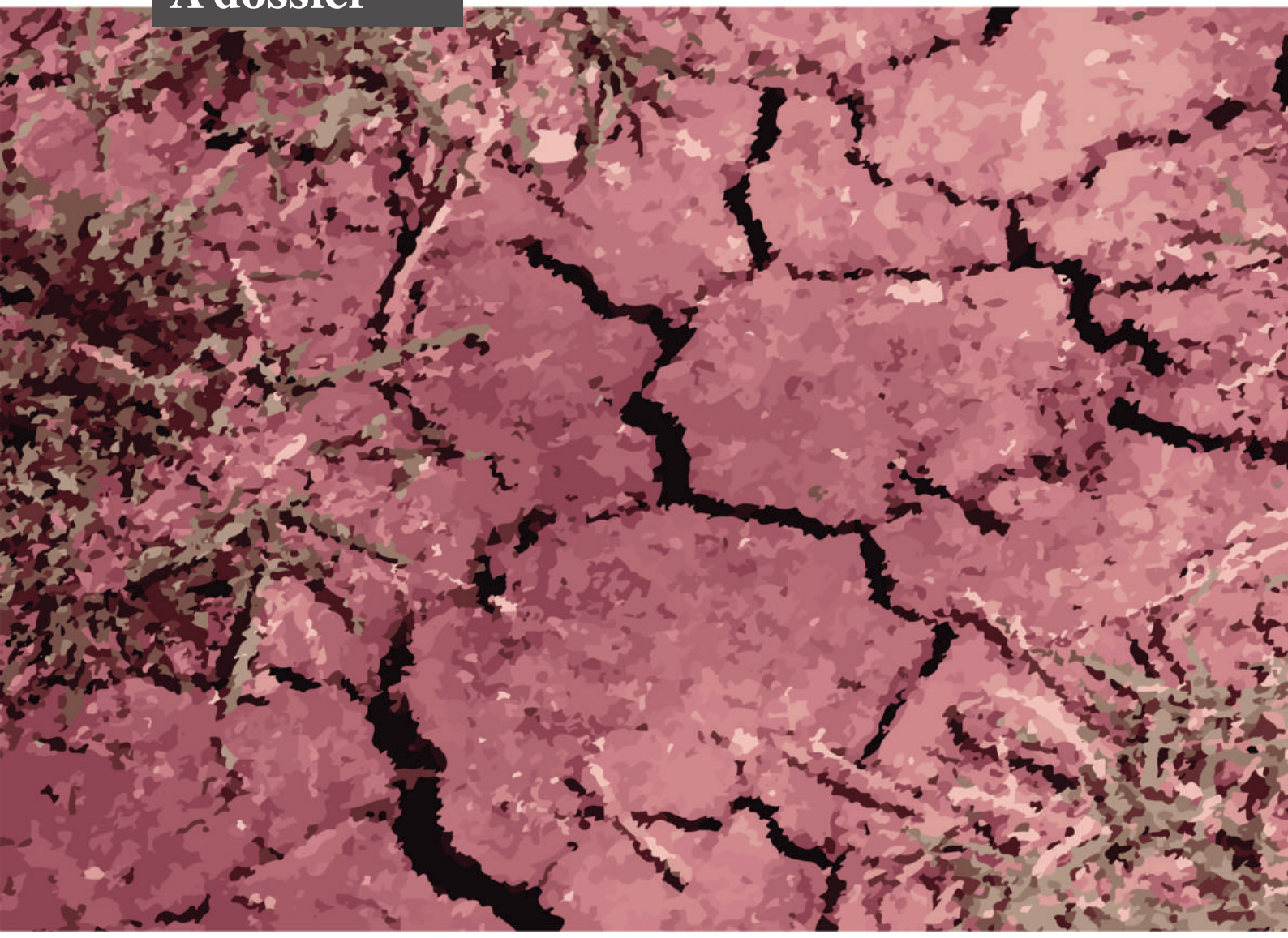
Environmental Laws in India: In the age of a Global Climate Crisis

A dossier



The Research Collective

September 2022

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The Research Collective, of the Programme for Social Action (PSA), facilitates research around the theoretical framework and practical aspects of development, sustainable alternatives, equitable growth, natural resources, community and people's rights. Cutting across subjects of economics, law, politics, environment and social sciences, the work bases itself on people's experiences and community perspectives. Our work aims to reflect ground realities, challenge conventional growth paradigms and generate informed discussions on social, economic, political, environmental and cultural problems.

Environmental Laws in India:
in the Age of a Global Climate Crisis a Dossier

Research and Compilation : Kaveri Choudhury (The Research Collective)
Research Guidance : Jones Spartegus

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Programme for Social Action

G-46 (First Floor), Green Park (Main)

New Delhi-110016

Phone Number: +91-11-26561556

Email: trc@psa-india.net

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Foreword

"I could tell you my adventures—beginning from this morning," said Alice a little timidly; "but it's no use going back to yesterday, because I was a different person then."

— Lewis Carroll, Alice's Adventures in Wonderland / Through the Looking Glass

Change is the only constant not just in life but in the spheres of environment and climate too. The direction and pace of such change are vital while applying this theory by Heraclitus to environment and ecology. The evolving nature of environmental problems call for a dynamic approach to addressing them. However, dynamism should not become a tool for diluting environmental rights and safeguards. Striking a balance between competing interests and claims needs environmental governance frameworks that are built on the foundation of strong institutions and democratic processes.

It gives me immense pleasure to prepare a foreword for this very timely and valuable dossier on environmental laws in India. The last few years have witnessed a number of changes in laws and policies with a direct and indirect bearing on the environment and communities. The pandemic and the restricted activities gave an opportunity to revisit the relationship between human activities and the environment, but it was largely missed. Nevertheless, several changes have been made and proposed in environmental laws since onset of the pandemic.

India's tryst with environmental law is not new and has had various phases with a focus on pollution control or conservation or forest communities, etc., at different times. The articles in the dossier would show that amongst other things, recent environmental laws amendments and policies have laid focus on removing ambiguities and hurdles in faster approval processes and natural resource management. The landscape of environmental governance is complex and layered, however, the contemporary developments bring some issues to the forefront.

First and foremost, institutions are the pillars that hold environmental laws and policies in place. India has had a variety of institutions across nature, size, jurisdiction, and composition. While many of these central and state institutions are statutory in nature, their exercise of powers and discharge of functions has not been smooth. A vast body of literature has found environmental institutions in India to be suffering from problems of weak capacity, fragmentation, lack of coordination, lack of resources, and autonomy. India has had several extra-constitutional institutions in the past that have assumed a significant role in environmental decision-making and oversight, for example, Central Empowered Committee. The trend continues, albeit with other institutions taking up these roles in environmental governance. This is particularly evident in the realm of climate change, where goals are decided at the Central level, with the task of realisation of those goals with institutions across sectors and States.

Second, democratic processes in environmental decision-making have been a subject of much discussion. There have been demands for a more extensive consultation before proposing amendments relating to environment and natural resources. This has been the case for not only amendments to environmental laws but decisions on resource development, such as minerals auction too. In a bid to foster ease of business, there is a lot of emphasis on reducing the time and resources spent on approvals. The use of executive action has been an important feature of environmental regulation in India, especially in the context of environmental impact assessment and approvals. While this may be argued for on the grounds of efficiency, such processes circumvent the safeguards and scrutiny of a parliamentary debate that a bill or legislation may be subject to. Recent developments, as elucidated in the articles in this dossier, have only bolstered this trend. Interestingly, of all the proposals for amending a legislation or subordinate legislation concerning environment, draft EIA notification 2020 received the most widespread attention. Around 20 lakh submissions were made to the MoEFCC, mostly opposing changes to the draft EIA notification. The response received is unprecedented for any legislation, let alone environmental legislation. Thus, public participation, may be challenging but continues to be an integral part of the overall environmental decision making in the country.

A third and related issue is that of a general lack of trust and accountability in environmental governance in the country. Decisions taken without adequate public and stakeholder consultation is bound to reduce the confidence in institutions and places conservation and communities on opposite ends of the spectrum. A recent report commissioned by NITI Aayog has highlighted how five environmental judgments between 2018 and 2021 cost a loss of revenue of Rs 8,000 crore and a loss of livelihood to 16000 workers. The media attention on the loss of revenue and jobs further widens the gap in this environment versus development narrative. A part of this problem can be addressed by allaying concerns of the various stakeholders and making them partners to obtain the social licence to operate and gain trust. However, trust and confidence are further diminished in an ecosystem where public accountability is weak. As discussed in this dossier, and highlighted in court orders over the years, accountability of public institutions and processes has been an issue in effective discharge of functions mandated by several laws.

Fourth, the role of the judiciary in protecting environmental and community rights has been somewhat piecemeal in recent times. Indian judiciary has been famous for its environmental jurisprudence since the 1980s. The judicial interventions have been responsible for the introduction of many environmental laws and the establishment of institutions. In the absence of weak implementation of laws and suboptimal discharge of functions by regulatory agencies, the judiciary has often stepped in to fill the void left by executive and legislature. This has led to accusations of judicial overreach and enabling environmental hurdles in economic development. Some of the recent National Green Tribunal (NGT) orders, such as those on sand mining and RO water purification, have not found favour with the government and have not been adopted. Some of these have even been challenged at higher courts. Besides regular challenges and reversal of orders at the Supreme Court, NGT faces challenges arising out of understaffing due to vacant positions in several of its benches. This has implications for the quantity and quality of orders and judgments that come out of NGT.

Finally, in these times when all international environmental discourse tends to be worded in the language of climate change, internationalization of environmental protection can prove to be a mixed bag. Government of India has often relied on International Agreements and Conventions to expand its jurisdiction on environment and natural resources by way of introducing laws to give effect to international decisions. India does not have a specific climate change or renewable energy law, but that has not stopped the government from announcing various plans and targets for meeting climate change goals announced at the international fora. However, these climate measures communicated globally need a strong and decentralised institutional framework domestically to be able to yield results. India, with its federal structure and international position in the climate discourse, has the opportunity to use climate action for the benefit of its citizens.

In light of the ongoing developments and debates around environment and climate change, this compilation is a valuable and timely contribution that covers a wide range of themes in environmental law in India. The volume compiles perspectives from experts with very rich experience and deep insights in the field of environmental governance.

Nidhi Srivastava
Independent law and policy consultant, PhD candidate, Energy Studies Program
Jawaharlal Nehru University, Delhi

Executive Summary

In India, several changes have been introduced to environmental laws between the years 2019-2022. These changes have been met with concerns for the environment and India's natural resources by communities dependent on these natural resources for their survival, civil society organisations, academicians, environmental lawyers, journalists etc. These changes are also coming at a time when the world is going through a global climate crisis. Several assessments have been made on the proposed changes and the effects it might have on the current environmental situation and at face value it seems they are influenced by a need by the Indian state to give easy access to companies for extracting natural resources. While this reason is integral towards explaining why these changes were introduced, influence by international mechanisms for fighting the climate crisis also needs to be taken into consideration.

Apart from agreements, protocols and commitments that make all signing nations adhere to these international mechanisms by forming their own domestic policies, Green capitalism[1] comes forward as an important aspect that determines how countries might tackle climate change. For instance, climate finance has come to mean more about business opportunities and making networks of patronage rather than actually working towards it.[2] While there is some investment in areas that are working towards fighting the climate crisis, more investments are being made on areas that promote deforestation.[3] In this current global scenario, what can these influences mean for India's climate policy?

