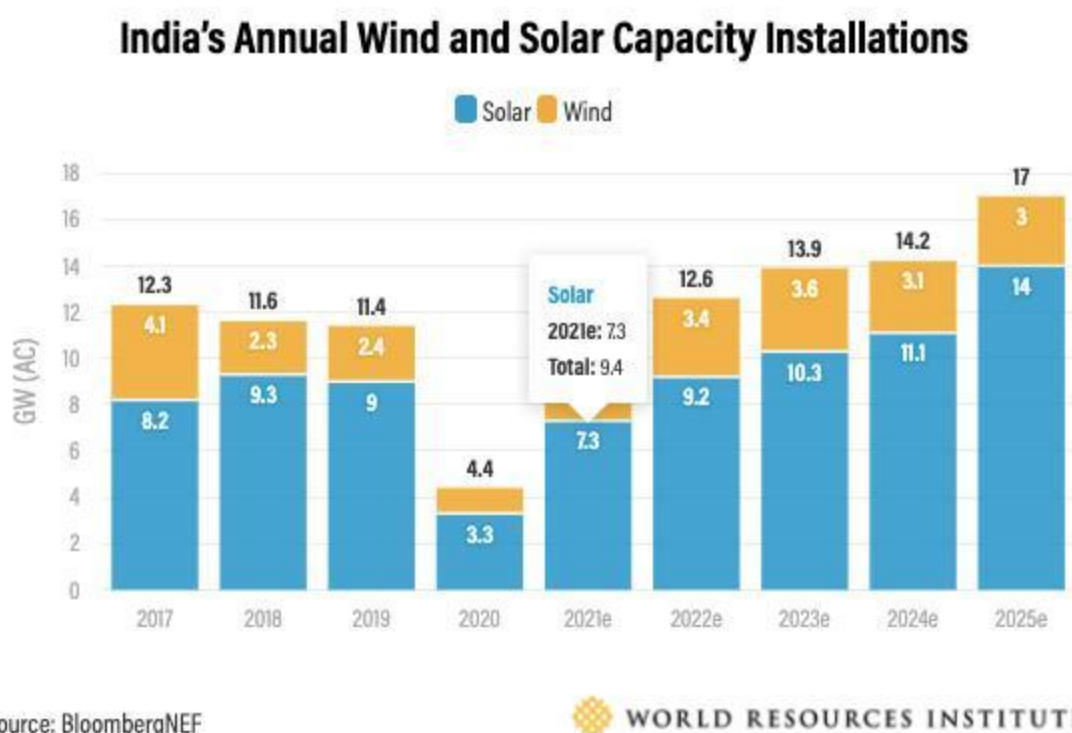


Figure.2 India Renewable-Energy Capacity Addition by Source, 2025

Formulation and implementation of green policies is influenced by India's political and institutional context. Environmental governance is a process that engages citizens, civil society, private sector, courts, regulatory institutions, local governments, and the Union government. States can establish climate and environmental priorities based on the local context, while national priorities give broad guidance. The State Action Plans on Climate Change are complementary to the NAPCC and are formulated at the state level to bring out the actions that can be taken on a state level. This multi-level system can promote experimentation of policies and participation, but it can also pose problems of working out how to coordinate, deal with administrative capacity, enforce, and implement policies in different states. Civil society and local institutions are explicitly mentioned in the NAPCC approach, highlighting the need for participatory and decentralized governance in India's climate strategy (9).

There has been a growing emphasis on the integration of mitigation and adaptation in climate and environmental policies in India. The NAPCC offers a wide policy framework to embed climate issues across energy, agriculture, water, habitat, forest and knowledge systems. India's revised climate pledges also talk about an economy that is less emission intensive, a higher proportion of non-fossils in installed electricity generation capacity, sustainable lifestyles and a long-term trajectory towards achieving net-zero by 2070. The government has additionally recognized key climate action areas – such as clean energy, sustainable mobility, waste management, forest and tree cover, climate-resilient agriculture, water resources, health, and disaster management.