There are however, certain things which are clear about these proposed changes to India's environment protections acts. While these are promoting further centralisation of power by making local governance and state governments weaker, there is an unprecedented privatisation of natural resources and they interject laws that have previously upheld public abilities to govern and demand their rights like the Constitutional 73rd amendment (Panchayati Raj) act, 1992, The constitutional 74th amendment (Nagarpalika) Act, 1992, the Panchayat (Extension to Scheduled Areas) Act (PESA) and the Forest Rights Act, 2006.[4] It has also attacked public accountability by attempting to amend the heart of Environment Impact Assessment (EIA) principles. It also seems that principles of intergenerational equity, precautionary principles, polluter pays principles and other such safeguards have been neglected.[5] All these changes have shown how the environment has become a legal object in India where the vested interests of companies in the forests, coastal areas, rivers, and the mountains have put the environmental rights of the people in jeopardy. (For a timeline of these changes look at Annexure 1)

There is also a dissection of rights of indigenous communities from environmental laws, their ability in having a say has been diluted. While many amendments have been proposed and not passed due to widespread opposition from civil society organizations, academicians and policy experts, the attempt in itself outlines the will of the government in doing 'ease of business' or paving easier pathways for companies to gain access to indigenous land

It is with these concerns, a collection of articles has been compiled for researchers, activists, academicians, legal experts or anyone to get a bird's eye view on the recent changes in the arena of environmental governance. These articles attempt to give the reader an understanding of how certain events unfolded, usually with an attempt to amend environmental laws and how it has or it will reverberate a series of irreversible damages. They try to capture the urgency of saving an already ailing environment and the loud chinks in the armor of environment governance that has made life a living hell for some communities. However, while it does capture the problems, the attempt is also to locate the specificities in them, for the hope of possible recommendations in the near future in the form of interventions, suggestions for policy making or simply understanding how the environment around us gets determined by these laws. (For details on India's Environmental laws look at Annexure 2)

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[1] An approach that says we can use the levers of the market to fix the broken environment.

[2] Mehta, Pratap.Bhanu, Like Nero we fiddle as the world burns, Indian Express, May 4th 2022

[3] Mahapatra, Richard, A deal like no others, State of India's Environment, 2022. pp.

[4] Statement issued by Coalition for Environmental Justice in India (CEJI, India) demanding immediate and complete withdrawal of the Biodiversity Act Amendment Bill, 2021. Find the link here - https://esgindia.org/new/events/media/press-release/upholding-the-republic-of-biodiversity/

[5] Ibid, pp. 1

While all these articles are interconnected, they have been divided thematically into six sections keeping in mind the broad changes in environmental laws. Sections 1, 2 and 6 look at the over-encompassing changes that affect all kinds of communities, groups, geographies and ecologies while sections 3, 4, and 5 are specific to an ecological landscape and to acts that will impact these landscapes the most. However, the attempt is also to facilitate continuity and interconnectedness even in separation. The first section builds the understanding of how environmental laws are formed as a result of concern for environmental issues by the society and how it evolves into laws with the interactions between state institutions and society. The second section looks at the international agreements and commitments to fight climate change and how India has attempted to incorporate them into its own domestic policies and further opens the dialogue on the myriad of concerns regarding this. The third section focuses on how amendments of major forest acts have diluted protection to forests and stripped the rights of the forest dependent communities. The fourth section does something similar in the context of India's coastal regions. Both these sections have intersecting environmental laws like the Wildlife Protection Act 1972 that interpret the applicability of the laws in these two different ecologies. The fifth section discusses the coal geography in India and how the shift to clean energy comes with its own problems. The last section binds these changes by looking at the importance of public accountability and how amendments like the Draft EIA notification 2020 can threaten it.

Following is the theme-wise organisation of the articles :

Section 1- Locating how changes in environmental laws get determined by the state, judiciary and the society-

This section looks at how environmental law is not a static object rather it evolves with the influence of the - state, judiciary and society. Author Akhileshwar Pathak looks at how law is constructed in India through the various interactions by the state, society and judiciary by looking at laws like the Forest (conservation) act, 1980. Prakash Kashwan and Arpitha Kodiveri assess the current state of public accountability in India by looking at the interventions made by MOEFCC and the Judiciary on forest governance and how it is weakening acts like the Forest Rights Act, 2006 (hereafter FRA) which holds promise of enhancing public accountability in India.

Section 2- The current global climate change policy vis-a-vis India's climate policy

This section looks at the current international commitments to battle climate change in a world which is rapidly moving towards an ultimatum where it might be too late to protect it. It looks at the commitments both internationally and domestically, through agreements, conferences etc. But, as Pratap Bhanu Mehta points out, "...the sense of unreality is this. While some of these measures might help, it is hard to shake off the feeling that they are more about business opportunities, ticking off boxes in the global climate debate, and creating networks of patronage."[6] The first article in this section captures this global phenomena by looking closely at the role of climate finance. It looks at the aspects of 'loans' not 'grants' given by developed countries to developing ones as a form of climate finance which will further increase the rift between the two.

Richard Mahapatra in his article looks at funds committed for the Glasgow Leader's Declaration on Forests and Land use which are already far below an amount that is needed to accomplish its objectives. He says, "instead money continues to be pumped into organisations that cause deforestation." He also looks at the global situation by comparing things at home, where India has also attempted to amend several of its environmental laws that will improve only the 'ease of business' and will take away community- owned forest resources. Finally, authors Parul Kumar and Abhayraj Naik, look at India's domestic climate policy and asks whether it has any clarity or it is actually rather fragmented?

Section 3- Redefining forest use through 'ease of business'

Between the period 2019-2022, the government has tried to amend several forest acts. Prior to 2019, the National Forest Policy 1988(hereafter NFP88) was also drafted for new changes. From 2019, we see a series of drafts that attempt to amend major forest acts. In 2019 and in 2021, changes in the Indian Forest Act, 1927 were proposed. In 2019 again, the supreme court ruling ordered the eviction of 18.9 lakh adivasis and other forest dependent communities whose claims under the Forest Rights Act, 2006 (hereafter referred to as FRA,2006) were rejected. Proposed changes to EIA notification were also introduced in 2020.

[6] Mehta, Pratap.Bhanu, Like Nero we fiddle as the world burns, Indian Express, May 4th 2022

In 2021, bills were introduced in the lok sabha to amend Forest (conservation) act, 1980 and in the beginning of 2022 the Biodiversity act, 2002.

All these changes have been analysed by several authors who have assessed them to be an attempt to centralise power over forests and challenge the federal structure by making local governance models and State governments weaker. These changes do not talk about climate change, arresting biodiversity loss, conserving forests or protecting the rights of forest-dwellers. Sharachchandra lele looks at these very changes against the backdrop of the attempts by the Indian state through the National Forest Policy 1988 to reform the social economy of India's forests. The FRA,2006 further came as a landmark law towards achieving this goal but the recent drafts to amend IFA and NFF88 reverses these changes and gives more power to the forest department. Other articles open up this discussion by individually assessing all the proposed amendments.

Section 4- Protection of fish production but not the fish: privatisation of fisheries policies in India

At India's coasts, development agendas aim towards 'economic growth' by further opening up India's coastline to more commercial activities, making the ecology and the communities more vulnerable to extreme weather events and sea level rise. Author Ishan Kukreti looks at how the main concern of the CRZ notification when it was first issued in 1991 under the Environment Protection Act 1986, was to regulate population growth and commercial activities in the coastal areas. But, the new CRZ notification aims to reverse it. Supriya Vohra examines the new Draft National Fisheries Policy, 2021 which aims to combine inland and marine, capture and culture and post-harvest in a 'single document' and 'create an environment to increase investments in the sector, double exports, and incomes of fishers and fish farmers'. In that process, there are concerns that it will homogenise the different landscapes, communities and methods of fish production. All these proposed changes point towards one goal which is - privatisation. Dr, John Kurien inspects the Indian fisheries Bill 2021 and asks whether it is aiming towards sustainability or whether it will result in casualty? He also states how the bill fails to follow FAO/UN Code of Conduct for Responsible Fisheries (CCRF) and acknowledge the FAO/UN Small-Scale Fisheries Guidelines.

Also, amidst the goals of producing more fish, there seems to be no coherent law that talks about the protection of the ecology, addresses the means of livelihood for small-scale fishworkers in financially viable terms and mentions the need to recognise the cultural rights of traditional fishing communities. Shivani Swami looks at the wildlife act, 1972 and how it is insufficient to protect the coastal regions since it fails to address the biodiversity of marine ecosystems.

The section also tries to look at the effect other regulations can have on the traditional way of living of fisher communities or coastal communities. Author KA Shaji looks at these aspects in the context of changes being introduced by the Lakshadweep Animal Preservation Regulation, the Lakshadweep Development Authority Regulation, the Prevention of Anti-Social Activities Regulation and the Lakshadweep Panchayat Regulation in altering drastically the habits of people evolved over generations.

Section 5 - Energy production without safeguards

India has plans of installing a massive renewable programme which include solar parks, wind parks, hybrid solar-wind parks and hydrogen exploration. However, there are concerns around it regarding the huge area of land which will be grabbed in this process, the efficacy of these projects and whether proper compliance of environmental safeguards are carried out. Authors Patrick Oskarsson and others examine, through a case study of Goa, how a new coal geography is emerging in the coastal regions where thermal power is generated by imported coal. Simultaneously, coal production in India has also received an impetus during the pandemic with changes in the Coal Mines (special provisions act) 2015. Kanchi Kohli and Manju Menon analyse the implications of these changes.

Author Mayank Aggarwal looks at the expanse of land that has been taken for setting up renewable energy projects and how conflicts between the companies, state and the communities whose lands have been taken are beginning to take place. Nikhil Ghanekar points out how with the changes in Environment Impact Assessment (EIA) companies need only get 'no increase in pollution load' from a government-empanelled auditor or institution which might worsen India's pollution load and cause industrial accidents. Similarly, changes in Environment Impact Assessement (EIA) has also led to oil and petroleum industries exploring hydrocarbons to be exempt from the rigorous process of EIA.

In the context of industrial accidents, Madhubanti Sadhya critically analyses the events that led to the Baghjan oil explosion in Assam and understands them in the framework of safeguard policies, constitutional mandate and liabilities.

6. Attack on public accountability

These proposed changes in acts, whether it be forest acts, coastal acts, energy acts or pollution control acts have been further attacked by trying to amend the EIA. This attempt has attempted to change one crucial part of the legal environmental framework in India - Public accountability. Authors aishwarya R.S chauhan and Geetanjoy Sahu examines the 'biggest overhaul of environmental clearance process' through an historical analysis between the period 1994-2020. They review case laws and legal provisions within domestic and international factors which helped shape EIA in the beginning. Authors Meenakshi Kapoor and Krithika A. Dinesh traces the 33 changes to EIA between 2020 and 2021 across various sectors and maps all the major changes that have been introduced in them.

While this dossier is a collection of present articles, several new analytical articles have come up after this period. The dossier is not exhaustive in its compilation, nor does it cover all changes in laws that might affect the environment; rather it covers the major changes that have received coverage in media or in academia.

The dossier aims to give a prelude to the future dilution of rights and must be interpreted as a documentation of injustices that can be used for future struggles. The contours of environmental governance in India are bound to to change over time, owing to international pressures, concerns for 'development' and environmental protection and the global threat of climate change. It can only be hoped that future policy decisions on environment and laws governing it are attuned to a truly functioning and participatory democratic polity aiming for a healthy environment and healthy people.