Renewable energy is one of the most significant aspects of India's green transition. Various policies have been given a lot of attention for solar and wind energy, including renewable-energy targets, competitive procurement, transmission infrastructure, renewable purchase mechanisms, and programmes for decentralised and agricultural applications of solar energy. PM-KUSUM, rooftop solar programmes, renewable energy parks and the Green Energy Corridor are all schemes designed to increase renewable power and enhance the integration of clean energy into the power system. India has also encouraged sustainable mobility by incentivizing EV adoption, expanding public transport, electrifying the railways and more which aims to decrease the carbon intensity of transportation. These are examples of the policy connection between energy and transport that are increasingly being tied to other sustainability policy priorities (10).

Also included in the concept of environmental governance in India is policies related to sustainable agriculture, forestry, biodiversity, water resources, pollution management, and urban sustainability. The National Mission for Green India aims to conserve, preserve and develop forest cover and provide ecosystem services along with conserving forest biodiversity, water and carbon storage. Its approach encompasses ecosystem restoration, forest quality enhancement, urban and peri-urban tree cover, agroforestry, social forestry and wetland restoration. The event exemplifies India's green policy beyond carbon reduction and natural resource conservation, ecological resilience.

Although green policies are becoming more common, it is still highly challenging to implement them. India has to reconcile its many objectives – environmental, energy security, industrialisation, employment, poverty alleviation, infrastructure development, and population aspirations – in order to achieve them. Administrative

capacity varies across states and local institutions, which may impact policy implementation and results. The reliance on traditional energy sources, the impact of land use, urban pollution, and the economic and technological needs of the energy transition further complicate implementation. Thus, the success of green policies also relies on institutional coordination, institutional regulatory capacity, public involvement, technological innovation, and financial resources. Indian experience has shown that active participation and policy flexibility can be achieved through democratic and multi-level governance, but needs to be backed by effective mechanisms of implementation (11).

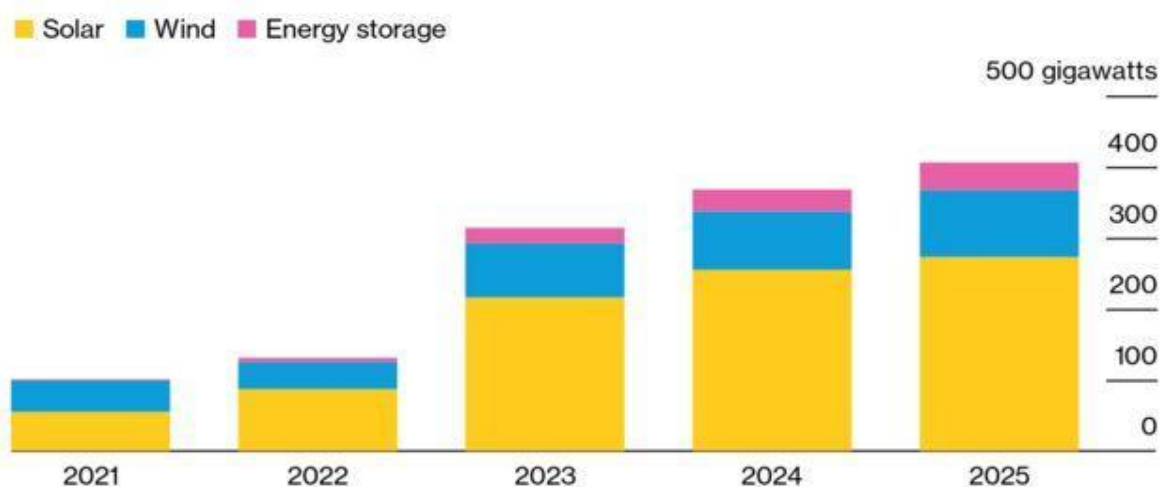
The overall green policy matrix in India seems to be an effort to balance the economic growth with environment. A growing and extensive national-level climate and environmental governance structure has emerged, encompassing national missions, state-level initiatives, renewable energy development, energy efficiency, ecosystem restoration, sustainable transport, and citizen-oriented measures. Concurrently, the fact that a pattern of developmental pressures and implementation constraints still exists suggests that policy goals do not necessarily result in consistent sustainability outcomes. Thus, the Indian context is significant not only for studying the interaction between political culture, democratic institutions, federalism, administrative capacity, and economic priorities in advancing green policy and sustainable development, but also for analyzing the ongoing economic and climate change challenges it faces. Thus, the Indian case is important to study both as an example of the interaction between political culture, democratic institutions, federalism, administrative capacity, and economic priorities in the advancement of green policy and sustainable development, as well as to analyse the economic and climate change challenges that it is currently experiencing.