In this journey, EIA and FRA come across as upholders of the rights of people and protectors of the environment with its ability to function as effective public accountability mechanisms in India's environment regulatory framework. However, research in this area is not sufficient. Future efforts and developments towards strengthening the efficacy of laws like them might finally provide a way where the environment, the people connected to it and the threat of climate change all get addressed.

Section 1. Locating how changes in environmental laws get determined by the state, judiciary and the society

State, Environment and Law

This article was first published by Economic and Political Weekly on 10 Dec, 1994 and has been reprinted here with permission.

Akhileshwar Pathak

Law is always in formation through the articulatory. processes in society and the institutions of the state. The law, state and society have to be unified in a single analytical field. The zealous concern of the law to protect and preserve forests for environmental reasons and at the same time, the neglect of environmental concerns related to pollution have to be seen in this light. The evolution of law as an interplay of state and society and interactions within the institutions of the state including the conflicts between the union and states, legislature-executive and the judiciary are explored here.

PERSPECTIVES

EVIRONMENTAL issues have been much debated in India by social groups and the state itself. Since law is the language in which state power is exercised, environment law itself has become a subject of contest. Social groups express their interests in ideological-universal terms to project the legitimacy of their projects of which providing a blueprint for future legislation is a part. The competing social interests demand changes in legislations in forms of preferred and prescribed legislations. However, confining law to just a tussle of alternative demands of legislations has the danger of reducing the understanding of it to mean just the letter. Law is not static: nor is it autonomous from society. It is continuously being formed in society. In India, perhaps, there has been a gap in appreciating environmental law from this perspective and this is not without reasons.

Law as a discipline finds its roots in the legal profession. By design. the domain of knowledge of the profession gets confined to expressing the interests of the litigants in the provisions of written law, technical reading of the provisions of law and its interpretation, successfully citing precedents and casting the facts into the format of law. The origin and changes in law as a field of enquiry has been relatively out of its domain. Since research in India in law is influenced by the organising principles of the legal profession, it has only hesitantly ventured into it.

If the legal profession works on laws, the state is in the thick of law-making processes itself. The state, thus, should be a repository of knowledge on the processes of-changes in law. But, as we shall see later, the institutions of the state are not neutral observers but participants/contestants with pre-disposed positions in social contests. Since the state expresses social interests in overall universal terms, it is always convinced about the desirability of the law. As a result, though the law is a part of social processes, the state's understanding of the processes is not from multiple vantage points. Furthermore, in a crisis-ridden social context, the state has to shift its attention from problem to problem, it does not find the scope to understand the processes of interaction of law and society. Its attitude is if there is a problem, make laws. Thus, in the state's understanding, law becomes autonomous and capable of bringing about desired results. which of course, it does not. And the problem confronts it in an aggravated form.

The social groups and activists particularly in public domains like environment should understand the social formation of law. However, working on this front also does not give space to explore things at multiple levels and piece together a coherent picture. Efforts get hogged down by being forced to be localised and segmented. Much the way, the state is hound by The social groups and activists particularly in public domains like environment should understand the social formation of law. However, working on this front also does not give space to explore things at multiple levels and piece together a coherent picture. Efforts get hogged down by being forced to be localised and segmented. Much the way, the state is hound by the exigencies of the day-to-day, so are the activists hound by the politics of the immediate. Thus, many a times, just about presenting a demand for the legislation itself becomes a goal because in the short run, the hope of the black lettered law itself becomes an advantage. Overall, therefore, social groups have insights on particular problems but do not get an opportunity to comprehend the totality of the social processes of law.

This being the situation, the problem of an adequate explanation as to how law gets re-articulated or changed in a social context remains relatively unexplored.

Constructing The Law

Laws are the content and language of expression of state power. One thus has to ask questions about the state itself. The state is neither politically neutral and autonomous, as claimed by liberal-democratic tradition, nor is it just a repressive agent of the ruling classes, as put in the orthodox Marxist formulation. In social processes, no institution is autonomous, being organic to the society it is always constrained and conditioned by social forces. Thus, social forces impinge on the state and the state articulates social interests through the institutions of the state in the language of Law.

Law once made Informs the very social dynamic which has made it. In this sense, law may look like an encoded relation but it is never static. It is a trajectory' shaped by the social relations of the past and with seeds in it for its future direction. Thus. the 'written text is an imprint of the social dynamics and at the same time a trajectory of social relations. How the law has come to be, what it is and where it is headed are questions which are contingent on the prevailing social relations.

Thus, to capture these processes. we have to describe the nature of the Indian state and society. Social formation in India is characterised by a backward and post- colonial capitalism with the persistence of pre-capitalist forms of production [Banerjee 1987]. The capitalist class has been dependent on the state for mobilisation of resources. protection and promotion [Patnaik 1985]. Attributing political dominance to the capitalist class alone in the social formation is not free from problems. Instead. the ruling classes are seen as a coalition of capitalists. rich farmers. political-bureaucratic alliance and the intellectual elite [Bardhan 1985].

Despite the weak position of capital in the coalition, it has the ideological and intellectual leadership. The bureaucratic-political alliance acquires a prominent position for its role as the mediator. The state's commitment to the dominance of capital is apparent in its basic legal and institutional framework. The state is the largest deployer of capital. It creates infrastructure for public resources for the reproduction of private capital. Though the Indian state is not reducible to capital. it provides the articulation and institutional drive for the rule of capital [Kaviraj 1988].

If the Indian state is committed to capitalist development, how. could it not only accommodate environmental arguments but also promote it.' After all. incorporation of environment as a factor would demand changes in production relations and this would be contrary or at least potentially contrary, to the interest of the ruling classes. The question can be posed in an inverse manner. Would the Indian state not have interpreted and materialised environmental arguments to sustain and further the interests of the coalition for which it stands'? The evidence answers the question in the affirmative. Since the rise of environmental. considerations, probl like pollution, which required a restructuring of production relations were treated casually. The Prevention of Air Pollution Act was enacted in 1981 after dithering on the draft for nine years. Since the centre did not have the capacity to legislate on environmental issues. the states were requested to adopt the Prevention of Water Pollution Act drafted by the centre. the rules and prescribe standards. The State Water and Air Pollution Control Boards, the bodies for enforcement of pollution control have had neither adequate statutory powers nor finances to perform the function. The Bhopal Gas tragedy in 1984 was a reminder to die state of its proclaimed commitment to environment and lapses in pollution control and location of industries.

In contrast, the state on its own initiated preservation of forests and protection for wildlife. One of the first tasks taken up by the first environmental body in India. the National Committee for Environmental Planning and Co-ordination (NCEPC) was identification of sensitive ecological zones for preservation. Project Tiger was started in nine states in 1973 itself (Centre for Science and Environment 1982: 171; Krishna 1974: 13-14] and it has grown ever since. Project Tiger was described as a national endeavour [Government of India I984a: 112]. The centre despite its legislative incapacity drafted the Wildlife (Protection) Act, and requested the states to adopt it. Once it was realised that deforestation could lead to severe implications for the economy through soil erosion, siltation of reservoirs and floods in the plains.' the state aggressively, pursued the strategy of forest preservation by curtailing the access of forest dwellers to forests. The forest hill of 1981, the forest policy of 1987, strengthening of administrative institutions at the centre and the forest Conservation Act 1980 were all a part of it.

It will be, however an over simplification if one concludes that the working of the state is reduced to long-term structural imperatives of the coalition. The structural interests of the coalition need to be seen in conjunction with social, cultural and capital events and working of the tangible concrete institutions of the state. The point will be clearer when we confront the observation that the

state is only an abstraction, its articulation is through institutions of the state. Let us elaborate.

The state acts through specific orga-nisations or subsystems of the state. Social interests get exercised in the language and organisational character of the subsystems of the state. At the same time, social interests act on the subsystems to change their character and also work upon appropriate institutions. In other words, the subsystems of the state at a given point of time are a crystallisation of the interests of the past [Therhorn 1980]. Since, social interests crystallise in the institutions of the state. the institutions are an 'asymmetric terrain' for the contest of social forces [Jessop 1990]. Given a series of options, the institutions have their selectivity. In the evolution of the state structure, different social interests crystallise in different subsystems of the state [Therhorn 1980], often leading to conflicts within the state itself. The state in a fundamental sense is only one [Therhorn 1980], but tensions among and within the state shape the formation and articulation of the state. The state thus can be expressed -as an ensemble of institutions which exist in relation to the society.

However, within the subsystems of the state, the Centre was more amenable to receive and accommodate environmental arguments. This is not without reasons. It is the centre which has most of the resources with it and has had the short-term and long-term interest of the coalition while the states. deprived of resources, have contended with representing regional interests and staking claims from the centre lor resources. Not only this, in the course of articulation of political power there had been growing centralisation of power in the centre and bureaucratisation of political power [Kaviraj 1986: 1697-1708]. Thus, one can see the crystallisation of environmental interests in the centre.

Thus, if we explore the accommodation of environmental arguments in terms of articulation of social interests, the divisions within the state. the working of the state. etc, we will get a better understanding as to how laws have come to evolve differently in different branches of the economy.

Case of the FCA

With the rise of environmental arguments in the western world and the United Nations Conference on Human Environment. Stockholm, 1972, the centre, like the world community shared the fear that degradation of environment and natural resources can endanger 'development' itself. Chipko further demonstrated that deforestation can lead to soil erosion, siltation of reservoirs and floods. This could affect power supply'. canal irrigation and the stability of agricultural production. issues crucial for sustaining the economy. Further. it was being argued in international forums that the depletion of gene pools would affect not only the processes of nature but also agriculture. medicine and scientific research. Thus. the interest at the centre to preserve forests as vital resources for sustaining 'development'. and sanctuaries and reserves as 'production centres' for genes crystallised. The preservation of forests. of course. was to be at the expense of the forest dwellers in the group out of coalition.

In contrast, states through the forest departments were interested in exploiting the forests to earn revenue. The forest departments, since the beginning were organised to curtail the rights of the forest dwellers and meet commercial demands for forest products while the states found themselves continually starved of resources in the lopsided distribution of revenue between the centre and the states. Further. since the states represented regional capital and also to attract capital in their state. they were keen to lease forests to tea. rubber and plantations. The other interest which had crystallised in the political parties, in the states was encouragement to latest dwellers to cultivate forest land. Encroach¬ment on forest land was a subject of political patronage at the state level [Government of India 1984b]. Regularising existing cultivation entailed no loss of revenue to the state. In return, the issue of encroachment could yield electoral mileage [Vohra 1985:50-51].

The conflict between the centre and states in their alternate conception of use of forests led the central government to pass an ordinance. The Forest-Conservation Ordinance, 1980 which became an act the same year. The act required the states to seek prior permission from the centre before dereserving forests or putting forest land for non-forest purpose. The law. once enacted is not a dead letter. The lawmakers, the law And the subjects are unified in one field [Das 1974: 367-75 and 389-93: Baxi 1986]. The states ex pressed their interests in the language and structure (tithe FCA. The regularisation of encroachment came to an end and forest dwellers were forced to be evicted from forest land. However, the states continued to transfer forest land for tea. rubber and coffee plantations on the interpretation that these were forest purposes. Further. 'forest land' was not defined in any legislation. This was also used selectively by the states. The central government stopped the states from doing this by making guidelines to this effect.

The states followed the act in its language but continued lopping operations in forests. Not satisfied with the conduct of the states, the centre schooled the states by amending the Forest Conservation Act which made the permission of the centre mandatory for two more activities (a) clear felling of forests. and (b) creating any right on forest land through sale, transfer, lease, mortgage or any other mechanism for any person including any institution or company. The amendment made it explicit that 'forest land' includes all lands recorded as forests in government documents and thus. revenue forests. panchayat forests and even private forests came to be included in its folds. The amendment also clarified that tea. coffee. rubber or industrial plantations were not 'forest purpose' within the meaning of the act.

Thus, the FCA froze the ownership and management of forest land, changeable only on the approval of the central government. This shifted the focus of political articulation from the states to the centre. The decision whether a patch of forest should be preserved or put to an alternative use came to be guided by what was regarded as a national concern and articulation of interest at the national. level as opposed to regional interests. The centre. however, did not intend to preserve forests for its own sake. The environmental plank of preservation of forests and environment was to be made an adjunct of the overall thrust of capital reproduction by the Indian state. The FCA necessarily posed the question of resolution of the two claims, the very purposes of development required forest land for the construction of river valley projects, location of industries. mining projects. conversion of forests for raising plantations like tea. coffee or rubber, and preservation of forests for the very sustainability of the development. Thus. the guidelines did not say that permission should not be given at all but the situations in which permission had to be given after an appraisal of the environmental status of the forests' and taking care of compensatory afforestation. The guidelines included river valley projects. transmission cables. etc, while the interests of the forest dwellers. like permitting cultivation on forest lands and shifting cultivation was banned. Thus. if the centre favoured 'developmental' projects at the national level. the welfare activities in the forest areas. like extension of road network. building of schools and minor irrigation works suffered.

If the guidelines and decisions under the FCA have some of the structural features outlined above. in the ultimate analysis, the exercise of state power is political in nature.

Alter all the decision to build Narmada dam and submerge forests and so the decision to release forest land for rehabilitation of evicted persons is a part of the political economy imperatives of the state. It is interesting that the same project has both the facets: favours modernisation by building the dam instead of preserving forests and it accommodates the demands of the evicted persons for land for agriculture by opening up forest land. Similarly. despite the. FCA, encroachments in Kerala were regularised with the permission of the centre for political gains of the ruling political party at the centre. Not only this, with the weakening of the centre in its political control, the states have been staking claims to regularise encroachment on forest land.' The centre almost prohibited all use of forests or any title being created on forest land. This amounted to not making any efforts to afforest wastelands. However. if the centre initiated conservation of existing forests. it also initiated afforestation of wastelands.' This was to augment forest resources to alleviate pressures from forest land. Initially. village common lands and private lands were targeted under the social forestry programme. After the working of the FCA, it came to he recognised that large tracts of wastelands were unattended and these would continue to be so unless put to use with the help of village communities. Thus. on the initiative of donor agencies and voluntary agencies. the guidelines permitted at forestation of wastelands in forest areas under the joint management of forests.

The Judiciary

If the centre and states were articulating social interests and negotiating with one another. the judiciary was not a silent witness to the accommodation of environmental arguments. To place the judiciary's role, particularly its apex the Supreme Court, in context. we first need to chart the positioning of the Supreme Court vis-a-vis legislature-executive when environmental arguments arose.

The parliament. since its constitution. asserted sovereign power to make any law including changing the constitution while the court fettered the parliament by reviewing the constitutional validity of the legislations. The Congress governments bent on carrying out social and economic reforms. particularly land reforms, confronted the Supreme Court's interpretation of the written Constitution technically and its insistence on upholding Fundamental Rights. particularly, property rights [Rudolf et al 1987: 103-26: Sudarshan 1990: 44-69].

The deadlock encouraged the legislature to abridge the power of judicial review by amending the Constitution itself. In the culmination of the tussle of constitutional amendments and judicial review, the Supreme Court questioned the competence of the parliament to change the basic structure of the Constitution. The resentment of the executive reached its height during the emergency when the government seriously considered abolishing a Supreme Court capable of judicial review. In the post-emergency phase. a shocked judiciary, in its bid to develop a constituency and assert itself, created a dynamic tension with the state by espousing the cause of the poor and disadvantaged [Rudolf et al 1987: 103-26: Sudarshan 1990: 44-69]. The battle with the executive shifted from the structure of the body politic to the details of the working of the executive [Rudolf et al 1987: 103-26].

Thus, in the post-emergency era, the Supreme Court zealously pursued the public cause and that of labour and disadvantaged groups. The chapter on Fundamental Rights in the Constitution of India protects freedom of individuals from the lawmaking powers of the state. The Supreme Court expanded the meaning of 'state' as defined in Article 12 to include almost all description of bodies which could he deemed 'instrumentality' or 'agency' of the state. So much so that it included even private companies if there was an unusual degree of state control.

Article 21 of the Constitution restricts the state from depriving any person of his 'life' or 'liberty' except according to 'procedure established by law'. The Supreme Court in pre-emergency era would just satisfy itself whether there was a procedure or not and whether that procedure was followed or riot.

It would not review the very procedure itself. Atter the Emergency. the court asserted that if it did not review the procedure, the state could make any procedure and render the protection given to the individuals meaningless. The court insisted that the prescribed procedure had to be 'fair, just and reasonable'.' Going a step further it 'livelihood' arguing that if this were not so then the simplest thing for the state would be to deprive a person of his life by depriving him of his livelihood.

In the formal organisation of the judicial system, only an aggrieved party could go to a court for seeking remedy. The Supreme Court threw open the courts to public spirited citizens who were pursuing a public cause. Thus, the court came to entertain petitions from journalists, social workers, under-trial prisoners espousing a public cause.

Further. Article 32 vests powers. in the Supreme Court to provide remedies to the aggrieved persons which includes the powers to issue 'directions or orders or writs'. The court had issued only writs, however. it expanded its power to push the legislature-executive by using 'directions and orders.; It is in this tussle between the judiciary and the legislature-executive that the environmental issues were received and interpreted by the courts. The court followed a dual strategy. In forest-related issues where the state was claiming its environmental agenda. the court protected the rights of the forest dwellers while in pollution-related issues where the state was reluctant, it cast duties on it to be concerned about the environment.

The court's presence in the forestry discourse was relatively minor. This was due to the fact that the sector is not highly litigated and the inability of the people's group to reach out to the court. Nevertheless. there were interventions by the courts here and there. The state in its bid to preserve forests was evicting the forest dwellers from cultivating forest land and depriving forest rights by reserving forests. The Gujarat High Court stayed the eviction of forest dwellers from their encroached cultivation in Naswadi and Chota Udaipur talukas of Baroda district in a public interest litigation filed by a voluntary agency. Anand Niketan Ashram. At a later stage, the court directed the state government to find a just and mutually acceptable solution to the problem. The Supreme Court in Banwasi Seva Ashram vs state of Uttar Pradesh intervened in the constitution of reserved forests which was depriving tribals of their customary rights and agricultural lands. It gave directions to the state government to take into account traditional rights of the forest dwellers.' High courts stayed felling of natural forests, even if approved in the working plan, as felling deprived the forest dwellers of their liveli-hood and led to ecological degradation. If the Supreme Court in the forest cases was silent on the claims of the state in protecting the environment, it took environment as its main plank in industrial-and pollution-related cases. In the first environmental case before the court, the Dehradun mine's case, it ordered closure of mining in the Doon Valley on the grounds of abridgement of Article 21. Mining wasdestroying. water aquifers, a source of sustenance for the local people. The court at length noted the relevance of environmental protection and made this its main plank in giving the judgment. In a subsequent case, the court cautioned the state that the court would not hesitate to intervene if the state ignored environmental factors.'

Similarly. in the oleum gas leak case.' the court first extended the scope of Article 12 by extending it to a private company and reversed a century-old judgment on liability. The court ruled that when an enterprise is engaged in a hazardous or inherently dangerous activity, it owes a duty to the workers and local people that no harm results. The enterprise is under an obligation to follow the highest standards of safety. And If any harm results on account of such activity of the enterprise. it must he absolutely liable to compensate for such harm and it cannot get away by claiming to have taken reasonable care. The court further ruled that the compensation should be correlated with the magnitude and capacity to pay. The larger and more prosperous the enterprise. the greater must he the amount of compensation. The principle applied to state-owned as well as other enterprises.

In addition to this, the court noted that hazardous industries should not be located in thickly populated areas. The court suggested that the government of India constitute a high powered authority for overseeing the functioning of hazardous industries. The court further impressed upon the government that it evolve a national policy for location of chemical and other industries in areas where the population is scarce.

The pollution-related laws like the Water Pollution Control Act, The Air Pollution Control Act, the Environment Protection Act do not give the right to individuals or give limited rights to move the court under the environmental laws for damages caused to them by pollution. This right has been vested only in the agencies of the state. The court. case after case, has done away with the restraint. The provisions which specifically prevent judicial remedy for the affected have been constructively evolved by the courts. A person is not bound to seek remedy for environmental pollution within environmental laws. The courts have used the constitutional provisions and other provisions to give the benefit to the people.

The court has also used the right to direct a statutory body to perform its functions. Thus, in the Ratlam municipality case it directed the municipality that it is hound by its legal functions to remove garbage trom the streets. It cannot take the plea that it has no resources. Similarly, in a: public interest litigation. the Tanneries case,2! the Supreme Court reviewed the Water Pollution Control Act and the EnVironment Protection Act and directed the central government, the Uttar Pradesh Pollution Control Board and the Central Pollution Control Board to ensure that within six months primary treatment plants are installed in the tanneries.

In the second part of the judgment, the municipalities were directed to perform their statutory duties of ensuring that the sewage from the town is not emptied into Ganga without treating it.

If the court was pushing the executive legislature to restructure production relations to accommodate environmental con¬siderations it was also acutely aware that it was a part of the state only and there were limits beyond which it could not push the argument any further. Thus. in the Dehradun mine's case. where the court elaborated at length on environmental considerations. it retracted by saying that development has to go on and that it was not for the judiciary but for the legislature and the executive to reconcile the claims of environment and development. Similarly, in the oleum gas leak case, despite the radical judgment it asserted that not having chemical or hazardous industries merely because they posed a risk to the community was retrogressive. Such industries. even if hazardous, have to be set up since they are essential for economic development and advancement of the well-being of the people. The court was working in a narrow space where assertion beyond a point had the potential of inviting fresh onslaught from the legislature and the executive. Several times. victories for the court came by delaying and questioning the executive. However, in the process. if it detracted from state's environmental initiatives of protecting forests, it widened the law on environment in the, field of pollution.

It can. therefore. he argued that environmental law cannot he read only from the statute hooks. The text in the statute book is always information through the articulatory processes in society and the institutions of the state. The process of law embodies the expression of state power. and the state in turn being embedded in a society, the three have to be seen in a single analytical field. The voice for changes in legislations and actions thereafter would be better informed if law is seen from this perspective.

Notes

1 An evidence to this is presented in the sub-sequent pages by providing chronological appearance of environmental concerns at the centre

2 See the Contributions in one of the early workshops organised on the initiative of the government to deliberate on the state of forests 'Gupta K M et al 19791.

A The Madhya Pradesh, Himachal Pradesh and Rajasthan governments have signed a mem-orandum to this effect. The centre has given permission to Madhya Pradesh for setting 89.526 persons over 1,03.873 hectares en¬croached forest land. In one district Dhar. palms are being given to 3,611 tribal:, who have encroached upon 3.892 hectares. Oee 'No Let Up in Tree Felling' in The Times of India. April 5, 1991).