6.Green Policies and Sustainable Development in China

The Chinese model of green policies and sustainable development is highly affected by the central political system, the long-term development planning, and the strong state capacity of China. Environmental protection has been more and more integrated into the national development plan, and the concept of green and low-carbon development is one of the key elements of high-quality economic development. Climate change has become a long-term policy priority in China with the goal of reaching peak carbon dioxide emissions by 2030 and carbon neutrality by 2060. This approach is based on a governance system that defines national goals and translates them into sectoral/regional plans in a manner of administrative coordination and policy implementation. The environmental policy for the country, therefore, involves high-level political guidance, as well as industrial, energy, technological, financial and regulatory action (12).

China has created its policy framework for meeting its carbon targets, often dubbed “1+N”. It brings together a general national directive and action plans for the various sectors and regions, including energy, industry, transport and urban and rural development, agriculture and more. This framework aims to link up reducing carbon emissions with economic restructuring, technological innovation, resource conservation and ecological protection. More recently, China has had an action plan for carbon peaking, which includes the goal of cutting carbon dioxide emissions by 17 percent per unit of GDP (GDP) by 2030 from the 2025 level, and reaching 25 percent non-fossil energy consumption by 2030. These measures represent growing integration of carbon into national economic and development planning.

China's Renewable Power Installations Continue to Reach New Heights Historical and forecast solar, wind and energy storage additions in China



Source: BloombergNEF, National Energy Administration.

Note: Values for solar power are shown in alternating current, or the capacity of the inverter and grid connection.

BloombergNEF

Figure.2 China Renewable-Energy Capacity Addition by Source, 2025

Renewable energy is a key component of China's green transition. It has increased the share of solar, wind, hydropower, nuclear power, and other non-fossil energy sources in the country, as well as to enhance the efficiency and flexibility of the energy system. According to official data, the proportion of non-fossil energy use rose from 16.0 percent in 2020 to 19.8 percent in 2024. China has also fostered new energy vehicles, green electricity use, energy storage, smart grids and other technologies to facilitate the shift to a lower carbon energy system. The rapid pace of renewable-energy projects have allowed China's environmental policy to become intertwined with industrial development, technological innovation, and economic competitiveness (13).

The construction of green industries is intricately linked to China's overall economic plan. Policies increasingly promote energy intensive industries to become more efficient, to cut their emissions, to invest in cleaner technologies, and to shift to higher value production. Low-carbon investment and consumption is promoted through green finance, fiscal and tax policies, environmental requirements, government procurement and market instruments. China has also enhanced the mechanism of green electricity certification and consumption, such as establishing renewable energy green electricity certificate market. The measures reflect a strategy to incentivise the market and state-driven planning to promote the adoption of renewable energy and green technologies.

One of the most prominent features of the Chinese approach is that it is led by the state. The broad objectives and standards are set at central level and then broken down into specific programmes and projects at the provincial/state level. In such a structure, coordinated action, large scale infrastructure investments and financial and administrative resources can be mobilised quickly. The use of environmental goals is growing in industrial policy, urban planning, transportation, energy management and ecological restoration. The 2026-2030 plan to construct a "Beautiful China," for instance, prioritizes enhancement of air, water and land quality, recovery of ecosystems, fighting climate change and advertising green production and lifestyles (14).

China's green transition is not only about cutting carbon emissions but also about protecting ecosystems and controlling pollution. Forest, grassland, wetland and river restoration and pollution prevention policies have been strengthened for air and water pollution. The protection of the environment gradually has become linked to the idea of establishing a harmonious relationship between economic development and nature. This more comprehensive one considers that sustainable development is also a matter of preserving ecological resilience, conserving natural resources, enhancing environmental quality and maintaining ecosystem services, not just of lowering greenhouse-gas emissions. This is an example of how environmental governance is shifting from single-pollution-control policies to a broader sustainability policy.

While there has been significant progress, there are important challenges on the road to China's green transition. The nation still has a very high dependence on fossil fuels, especially coal, which is causing tensions between rapid decarbonisation and energy security. Achievement of environmental objectives may be complicated by industrial production, local differences in economic development, and the necessity to sustain economic growth. The centralized management can ensure quick policy implementation, but local governments may have different economic conditions and development incentives and hence may implement policies differently. China's industrial and energy systems are also massive, which implies a large technology investment, infrastructure development, financial resources, and careful management of social and economic risks in the transition. The policy framework currently in place in China thus focuses on the gradual rollout of new clean-energy generation and the security of energy and industry in the transition.

In general, China is a unique case of green governance, where, by centralizing the political party's authority, long-term planning, administrative coordination, technological development and government investment, China is striving for sustainable development. Through the country experience, it has been realized that good institutional capability can help scale up renewable energy, green infrastructure and environmental programmes quickly. Meanwhile, the persistent reliance on traditional energy sources, the uneven roll-out across regions and the difficulty of reconciling economic development and environmental goals highlights the constraints and challenges of a state-driven transition. China's experience is thus of comparative interest with respect to the influence of centralized political decision-making on the pace, scale and orientation of the implementation of green policy in a large economy of the Global South context (15).

7.Comparative Analysis of India and China

India and China are two poles of political and institutional strategies in the Global South for green governance. Both nations are large and fast-growing economies with high energy demands, high environmental pressures and lofty sustainable development goals. But their political cultures and governance systems have many differences. In India, the environment is a federated and democratic system with elected governments, courts, regulatory agencies, state administration, civil society organizations, private actors and citizens all playing a part in environmental decision making. China has a centralized single party political system, where national priorities are set at a central level and enforced by a hierarchical system of administration. These disparities affect the conceptualization of environmental issues, the design of environmental policies, the recruitment of resources and the management of environmental results. Comparative studies also show China's use of target-setting and top-down implementation, and a greater separation of powers between central and state governments in India, coupled with greater legislative and judicial accountability (16).

Table.1 Comparative characteristics of green governance in India and China

Dimension	India	China
Political system	Democratic and federal (17)	Centralized and state-led
Policy formulation	Multi-level and participatory	Predominantly top-down
Implementation	Union–state coordination	Central–provincial administrative coordination
Public participation	Relatively extensive	More state-directed
Long-term planning	Moderate to strong	Strong
Administrative coordination	Variable	Strong
Renewable-energy expansion	Rapid	Very rapid and large-scale
Major challenge	Implementation and coordination	Energy transition and regional implementation
Key strength	Participation and institutional pluralism	Planning and implementation capacity

It is important to note that the political cultures of the two countries are different, with relevant implications for environmental policies. The Chinese government is a centralized system that offers powerful tools to establish a long-term national goal and harmonize policies on different scales and sectors. This can help to mobilise financial, technological and administrative resources quickly for large-scale environmental programmes. India has a more democratic political culture, offering a greater space for public debate, judicial intervention, civil society engagement, and policy contestation (18). It is also federally structured and provides the states with the flexibility to formulate policies based on the local environmental and socioeconomic conditions. But participatory and decentralized aspects can result in policy implementation and coordination variations. The research literature on regional decarbonisation pathways has revealed that effective governance can be achieved through mostly intergovernmental (China) or stronger state–society links (India), and is able to create viable pathways of environmental governance (EG) across different political structures.