4 Maneka Gandhi vs Union of India. AIR (1978) SC 597.

5 Banwasi Seva Ashram vs State of Uttar Pradesh. AIR (1987) SC 374.

6 Sachidanand Pandey. vs The State of West Bengal. AIR (1987) SC 1100.

7 M C Mehta vs Union of India: AIR (I087) SC' 965: M C Mehia vs Union of India: AIR (1987) SC 982, and M C Mehra vs Union of India: AIR (1987) SC 1086.

8 Municipal Council. Ratlam vs Vardhichand: AIR (1980) SC 1622.

9 M C' Willa vs Union of India: AIR (19/i8) SC 1037 and M C Mehra vs Union of India: AIR 11988) SC 1115.

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Who Will Guard the Guardians? State Accountability in India's Environmental Governance

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Prakash Kashwan
Arpitha Kodiveri

Prakash Kashwan (Prakash.kashwan@uconn.edu) is an Associate Professor of Political Science at the University of Connecticut, Storrs.

Arpitha Kodiveri (arpitha.upendra@gmail.com) is a Hans Kelsen Fellow and Doctoral Researcher in Law at the European University Institute.

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Effective public accountability is a prerequisite for protecting India's environment and the environmental human rights of all Indians. However, the question of what factors promote the accountability of public institutions remains under-researched in India. The recent and ongoing attempts by the Ministry of Environment, Forests and Climate Change to undermine environmental regulations beg a fundamental question that has yet to be debated adequately: Who will guard the guardians? In this essay, we discuss the importance of divided administrative jurisdictions for fostering relations of accountability in public institutions. Specifically, we highlight the divided jurisdiction that the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 creates in the regulation of mining and other non-forestry activities in forest areas and its implications for bolstering relations of accountability in environmental governance. Amidst serious attempts to undermine these arrangements, we ask the readers and policymakers to consider the importance of public accountability for transforming India's national environmental regulatory framework.

It was a dreary monsoon morning in the coal-rich areas of Sundergarh, Odisha. The Basundhara coal mines managed by Mahanadi Coalfields (MCL) is all set to expand. Sunil, an Adivasi from Tumulia village, carries a file along – an archive of the struggle that he and other community members have waged against MCL. The mine's expansion would have devastating consequences for the environment and undermine community forest rights under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA). Sunil tells us that his battle for realising community forest rights entails confronting a collusive web of relationships between the state and the mining companies. Sunil cannot quite figure out why the state prioritises extraction over environmental conservation and social justice.1 Neither could the young Fridays for Future India (FFFI) activists, who launched an email campaign to urge the environment minister to reconsider the proposed amendments to the Environmental Impact Assessment (EIA) notifications, 2006.

Some frame India's environmental governance as a trade-off between local versus national development or environment versus development. However, as former Prime Minister Indira Gandhi stated in her historic speech at "the inherent conflict is not between conservation and development but between environment and the reckless exploitation of man (sic) and earth in the name of efficiency" (Ramesh 2010). The mantra of efficiency is often no more than an excuse for promoting crony capitalism. For example, why would the Indian government prioritise and expand coal mining when the cost of solar-powered electricity is already 14% lower than that of coal-fired power (Sanghera 2020). Understandably, the coal industry and ministry would have vested interest in perpetuating this socially regressive and environmentally degrading energy source. However, why would the Ministry of Environment, Forests, and Climate Change (MoEFCC) support these projects by engaging in a frenzy of regulatory clearances? Why is the MoEFCC so oblivious to public interests in mitigating pollution and environmental degradation more broadly? All of this points to a fundamental question that has yet to be debated adequately in India's environmental regulation and governance: Who will guard the guardians?

Along with others, we have argued that the binaries of environment and development cannot explain the failure of India's efforts to protect the environment (Menon and Kohli 2015; Kashwan 2017; Lele and Sahu 2017). Contrary to the former environment minister Jairam Ramesh, we do not believe that the fabled differences of the hedgehogs and foxes offer an accurate description of the dilemmas we face as a nation. It is not a battle between the hedgehogs, who have one big idea they pursue relentlessly, and the foxes, who are pragmatists willing to adapt to achieve their goals (Sengupta 2011). We will avoid suggesting a rival analogy that portrays a non-human species negatively. It is evident that reigning in the predatory action of powerful political and economic actors, including policymakers, industrialists, and corporations, has to be a top priority for maintaining the integrity of India's environmental regulations. India's environmental governance failures are rooted in the discretionary power and unaccountable authority that the MoEFCC enjoys in the regulation of India's environment and forests.

Despite various policy shifts since 1980, the centralisation of the decision-making authority in the hands of the MoEFCC remains one of the main features of India's forest and environment governance. Some exclusionary conservationists and environmentalists believe that such centralised control helps maintain a strong and effective regulatory regime. Such arguments rely on a fundamental misunderstanding of what constitutes environmental governance and what makes it most effective in a large and complex society such as ours. There is no evidence to suggest that the centralisation of power and authority serves any kind of public interest, let alone serve the goals of environmental stewardship. Indeed, the centralisation of authority and the failures of public accountability mechanisms have helped push through the recent attempts to undermine the integrity of environmental governance. The current administration's ongoing efforts to dilute the EIA guidelines and weaken the FRA are especially significant. While much attention has focused on FRA provisions related to community forest rights and local forest governance, the FRA's potential to improve public accountability in India's environmental regulatory framework more broadly has yet to be researched adequately. As we show below, it is a mistake to think of the FRA as a law relevant to forest-dependent people only. On the contrary, the FRA has a broader significance because it presents the first major statutory challenge to the heavily centralised and unaccountable environmental regulatory regime in India.

The article begins with an exploration of the MoEFCC's discretionary powers grounded in the colonial-era forest laws. We briefly touch on the role that the Supreme Court (SC) of India plays in plugging in some of the environmental regulatory framework gaps. However, our core argument focuses on the presence of accountability mechanisms related to the FRA and the recent policy efforts put forth by the MoEFCC to undermine such means of accountability, especially under the guise of "coordination" with the Ministry of Tribal Affairs (MoTA). Departing from the popular tropes that suggest inter-ministerial coordination as a means of more effective implementation of programs, we examine the implications of "coordination" between two ministries with highly unequal resources, powers, and authority. Drawing on the arguments about inter-ministerial accountability developed elsewhere (Kashwan 2017), we show that the recent restructuring of inter ministerial coordination would erode the mechanism of ministerial accountability and state accountability more broadly. We conclude by arguing that MoEFCC and other government agencies' efforts to shun public accountability require vigorous public scrutiny. Effective public accountability is a prerequisite for the diverse goals of protecting India's environment and the environmental human rights of all Indians.

MoEFCC: An Authority without Accountability?

The MoEFCC's view of "'forest governance" is shaped by the colonial-era Indian Forest Act (IFA), 1927, which remains the central pillar of forest governance to this date. The IFA gave the colonial forest officials absolute authority over the "natives." While the colonial forest administration sought to facilitate the exploitation of forests in the colonisers' service, post independence era forest governance evolved to serve the goals of state-driven exploitation of forests. The enactment of the Forest (Conservation) Act, 1980 helped incorporate forest and wildlife conservation goals into forest policy documents. However, such a broadening of the policy's scope further entrenched forest bureaucracy's power and authority. The unilateral and absolute power that forest laws grant to the MoEFCC and state forest departments (SFDs) allows them to control forests and forestlands – nearly 23% of India's territory – without effective public accountability measures. Lack of accountability has undermined environmental protection goals both at the national and local levels (Kashwan 2017; Kodiveri 2018a).

Conservation organisations invested in promoting the exclusionary and non-sustainable protected area-based conservation models have sought to portray the MoEFCC and the SFD as upholders of conservation and environmental sensibilities. Yet, the available evidence suggests that such a concentration of unquestioned power in the hands of MoEFCC or the SFD has undermined these agencies' ability to pursue effective conservation (Kashwan 2016). For example, numerous reports by the Controller and Auditor General (CAG) have implicated the MoEFCC and SFDs in mismanaging funds from Compensatory Afforestation Management and Planning Authority (CAMPA) and Green India Mission (Telang 2019; Bisht 2019). However, these reports rarely translate into the MoEFCC or SFD officials called to account for the law's frequent violation under their watch (Karthik and Kodiveri 2018). Such an utter lack of consequences for regulatory failures breeds impunity, as evident in the frequent revelations by investigative journalists, such as granting environmental clearances and approvals for forest diversion and mining without following the due legal processes (Nandi 2020). Or the MoEFCC ministers bragging about the speed and number of clearances granted instead of explaining to the public what they had done to protect the environment and public health and wellbeing.

Judicial Interventions in India's Environmental Governance

True to its reputation as an activist court, the SC has intervened in environmental governance quite frequently. However, the net effect of this judicial activism is far from certain. In many instances, the Court has stepped in to fill major voids in the regulatory environment. For example, responding to a lawsuit filed by non-governmental organisation (NGO) Samaj Parivartan Samudaya in 2011, the SC suspended iron-ore mining in Karnataka's Bellary district (Samaj Parivartana Samudaya and Ors v State of Karnataka and Ors (2009). Even though the Court reconsidered its decision subsequently, it ordered to shut down the mines that had encroached beyond 10% of the leased mining land. Noticeably, the SC needed to step in because the MoEFCC failed to intervene despite the Lokayukta report documenting several mines operating without necessary environment and forest clearances.[2]

In a well-documented verdict in 2013, the SC recognised the rights of Dongria Kondh and other forest-dependent people to withhold consent for the diversion of forestland for a $2 billion Bauxite mining project proposed by the London-based Vedanta Resources with the state government's support (Dasgupta 2013). The SC also responded favourably to a report by the Shah Commission and a plea from the Goa Foundation to stop mining-related environmental violations in Goa (Goa Foundation v Union of India (UOI) and Ors (2012)). Similarly, responding to a case filed by NGO Common Cause, in 2017, the SC terminated leases for the mining operations that the Shah Commission had found to violate forest and mining laws (Common Cause and Ors v Union of India (UOI) and Ors (2014)). More importantly, the court instructed the government of Odisha to use the fines paid by the offending mining companies to compensate the local communities that these mining operations harmed. The SC interventions have made some impact, though the MoEFCC's regulatory framework remains seriously compromised. As a 2016 report by the CAG stated, despite the SC's instructions in July 2011, the MoEFCC failed to appoint a Regulator at the National level "to carry out an independent, objective and transparent appraisal and...monitor(ing) the implementation of the conditions laid down in the Environmental Clearance"(Ministry of Environment, Forest and Climate Change of India 2016).

Such interventions notwithstanding, the SC does not always defend the rule of law or those who need its support the most. On 13 February 2019, the SC asked state governments to dispossess an estimated 18.9 lakh Adivasis, and other forest-dependent families whose forestland claims under the FRA were rejected, in most cases wrongfully (Sethi 2019). Swift counter-mobilisation by social activists, including via social media, forced the government to backtrack, and the SC to put its orders on hold. Over the years, the SC stances have ranged from micromanaging India's environment and natural resources (for example, its interventions in the forest sector) to a general indifference to India's progressive weakening environmental regulatory frameworks. While this is a complex question that requires deeper investigation, it is evident that the SC lacks a nuanced understanding of its role in India's environmental governance.