There is also a gap in the two countries in the process of green policy making and implementation. The Chinese rule of the game is generally focused on national planning, enforceable targets, administrative coordination, regulation, and implementation that is outcome oriented. India integrates national policy frameworks with market-based instruments, federal institutions, judicial frameworks, and state-level actions. Low-carbon development studies show that the regulatory instruments have been used comparatively more in developing the low-carbon development in China than India has done. Despite this, there are significant policy and framework initiatives for renewable energy, energy efficiency, low carbon development and environmental protection in both countries. The distinction is not so much in the presence or absence of a green policy; it is rather about the institutional frameworks in which the goal of the policy is converted into practice.

Another key aspect of difference is public participation and state–society relations. India's democratic system offers citizens, nongovernment organizations, researchers, communities, and advocacy groups opportunities to formally and informally shape environmental debates. Another way in which environmental issues have made their way into the policy process has been through environmental litigation and judicial review. Public information and consultation on environmental issues are integrated into China's environmental governance system, and public participation is gaining in importance, while decision-making is mainly state-led. In India, therefore, the governance of the environment is more political, more pluralist, and more contested; in China, more emphasis is laid on coordination and direction of the administration. These disparities are not necessarily indicative of the universal superiority of one model over the others, but rather of the manner in which environmental priorities are expressed and realized through political culture.

Economic development is one of the key shared challenges for both countries. India and China need to increase access to energy, jobs, infrastructure, industrial production and living standards, and decrease pollution and GHG emissions. They are therefore intimately linked to political-economic interests, technological abilities and the power of industries and other stakeholders in their environmental transitions. Comparative research reveals domestic resources, regulatory politics, development constraints and scientific and technological capacity as important factors that contribute to explaining the differences between India and China in international environmental negotiations. The challenge of reconciling environmental goals with economic growth remains for both countries, but in different institutional forms (19).

From the standpoint of policy effectiveness, China has proven itself to be very effective at putting into practice large-scale environmental and clean-energy programmes in a short time, especially when policy goals are clearly stated and at the national level and where administrative accountability is high. An ongoing comparative study on air pollution governance has shown that China's centralised target setting and implementation process has helped make a significant dent in air quality, while India has experienced more challenges in implementation; it has also pointed to the importance of political commitment and clear accountability mechanisms for effective

environmental governance in both countries (20). However, India has strengths in the institutional areas linked to democratic accountability, judicial oversight, federal experimentation and public participation. There is potential to enhance its policy effectiveness by deepening intergovernmental coordination, establishing explicit policy implementation authorities, expanding monitoring and institutional capacity at the state and local levels.

The comparison suggests that the advantages of the two models may be complementary. China provides a case study of the benefits of long-term strategic planning, central coordination, massive investment, and the speed of technological deployment. India proves that democratic participation, institutional pluralism, judicial accountability, federal innovation and state–society interaction are valuable. These two approaches cannot be considered as a template for the Global South, since environmental governance will take place in different political, social and institutional settings. The comparative evidence rather indicates that an effective green governance involves strong political backing, plus institutional capability, transparent accountability, technological innovation, financial resources and avenues for meaningful stakeholder engagement.

There are some lessons for sustainable development in the Global South from India and China. First, the ambitious environmental targets should be implemented and monitored effectively. Secondly, there has to be adequate financial and administrative support for political commitment. Third, environmental policy adopted together with economic development and energy security, employment and social welfare goals, has more potential for sustainability in the context of green transitions. Fourth, the potential of technological capacity and innovation to support the implementation of a low carbon policy is significant. Fourth, the power of technology capability and innovation to support a low carbon policy is great. Last but not least, governance models need to be tailored to the national political culture, not replicated. Comparative evidence reveals that the two countries of India and China are taking different institutional paths towards green development, while also establishing that the political culture-governance capacity-environmental policy link plays a key role in sustainable development.

8.DISCUSSION

The comparative analysis shows that the political culture has been an effective moderator between the nature of green policies in India and China, and their direction, implementation, and effectiveness. Both countries are well aware of the value of environmental protection and sustainable development, but have different systems of governance for channeling environmental concerns into policy. The central political organization of China allows the setting of national targets, coordination of administration and rapid mobilization of resources, whereas the democratic and federal nature of Indian politics provides more opportunities for public participation, judicial intervention, civil society involvement, and experimentation with policies at the state level. Comparative studies also show that the environmental governance in China is more centralized, with target setting and implementation from the top down, while environmental governance in India is more dependent on central–state institutional relations and legislative and judicial accountability.

The results suggest that the process of political culture is not autonomous from institutional capability and economic interests. China has been able to do this due to its strong central direction, which allowed the government to incorporate environmental goals into development planning and to draw in huge administrative and technological resources to support the renewable energy, pollution control and low carbon development. Regional interests and competing economic priorities still can, however, affect implementation. Earlier research on clean energy transitions has demonstrated that when incentives are in opposition, the incentives provided at the national level can be limited or modified by the incentives provided at the provincial level and by incumbent state-owned enterprises. In India there are several mechanisms by which environmental issues can be incorporated in public policy, and uneven implementation of these policies can be the result of variations in administrative capacity, intergovernmental coordination, and enforcement. This implies that participatory institutions are not sufficient in achieving good environmental results.

The comparison also indicates that the clarity of political priorities and accountability arrangements are important to the effectiveness of policy. The evidence of air-pollution governance suggests that China has made substantial gains via the centralized setting of targets and administrative implementation, while India has had more trouble ensuring uniform results from the translation of policy promises. However, the evidence does not suggest that a centralized system of governance is necessarily better than a democratic system of governance. Instead, under both political models, certain political conditions seem to be essential for good governance for the environment: strong political commitment, sufficient financial resources, clearly defined political responsibilities, effective monitoring, and credible accountability systems.

Another significant difference is that in most cases, a public component is involved. Elections, courts, civil society and public campaigns, as well as the political processes at the state level, are all components of the political culture of India that can contest environmental issues. They can be used to improve transparency and facilitate opportunities for those affected to participate in the decision-making process around the environment, but can also lead to more time-consuming and disjointed policy-making processes. Compared to the other systems, China's system has a more pronounced level of administrative coordination and the ability to make central decisions, which enables large-scale implementation of major environmental programmes. But decision-making is typically done in a state-like manner, which usually brings participation into a more controlled institutional setting. This distinction is captured in research on local decarbonisation pathways, which shows that in China, the linkages are mostly intra-governmental, while in India the linkages are more with the state and society.

Economic development is still a significant shared limitation. Energy demand, industrialization, employment, infrastructure and poverty alleviation have to be tackled by both countries along with efforts to cut down environmental degradation and GHG emissions. As a result, green policies are not just driven by ecological considerations, but also by energy security, the competitiveness of industry, technological capacity and domestic political interests. Comparative political-economy studies highlight the role of societal pressures, vested interests, institutional capabilities, and the strength of ruling coalitions in shaping the speed and trajectory of clean-energy transitions in India and China. This confirms the thesis that sustainable development is a political phenomenon, as well as an ecological one.

The findings also reveal that India and China are not just seen as polar or competing models of environmental governance. They have shown significant strengths and ongoing weaknesses. The Chinese experience shows the promise of long-term planning, centralized coordination, massive investment and quick deployment of green technologies. As it has been seen in the Indian context, democratic accountability, federal experimentation, judicial oversight, and state–society engagement are all valuable. Meanwhile, both countries are experiencing problems reconciling environmental goals with economic concerns, and they also have inconsistencies in implementation in the various regions. It further reflects the findings of research on international environmental negotiations, which indicates that the divergence between India and China is not just a matter of political structure, but also of resources, regulatory politics, constraints on development, and scientific and technological capacity at home.