Public Accountability via the FRA and the MoEFCC's Counter mobilisation

The structure of divided jurisdiction, in which a powerful public agency's actions are monitored by another agency with equivalent statutory status, has proved effective for ensuring the accountability of public agencies internationally (Kashwan 2017). The inclusion of forest on the concurrent list of subjects in which both central and state governments have a say, could be useful for creating a productive division of powers and authority in forest and environmental governance. However, as research on 'forest federalism' shows, the MoEFCC holds disproportionate power and authority (Chaturvedi 2016). As a result, it is difficult to recall a major pro-environmental decision that resulted from the federal division of jurisdiction over forests.

The FRA allocates important statutory powers to MoTA, making it an important actor with counter-powers that could help hold the MoEFCC accountable. The following provisions within the FRA, if implemented properly, have the potential to alter the status quo of environmental governance: (i) MoTA is designated as the main nodal agency for FRA, which gives it an important standing power in defining the rules and strategies for the implementation and monitoring of the FRA; (ii) the implementation of FRA at the district and sub-district levels led by the district collector and elected representatives, while giving advisory roles to forest officials; (iii) locally elected FRA committees and gram sabhas have the authority to implement the FRA, including the operationalisation of the provisions of community forest rights; (iv) the FRA rules stipulate that all government agencies, including forestry agencies, must seek the free, prior, and informed consent (FPIC) of the locally elected gram sabhas before allowing non-forestry activities in areas including community forests; (v) the FRA provisions for setting up of critical wildlife habitats under Section 2(b) of the FRA, requires a truly scientific approach with transparent engagement of social activists, community representatives, and wildlife experts (see Kashwan 2016).

The FRA offers both procedural and substantive safeguards against the enforcement of exclusionary conservation in the IFA and the Wildlife Protection Act, 1972. However, as evident from the files in the Prime Minister's Office accessed by a journalist, the MoEFCC sought "to consciously sabotage" the FRA (Rajshekhar 2009: 31). Despite the best efforts from the then Prime Minister, the MoEFCC successfully introduced a loophole in the FRA: Section 13 of the FRA states that the FRA provisions shall be in addition to, and not in derogation of, the provisions of any other law..." On the other hand, section 4 requires that forest rights be recognised despite other laws in force. Even though the spirit and the intent of FRA are clear to those familiar with its evolution, the FRA's ambiguities are a cause of confusion for many others. A senior bureaucrat, who had worked hard to implement the FRA in his capacity as the district collector in Kandhamal suggested that the FRA fails to "overcome the conflict within the forest law regime. The rights within [the FRA] are considered forest offences within the IFA."[3] According to this official, the task of reconciling these laws falls on the local bureaucracy, which often exploits its discretionary power to serve commercial interests (Kodiveri 2018a).

These challenges are not limited to state bureaucrats. At the central level, the MoEFCC has often bypassed the FRA provisions time and again, either by trying to circumvent the FPIC requirements by resorting to the outdated and ludicrously inadequate joint forest management provisions instead of the FRA provisions of community forest rights (CFR), (Bijoy 2020). To be clear, even if the MoEFCC was concerned about wildlife conservation, the FRA's critical wildlife habitat (CWH) provisions are a much stronger tool compared to the critical tiger habitat (CTH) of the Wildlife Protection Act, 1972 (Kashwan 2016). However, because the MoTA does not command sufficient power, authority, and resources to counter the dominance of the MoEFCC, it fails to enforce the FRA's stronger environmental protections. Under the conditions, strengthening MoTA's ability to hold MoEFCC accountable, would strengthen the enforcement and efficacy of environmental.

On the contrary, MoEFCC continues to weaken these relations of accountability, albeit in the guise of inter-ministerial coordination. In September 2020, the central government established an inter-ministerial coordination committee, including MoTA's Joint Secretary (FRA) and MoEFCC's Inspector General of Forests. As reported by environmental journalist Ishan Kukreti, this inter-ministerial committee plans to "draft a joint communication to the chief secretaries of states on the need for implementation of the FRA" (Kukreti 2020b). This sounds good, especially if one could ignore the litany of MoEFCC actions directed at weakening the FRA provisions. However, a close reading of the minutes of this committee's first meeting reveals the likely motivations and effects of this seemingly positive development.

This joint communication will ask states to report any legal inconsistencies between state laws and the FRA, which could be used to further undermine the FRA. More importantly, the minutes refer to the settlement of forest rights in "in areas where leases had been granted to private players or forest land had been alienated for government purposes..." with specific reference to "displaced individuals/families who have not received any rehabilitation" (Kukreti 2020b). This is an overly narrow view of the rights recognised under the FRA, which includes the community rights to withhold FPIC in cases where such projects undermine the integrity of local sociocultural, economic, or environmental systems. Instead of promoting sets of rights and relationships that would foster more robust governance of forests, the coordination committee seems keen to "settle" the rights to legitimise environmentally destructive coal mining. Overall, the discussions at the coordination committee's first meeting suggest an intent to neutralise the checks and balances that the FRA introduces to strengthen the regulatory process for forest land allocation for non-forestry purposes.

The inter-ministerial committee discussions also contained some startling observations about the FRA implementation. The participants argued that "there was no conflict in terms of the legal framework for the implementation of the act," while blaming "the reluctance of the state forest departments" for problems in FRA implementation (Bijoy 2020). This interpretation seeks to exonerate the MoEFCC for its role in weakening the FRA implementation while passing the buck on to the SFDs, led by senior Indian Forest Service officials. This statement also puts the SFDs at the centre of the FRA implementation, which would be against the Parliamentary intent to keep processes. The lawmakers believed that the MOEF and SFDs had vested interests in the non-resolution of forest rights questions (Kashwan 2017).

The FRA gives MoTA and forest-dependent communities the power to scrutinise, amend, and evaluate the various decisions and actions of the MoEFCC and SFDs. By undermining MoTA's autonomy and taking away the FRA right holders' statutory powers, the inter ministerial coordination committee process undermines the most pro-environmental aspects of the FRA. The coordination committee's continued functioning along the lines indicated in the first meeting would further weaken public accountability within India's environmental governance.

The (In)visible Hand of Corporate Power

The debates on public accountability are more urgent than ever before because of the many tell-tale signs of the business and industrial interests capturing India's environmental regulations. The centralisation of power and weakening of accountability is quite evident in the context of the EIA amendments proposed by the Modi government (Rathore and Kodiveri 2020). Similarly, the 'structural reforms' introduced amid the COVID-19 pandemic to allow private sector bidding for mining leases reinforce the trend of prioritising commercial interests at the cost of environmental and social interests. Yet, it would be a mistake to see such 'neo-liberal' reforms in isolation from the state-led exploitation of natural resources.

The MoEFCC and SFDs continue to cash in on their presumed "ownership" of forestland as a means for securing international and multilateral conservation and carbon forestry investments. The now-abandoned attempts at bringing in the new forest policy included provisions that would make it easier for the MoEFCC to denotify forest areas or hand them over to private actors (Kukreti 2019). The proposed amendment to the Indian Forest Act, 1927 introduced in March 2019, included a provision for 'production forests' to allow private companies to grow commercial plantations on public forestland. After a spirited resistance from civil society, in November 2019, the MoEFCC abandoned its plans to amend the Indian Forest Act to make it more pro-industry. However, threats to India's environmental governance continue in multiple other venues, including at the state level.

Madhya Pradesh has launched a new initiative to offer forestland units, as large as 500 to 1,000 hectares, to private corporations on 30-year leases, ostensibly for more efficient reforestation operations (Dhar 2020). Going several steps beyond the private sector's involvement in commercial forestry, the state governments in Odisha and Jharkhand have created land banks, including large swathes of forestland (Kodiveri 2018b). These land banks are designed to attract private investments and could be given to any industry, not just for the purposes related to forest development. Simultaneously, a finance ministry panel has recommended privatising prominent environment and forestry research institutions, including the Indian Institute of Forest Management (IIFM) (Kukreti 2020a). Overall, India's environmental sector confronts the prospects of hyper-privatisation in an era defined by the ongoing climate crisis.

Conclusion

The recent protests against the EIA amendments, led by FFFI activists, highlighted a peculiar problem: the MoEFCC that presides over India's environmental governance seeks to hollow it out from the inside. In this, the MoEFCC has the backing of an increasingly authoritarian state, as evident from the Delhi police accusing the young FFFI activists of undermining India's "sovereignty and integrity" and threatening the use of the dreaded anti terrorism law, the Unlawful Activities (Prevention) Act (UAPA). As the noted environmental journalist Bahar Dutt noted in her efforts to secure some media coverage on this issue, "no one in the news television business would touch the story," because the MoEFCC minister also happened to be the Information and Broadcasting minister (Dutt 2020).

The vendetta that those in power unleashed on the young FFFI activists demonstrates the importance of our central claim: strengthening public institutions' accountability is a prerequisite for thwarting the ongoing efforts to undermine India's environmental regulatory framework. Ironically, India's regulatory regime's decimation is being carried out from within, led often by those responsible for protecting it. The SC interventions have neither been as impactful nor very innovative in democratising environmental jurisprudence as some scholars had hoped for a decade back (Sivaramakrishnan 2011). Indeed, the SC itself has demonstrated a worrying lack of respect for public accountability in recent times. Under these conditions, inter-ministerial and inter-agency checks constitute an important, yet understudied, means of public accountability.

We have suggested here that the FRA provisions exemplify innovations crucial for the transformation of India's environmental governance. Therefore, proper implementation of the FRA is essential, not only for the goals of social justice but also for maintaining India's environmental regulations. Unless the relations of accountability between different ministries, the SC, and the CAG are determined and enforced, India's forests, ecosystems, and environment will continue to suffer. At the same time, those in power will continue to sacrifice the environment with vacuous slogans of national development. To be sure, the relations of accountability we discuss here cannot be instilled merely by enacting and enforcing legal arrangements. Public agencies' efficacy often depends very significantly on the broader political context that structure bureaucratic behaviour (Fleischman 2017; Kashwan 2017). Public accountability must be studied as a product of an entire ecosystem of actors, agencies, and institutions. That would be a worthy undertaking as strengthening public agencies' accountability is a prerequisite for ensuring the inclusivity and effectiveness of environmental regulations.

End Notes:

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Climate Governance is likely to fail without a discourse on Climate Finance

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By EPW Author

Proposals to curtail greenhouse emissions and effectively tackle climate change are castles in the air so long as climate financing remains a nebulous and elusive feature of the climate action agenda.

Ahead of the Climate Action Summit in 2019, the Ministry of Finance released a discussion paper on India's financial perspective with respect to climate change, and called attention to the fact that though India is doing its best to meet promises on climate action, finance continues to portray a significant obstacle. This is true for all developing countries. Commenting on the larger discourse of climate finance (or rather, the lack of it), the paper noted that a matter of grave concern was the "trend of developing countries being denied their right to financial resources for climate actions."

The paper estimated that the cost of implementing intended nationally determined contributions (INDCs) by developing countries amounts to over $4 trillion. However, given the current withdrawal of promises from the Copenhagen Green Climate Fund (GCF), the largest dedicated climate fund, meeting the ambitiously calculated INDCs would remain a castle in the air if climate financing continues to be a nebulous and elusive feature of the climate action agenda. The ministry commented,

> The commitments made by the developed countries for enhancement and support in relation to climate finance as mandated in the UNFCCC and its Paris Agreement are not clearly translated into reality. The means to achieve the climate goals is not commensurate to the urgency shown, nor there is any seriousness in the discourse on climate finance. The Summary Report of the Standing Committee on Finance of UNFCCC (2018) outlines a picture, where it was indicated that total climate specific finance flows from Annex II Parties in 2016, amounts to around US$ 38 billion, which is less than 40 percent of the US$ 100 billion per year target of climate finance. Clearly, the commitments and the ensuing actions over the years have not even attained a tangential relationship.

Fleshing out the numbers further, the paper emphasised that as of 2019, only $10.3 billion have been pledged to the GCF. Of this, only $7.23 billion has been deposited, $4.60 billion approved and $0.39 billion actually disbursed. In light of this, the paper concluded that India's ability to meet its INDC requirements, along with other developing countries, hinges on the availability of adequate climate finance.

We explore the EPW archives to highlight various aspects of climate financing, not only with respect to developed nations and their respective international commitments, but also India's own stance on accounting for climate finance and its pursuit of it.

International Commitments on Climate Finance

T. Jayaraman notes that international commitment on climate finance, a cornerstone to achieving climate justice, has remained a rather shifty matter. At the 23rd Conference Of Particles (COP23) in Bonn in 2017, for instance, developed countries put up a united front in their attempt at reneging on their commitments to developing countries, particularly on issues of finance, loss and damage.

Though developing countries did gain on the issue of reporting financial assistance to be provided by the developed countries under the terms of the Paris Agreement, this alone does not constitute a win for developing countries with respect to finance.

> However, this procedural outcome should not obscure the fact that this is one success in a mixed bag of ups and downs across a number of negotiating tracks that revolve around the issue of finance. And, it should be remembered that, as things stand today, neither the pre-2020 commitments on finance nor the promise to ramp up climate finance to the figure of $100 billion is anywhere near being adequately addressed. Finance is also one of the key issues that the US, under Trump, has squarely in its sights.

Analysing the recently concluded COP25 2019, T Jayaraman observes that the rift between developing and developed nations has deepened, with the onus of non-cooperation largely falling on the latter. With respect to finance, he emphasises that there is a continuous bid by the developed nations to renegade on their commitments and escape future pressures of compliance by citing 2020 as the expiry date on previous obligations.

> The C&S reports [compilation and synthesis report] also showed how little the developed countries had done in meeting their other obligations. In the matter of finance for climate action, the Copenhagen pledge by the developed countries of mobilising $100 billion annually by 2020 is nowhere near being kept. The total financial support cited in the reports amounted to only $37.5 million in 2016. This figure, while far short of the target, is not even entirely credible, as the method of accounting is far from transparent. Taking the numbers at face value, it turns out that almost 80% of even this 'assistance' to developing countries is mitigation-linked with only 15% for adaptation, while the major part of what has been disbursed is in the form of loans rather than grants.

It is not only financing, but the source of financing that matters in climate governance. With the United States (US) pulling out of the Paris Agreement, the COP23 saw the introduction of an unofficial US coalition named "We Are Still In," which claimed to be the "real" US representation. Though led by political representatives, the coalition was made up of 2,500 businesses and political leaders, arguing that non-state action would be sufficient to meet US targets. The coalition received tremendous publicity from the United Nations Framework Convention on Climate Change (UNFCCC).

However, T Jayaraman points out that this turn towards private financing of climate action alters the fabric of global climate governance. That is, such a move away from public funding would depreciate the role of nation states and would thus "dwarf the meagre resources of a large number of developing nations." Moreover, such financing would be more difficult to account for legally or in ensuring that there is equitable commandeering of resources. This would increase the gap between developing and developed countries, thereby delaying real steps to combat climate change.

> In the negotiations, developing countries have always insisted on public action and accountability through state actors, especially in the arena of finance, wherein developed countries have sought to argue that private funds are fungible with public funds in terms of accounting for their financial support. Given this, it is indeed disturbing that the UNFCCC website on its pages gives ready publicity particularly to the promises and commitments of private global business actors, even when, as in insurance or banking, such commitments may be part of their regular for-profit activity.

India's Accounting of Climate Financing

Kumar and Nair observe that though India has committed a great deal under the Paris Agreement and the UNFCCC, it lacks a comprehensive climate change policy document. The nebulous legislative outlook requires one to turn to India's "general environmental policy" for clarity on aspects such as transportation, environment clearance, and finance. However, even the National Environmental Policy, 2006 remains blurry on the workability of any of these aspects.

India's domestic climate policy is further complicated by the country's federal structure wherein the legislative domains of the central government and the state government are distinct. While "climate change" does not figure on either list as a distinct head of legislative competence, various related topics do find mention. Areas such as treaty-making, certain specific industries, atomic energy and regulation of interstate waters are in the Parliament's domain. State legislatures, on the other hand, can make laws pertaining to local government, public health and sanitation, certain roads, bridges, and inland waterways, agriculture, irrigation, canals, water storage, regulation of mines, and certain industries. Some relevant overlaps exist under the Concurrent List, for example, in relation to subjects like electricity, forests, and protection of wild animals and birds. Climate change, and more broadly, environmental concerns, can be traced to a number of areas of legislative competence spread across the Seventh Schedule, with no overall authority or clear responsibility being identified at either the central or the state level.

Moreover, in its international proposals to combat climate change, there has been a gross overestimation of co-benefits as compared to cost. As part of the Paris COP in 2015, India submitted its INDCs to the UNFCCC. The submitted INDCs aimed at reducing the country's emission intensity by 30%–35% by 2030. It stated that the targets could be achieved with low-cost finance and technology. However, Parikh and Parikh note that the estimated $2.5 trillion that the proposed INDCs was valued at, underestimated the cost of the ambitious targets. They additionally do not take into account the fact that the geographical limitation of renewable energy would incur transmission costs, which would eat up investments in other parts of the Indian economy, such as education, healthcare, etc. Particularly in the case of India, they note, co-benefits of using renewable sources of energy may not actually compensate for their high price.

We have to recognise that a renewable plant costs more. For example, a solar plant requires twice as much investment per KW [Kilowatt] as a coal plant. Also, a 1 KW solar plant will generate 1,600 units of energy, whereas a coal-based plant could generate 6,000 to 7,000 units per year. Thus, to replace a 1 KW coal plant we need to invest in a solar plant of around 4 KW, requiring eight times as much investment. Thus, the co-benefits should be compared with the co-costs. For India, it is not obvious that co-benefits significantly reduce co-costs.

How Important Is Financial Aid for India?

At the outset, the Paris Agreement itself regulates financing climate change very loosely, and has also weakened past commitments by not laying down any minimum level for it. Parikh and Parikh note that the former Minister of Environment Jairam Ramesh as well as the previous Chief Economic Adviser Arvind Subramanian suggested that India not ask for either finance or technology for effecting climate change as it would be "obstructionist." However, with the assistance from international finance, coal could become economically obsolete, without harming current production or employment levels. This could make the move to a renewable-energy system more sustainable and a reality for India.

A conventional coal based plant with a capital cost of Rs. 3 crore/MW, a debt–equity ratio of 4:1, interest on debt of 12%, coal price of Rs. 1,000/tonne and a desired return on equity of 15% will provide electricity at around Rs. 1.48 per kWh. A supercritical coal plant with a capital cost of Rs. 5 crore/ MW and 10% lower specific coal consumption would provide electricity at Rs. 1.97 per kWh. Compared to this, a solar plant costing Rs. 6 crore/MW will provide electricity at Rs. 5.68/kWh. Now assuming that 20- year international finance is available at 4%, the electricity from the solar plant will cost only Rs. 3.23/kWh. This can be at least competitive with coal-based power. With availability of such finance, India's INDC would not result in lower GDP. This is the importance of finance.

A Deal like No Others

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The new global pact to curb deforestation signed at C0P26 is welcome, but it risks failure as seen in previous commitments

By Richard Mahapatra

RICHARD MAHAPATRA

One of the positive outcomes of the 26th Conference of Parties (cop26) to the United Nations Framework Convention on Climate Change held in Scotland in November 2021 was the signing of the Glasgow Leaders' Declaration on Forests and Land Use. The declaration, signed by 105 countries that account for 85 per cent of the planet's forests, commits to "halt and reverse deforestation and land degradation by 2030". It should be cherished for its aim to reduce greenhouse gas (Gun) emissions and to sustain survival of forest-based communities that comprise nearly 25 per cent of the world's population.

Forests absorb around a third of the carbon dioxide released globally from burning fossil fuels every year (see `Sundarbansi high blue carbon stocks', p226). But we are also losing this voracious carbon sink at the rate of an area equivalent to the size of 27 football pitches every minute. Currently, 23 per cent of global emissions come from land-use activities such as logging, deforestation and farming. Article 5 of the Paris Agreement mandates parties to "reduce emissions from deforestation and forest degradation" by taking up forest conservation and protection. The new deal can be argued as an extension of this mandate.

Signatories to the declaration include countries that are responsible for deforestation as well as consumers of commodities that lead to forest clearance like Brazil, China, EU, Russia and the US. The UK and many EU countries, for instance, are the biggest consumers of woody biomass for energy generation—a significant portion of this comes from local forests. Similarly, signatories like the US, Canada and Russia are the world's leading producers of wood pellets (for export) to be burnt as a coal substitute.

In another development at COP26, 28 countries that represent 75 per cent of the global trade of key commodities responsible for causing deforestation, signed a new Forests, Agriculture and Commodity Trade (FACT) Statement. The FACT statement sets common actions "to deliver sustainable trade and reduce pressure on forests, including support for smallholder farmers and improving the transparency of supply chains". This involves reducing deforestation in the global supply chain of the produce. As a followup, 30 financial institutions that have assets worth more than US $8.7 trillion also agreed to "eliminate" investment in commodity-driven deforestation. Along with this came a commitment of $19 billion of public and private funds during 2021-25—some $12 billion will be from the public funds of 12 countries and the rest from 30 financial institutions. This financing is for supportive activities in developing countries.

But before the euphoria over the deal sunk in, UN Secretary-General Antonio Guterres flagged a caution card: "Signing the declaration is the easy part. It is essential that it is implemented now, for people and the planet." His cautionary reaction resurrects a dead trail of similar pledges made in the past to save global forest resources and the people that depend on them.

There are several promises to remember: in 2005, the UN Forum on Forests committed to "reverse the loss of forest cover worldwide" by 2015; in 2008, 67 countries agreed to reach zero net deforestation by 2020. Then in 2014, banks also signed in the voluntary Soft Commodities Compact that committed them to reduce financing of deforesting sectors like palm oil, timber products and soy to achieve zero net deforestation by 2020. That same year, over 200 national, private and civil service supporters WHO agreed to reduce deforestation by 50 per cent by 2020 and end it by 2030 signed the New York Declaration for Forests (NYDF). This voluntary political declaration was inked in the UN Secretary LGeneral's Climate Summit in New York, but Glasgow Declaration signatories Brazil, Russia and China did not sign this one. NYDF promised restoration of 150 million hectares (ha) of degraded landscapes and forestlands by 2020 and 350 million ha by 2030, which would have mitigated over 7 billion tonnes of carbon dioxide-equivalent per year by 2030. Instead, going by a five-year review of this pledge by NYDF Assessment Partners, a coalition of 28 research organisations and civil society groups, the global rate of gross tree cover loss increased by 43 per cent in 2019.

As a result, "on average, annual tropical tree cover loss between 2014 and 2018 emitted 4.7 gigatons of carbon dioxide per year—more than all of EU's 2017 greenhouse gases emissions," according to the assessment. "Nearly half of these emissions occurred within humid tropical primary forests."