The results of these findings have wider applications for sustainable development in the Global South. The two key elements necessary for a successful green transition cannot be achieved solely through the centralized capacity of the state or through democratic participation. Rather, effective governance is dependent on the right mix of political will, institutional (or operational) ability, transparency, accountability, technology, and resources, and meaningful stakeholder engagement. Countries with more decentralized political systems can benefit from enhanced capacity for coordination, monitoring, and implementation, while countries with a more centralized political system can benefit from better transparency, stakeholder engagement and accountability mechanisms. India and China thus indicate the need for selectively choosing a policy transfer over assuming that a single governance model is applicable.

The overall picture, however, is consistent with the main thesis of this study, namely that political culture influences the dynamics of institutional design for green policies. Political culture must be viewed, however, in the context of a larger system of institutions, administrative capacity, economic interests, technological possibilities and social pressures. Comparative evidence shows that sustainable development outcomes only take shape in the interplay of these factors. Finally, India and China provide complementary lessons for the Global South: it takes a capacity to act at scale and institutional frameworks that ensure accountability, responsiveness and sustainability to deliver effective green governance.

9.CONCLUSION AND RECOMMENDATIONS

A comparative study of India and China shows that politics, institutions and the capacity of governance have an important influence on green policies and sustainable development results. While both countries have taken significant steps towards addressing climate change, renewable energy, pollution, environmental protection and sustainable development, the approaches are different in terms of political and administrative frameworks. Indian's democratic and federal model offers more possibilities for public involvement, judicial decisions, civil society involvement and experiments with policy level, while the centralized and state-led system in China allows longer-term planning, coordination implementation and massive mobilisation of resources. The comparison thus validates that political culture as well as the policy priority affects how policies are implemented and assessed.

The study concludes that China's key assets are its ability to coordinate actions at the center, plan ahead, implement technology on a massive scale, and implement in large numbers. It has a governance structure that can turn national environmental goals into sectoral and regional goals and can quickly bring resources together. But there are also challenges to the implementation of the Chinese model in the region, conflicting economic interests, energy reliance and transparency and stakeholder engagement. The Indian strengths lie in democratic accountability, federal experimentation, judicial oversight, and more interactions between the State and the society. Meanwhile, the lack of coordination, administrative capacity, funding, and implementation of environmental policies between the states may constrain otherwise ambitious policies from fully impacting. Comparative studies have also highlighted the significance of political-economy limitations and the importance of domestic institutions, resources, technological capacity, and competing development priorities on policy results in both countries.

The role of judicial intervention in Indian environmental governance is complemented by a broader constitutional framework of democratic decentralisation. The 73rd and 74th Constitutional Amendment Acts of 1992, which established a three-tier system of Panchayati Raj Institutions and constitutionally recognised Urban Local Bodies, respectively, created institutional space for local participation in matters closely connected to environmental governance. The Eleventh and Twelfth Schedules assign local bodies responsibilities relating to areas such as land management, water supply, sanitation, solid waste management, social forestry, and urban planning. The Panchayats (Extension to Scheduled Areas) Act (PESA), 1996, further extends decentralised governance to Scheduled Areas by recognising the Gram Sabha as an important institution for community participation in local

resource governance, including consultation on development projects and a role in the management of community resources and minor forest produce. Together, these constitutional and statutory provisions provide a legal basis for moving aspects of environmental decision-making beyond central and state bureaucracies and towards local communities.

The practical significance of this framework can be seen in Pachgaon village in Chandrapur district, Maharashtra, where the Gond Adivasi community used the legal framework of forest rights and Gram Sabha-based governance to assert community management over approximately 1,000 hectares of forest. The Gram Sabha developed locally agreed rules governing bamboo harvesting, forest-fire prevention, biodiversity protection, and the use of forest revenues. Through collective management of the village's bamboo resources, the community was able to reduce external exploitation, strengthen forest protection, and direct revenues towards local development and ecological priorities. The Pachgaon experience therefore illustrates how decentralised institutions can transform local communities from passive recipients of environmental policy into active environmental managers, while also demonstrating the importance of legally recognised community rights and institutional capacity for effective environmental governance.

The main result is that neither a centralized nor a democratic system of government is a universal best practice for sustainable development. For effective green governance, it is important that there is a long-term political commitment, institutional capacity, transparent accountability, adequate finance, technological innovations, effective monitoring and meaningful stakeholders' participation in green governance. History from India and China indicates that environmental policy is more effective if environmental and climate goals are tied to economic growth, energy security, employment, poverty alleviation and social welfare. The two countries are thus important, but context-specific, lessons for other countries in the Global South.

At the international level, India and China have also pursued different institutional approaches to extending their green-transition models beyond national borders. India has promoted the International Solar Alliance (ISA), launched jointly with France in 2015, as a multilateral platform aimed at mobilising cooperation, finance, technology, and capacity-building for solar energy, particularly among countries located between the Tropics of Cancer and Capricorn. China, by contrast, has promoted the Global Energy Interconnection (GEI) concept through the Global Energy Interconnection Development and Cooperation Organization (GEIDCO), established in 2016. GEIDCO advocates an interconnected global energy system based on the large-scale integration of renewable energy and cross-border electricity transmission. The contrast is significant for understanding the different governance models underpinning the two countries' international environmental strategies: the ISA primarily operates through multilateral cooperation, technical assistance, and capacity-building among member states, whereas GEIDCO advances a more infrastructure-oriented model centred on large-scale grids, technological coordination, and interconnected energy systems. Both initiatives extend domestic approaches to green development into the international sphere, but they reflect different pathways of influence—India emphasising coalition-building and institutional cooperation, and China placing greater emphasis on technological infrastructure and large-scale system integration.

Better coordination between Union government, the states and local institutions should be one of the main policy priorities for India. Increased consistency of reporting national climate and environmental targets may help to boost accountability without compromising the benefits of federal flexibility. States should be provided sufficient financial, technical and institutional resources to facilitate the implementation of climate and sustainability programmes, especially in regions with fewer administrative resources. Current and reliable environmental information should be complemented by increased investment in renewable energy, energy storage, energy efficiency, sustainable transportation, ecosystem restoration, and climate-resilient infrastructure. Additionally, public participation should be enhanced through the availability of environmental information, consultation processes, and increased local community and civil society engagement in policy implementation.

Chinese strengths of centralized planning and administrative coordination should be reinforced with increased transparency, public involvement, independent oversight and a system of local responsibility. Such environmental objectives should be kept at the centre of economic and industrial development planning but also take into consideration regional socioeconomic variations and the interests of the affected communities. The introduction of renewable energy, energy storage, electric mobility, green manufacturing, energy efficiency and ecological restoration can help the transition to a low-carbon economy through further investment. Meanwhile, the transition to less reliance on fossil fuels while ensuring energy security will need to be sequenced, technologically innovated and more coordinated among national goals and local actions.

At the macro level on the Global South, it is important to not just emulate the institutional framework of India or China. Rather, countries should take what works and adjust it as per their political cultures, administration capability, economy, and social conditions. What would be useful is if one could marry China's capabilities in strategic planning, policy coordination, infrastructures development, and technological scaling with India's capabilities in democratic engagement, federal experimentation, judicial accountability, and civil society engagement. International cooperation also needs to be bolstered for climate finance, technology transfer, research and development, capacity building and knowledge sharing, as they are often shared issues in developing countries' green transition pathways. Comparative research highlights that co-operation between governments, industry, academia and civil society is key to the implementation of low carbon policies to achieve real sustainable-development results.

Further work needs to be done to build on this comparative framework using quantitative analysis of environmental performance, deployment of renewable energy, emissions intensity, governance indicators and sustainable development outcomes. The study could also be extended to see the differences between the states/province in India and China and see the effect of the national political culture on the local institutions and socioeconomic conditions. Longitudinal studies would be useful in determining if over time, shifts in political priorities lead to shifts in the effectiveness of environmental policy. Future studies might also look into the public perception, involvement of stakeholders, environmental justice, and distributional impacts of green transitions. Such work would help to enrich the knowledge of how political culture and governance can foster more effective, inclusive and resilient pathways towards achieving sustainable development in the Global South.

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