Global Forest Watch further reports that the world lost roughly 25.9 million ha of tree cover (an area roughly the size of the US state of Colorado) to deforestation in 2020—much of it in the tropics.

> Funds committed for the Glasgow Leaders' Declaration on Forests and Land Use are well below what is required to ensure it achieves its objectives. Instead, money continues to be pumped into organisations that cause deforestation

Doubts on the deal

Previous trends invoked more scepticism about the Glasgow Declaration. Jo Blackman, head of forests policy and advocacy at UK-based non-profit Global Witness, said in a statement, "While the Glasgow Declaration has an impressive range of signatories from across forest-rich countries, large consumer markets and financial centres, it nevertheless risks being a reiteration of previous failed commitments if it lacks teeth." Countries must back up their pledge with a commitment to bring in national legislations against deforestation, Blackman suggested.

SUNDARBANS' HIGH BLUE CARBON STOCKS

The national park has 60 million tonnes of carbon stores, says UNESCO assessment

INDIA'S SUNDARBANS National Park is among five unique sites that have the highest blue carbon stocks globally, according to a new assessment of greenhouse gas volumes emitted from and absorbed by forests in UN Educational, Scientific and Cultural Organization (UNESCO) World Heritage sites, released in October 2021. Blue carbon is an organic form of the element, mainly obtained from decaying plant leaves, wood, roots and animals. It is captured and stored by coastal and marine ecosystems.

Researchers at UNESCO, World Resources Institute and the International Union for Conservation of Nature estimated the gross and net carbon absorbed and emitted by World Heritage forests by combining satellite-derived data with monitoring information at the site level, according to a statement by the organisation. They found that the forests now release more carbon than they absorb, primarily due to human activity and climate change. World Heritage forests in 257 sites absorbed approximately 190 million tonnes of carbon dioxide (CO2) gas from the atmosphere each year. This figure, according to the study, was comparable to roughly half the UK's annual CO2 emissions from fossil fuels.

Ten of the 257 forests emitted more carbon than they captured between 2001 and 2020 due to different anthropogenic disturbances and pressures. The reasons attributed to this included clearance of land for agricultural practices, increasing scale and severity of wildfires due to drought as well as rise in extreme weather phenomena such as hurricanes.

The study added that World Heritage forests also stored substantial amounts of carbon from the surface of the Earth in addition to absorbing CO? from the atmosphere. Till now, these forests have stored approximately 13 billion tonnes of carbon. If all of it were to be released into the atmosphere as CO2, it would be akin to emitting 1.3 times the world's total annual CO2 emissions from fossil fuels.

UNESCO's assessment also said 50 sites with unique marine values from across the globe, which represent just 1 per cent of the global ocean area, comprise at least 15 per cent of global blue carbon assets. These 50 sites have carbon stores estimated at 1.4 gigatonnes. The Sundarbans National Park has stores of 60 million tonnes of carbon, while the Bangladeshi portion of the Sundarbans has 110 million

tonnes, Great Barrier Reef in Australia has 502 million tonnes, Everglades National Park in the US has 400 million tonnes and the Banc d'Arguin National Park in Mauritania has 110 million tonnes of stocks.

The funds committed for the pledge, both private and public as well as from the financial institutions, is well below what is required to ensure the declaration achieves its objective effectively. Instead, more and more funds continue to be pumped into organisations that cause deforestation. Global Witness's latest assessment in October 2021 found that over 10 times that amount is being poured into companies driving deforestation. Banks and investors in the UK, EU, US and China ploughed $157 billion since the Paris Climate Agreement into agri-business firms linked to tropical deforestation and associated human rights abuses, netting an estimated $1.74 billion in income along the way, according to the assessment. "Many of these banks have no-deforestation policies, have committed to align with the Paris goals or are signatories of the Soft Commodities Compact," it says.

Countries also raised concerns over the new pledge, particularly those WHO are being accused of encouraging deforestation for development. Joko Widodo, President of Indonesia, said at cop26: "Millions of Indonesians depend for their livelihood on the forestry sector. Any new pledge must be accompanied by market incentives and not unilaterally imposed by rich countries." Forcing Indonesia to commit to zero deforestation by 2030 was clearly inappropriate and unfair, Siti Nurbaya Bakar, the country's environment minister, told the *British Broadcasting Corporation* (BBc).

"If we want our forests to survive, they must be valuable. The developed world has plundered our forests. We plan to save the forest by exporting it sustainably," said Ali

Bongo, the president of Gabon, a signatory country that is in the news for its recent push to harvest forests for timber export.

India, one of the 10 most forest-rich countries of the world, stayed away from this declaration. Its decision to do so, apparently, was because it was not happy with the intent of the deal to link infrastructure development and related activities with the conservation of forests. The final text of the declaration linked transformative action in the related areas of sustainable production and consumption, infrastructure development, trade as well as finance and investment. The Glasgow Declaration said: "We recognise that to meet our land use, climate, biodiversity and sustainable development goals, both globally and nationally, will require transformative further action in the interconnected areas of sustainable production and consumption, infrastructure development, trade, finance and investment and support for smallholders, indigenous peoples and local communities, wno depend on forests for their livelihoods and have a key role in their stewardship."

India is also mulling changes to the existing Forest Conservation Act, 1980 has been instrumental in reducing deforestation as it requires approval from the Central government when forests have to be diverted for non-forestry purposes. The proposed amendments will allow more windows of deforestation for accommodating key projects. It is an effort that might be pushed back if the country becomes part of the forest pact as proposed in Glasgow.

India's Domestic Climate Policy is Fragmented and Lacks Clarity

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by Parul Kumar and Abhayraj Naik

India's domestic climate policy is outdated and relies on a disjointed institutional architecture, without having clarity on foundational values. There is a pressing need to revisit the National Action Plan on Climate Change, 2008, and to reformulate domestic climate policy in India. Policy integration, institutional design for effective implementation, and climate justice must play a central role in this new vision for India's domestic climate policy.

The official Indian position in international climate negotiations and domestic climate policy debates is expressed in troubling binaries: economic development versus climate change mitigation, centralised command-and-control environmental governance regimes versus decentralised adaptive governance mechanisms, transitioning to renewable energy versus carbon sequestering through forests, and so on. The characterisation of India in the international climate landscape, "as a minor contributor to past emissions, but a significant contributor to future emissions, albeit not on a per capita basis" (Dubash et al 2018a), is suggestive of India's Janus-like dualism towards climate change.

The Paris Agreement of 2015 decisively expressed an in-principle commitment to strengthening the global response to climate change, including by "[h]olding the increase in the global average temperature to well below 2°C above pre industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels," and "[i]ncreasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production" (UNFCCC 2015). The parties to the Paris Agreement are obliged to "undertake and communicate ambitious efforts" in the form of nationally determined contributions (NDCs) to achieve the goals of the agreement (UNFCCC 2015).

Issues with the enforceability of the Paris Agreement occupied the centre-stage at the recently-concluded 24th Conference of the Parties (COP24) to the United Nations Framework Convention on Climate Change (UNFCCC) at Katowice, Poland. After days of divisive negotiations, countries at COP24 managed to agree to a highly contested Paris rulebook to enforce the 2015 agreement (Al Jazeera 2018; Sethi 2018a). Environmental groups have criticised this rulebook saying that it lacks ambition and clarity on key issues, including financing for climate projects for developing countries (Batchelor 2018). While India's NDCs do articulate the country's stated commitments in strengthening the global response to the threat of climate change, in this article, we suggest that it is important for us to look beyond the rhetoric and numbers of India's NDCs and focus instead on the domestic climate policy regime in India.

India's Nationally Determined Contributions and the Progress So Far

The quantification of goals in India's NDCs is threefold: first, reducing the emission-intensity of its gross domestic product (GDP) by 33%–35% (vis-à-vis 2005) by 2030; second, achieving 40%cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030; and third, creating an additional carbon sink of 2.5–3 billion tonnes of CO2 equivalent by 2030 through additional forest and tree cover (GoI 2016).

The non-quantified goals in India's NDCs include putting forwardand propagating a healthy and sustainable way of living based on traditions and values of conservation and moderation; adopting a climate friendly and cleaner path than the one hitherto followed by others at corresponding levels of economic development; better adapting to climate change by enhancing investments in development programmes in sectors vulnerable to climate change; mobilising domestic and new additional funds from developed countries to implement mitigation and adaptation actions; and building capacities and creating a domestic framework and international architecture for quick diffusion of cutting edge climate technology in India and for joint collaborative research and development for such future technologies (GoI 2016).

Overall, India has improved its ranking in the Climate Change Performance Index 2019 by climbing three places to rank 11 (Behl 2018). The government's pledge to strengthen its renewable energy capacity, coupled with market factors, such as falling renewable energy prices (Dubash et al 2018a), suggest that India may meet its NDCs target of achieving 40% electric power installed capacity from non-fossil fuel based resources well ahead of schedule (Goswami 2018). Similarly, India is also expected to achieve its quantified NDCs goal of reducing greenhouse gas emission intensity (Sethi 2018b).

On the other hand, India is far from meeting its NDCs goal of carbon sequestration and afforestation. India's second Biennial Update Report (BUR), submitted on 31 December 2018 (UNFCCC 2018), indicates that India's carbon sequestration from forests has, in fact, worsened from its 2010–14 levels (Sethi 2018b). Further, the technical body of the UNFCCC has raised questions over the definition of "forest" used in India's second BUR, suggesting that the forest data submitted by India represents an exaggeration of India's true forest cover and masks ongoing deforestation in the country (Nandi 2019). An obfuscation of the distinction between native forests and man-made plantations in the definition of "forest cover" used by the Forest Survey of India means that the official Indian data on forest cover is a considerable overestimation (Srinivas 2018). While it is difficult to evaluate the progress made in achieving the non-quantified goals in India's NDCs, it is worth noting here that India continues to increase the number of coal-fired power plants in the country (Behl 2018), as also its CO2 emissions (Dubash et al 2018b).

This article provides an overview of India's domestic climate policy and related environmental policy, and identifies key shortcomings that must be addressed by future planning efforts. We use the term "climate policy" to broadly refer to the system of goals, principles and processes that currently guide India's domestic response to climate change. On the basis of such an understanding, India's climate policy is located in a variety of sources, including international treaties, parliamentary legislations, government regulations and policy documents, planning and guidance documents, and judicial decisions. Accurately locating some of the main sources of India's domestic climate policy is therefore the first challenge to be met for any assessment of climate governance in the country.

Fragmented and Outdated Policy

India is a "dualist" system, which means that international agreements (such as the Paris Agreement and the UNFCCC) must be translated into domestic law to become enforceable within the country (Ranjan et al 2016). Article 253 of the Indian Constitution vests in the Parliament the power to make laws applicable to the territory of India in order to implement international treaties. Further, Article 73 extends the executive power of the Union of India to matters on which the Parliament has the power to make laws. International agreements reflecting overarching normative goals do not, however, specify the modalities of implementation and enforcement within the domestic legal systems of individual signatory countries. As such, there is no time-bound requirement for India to enact domestic legislation to give effect to the provisions of international agreements on climate change either.

The wording of international climate agreements has, therefore, allowed the Indian government to avoid comprehensive domestic legislation and clear regulatory frameworks focused on the threats of climate change (Mehta 2017). Such domestic legislations and regulatory frameworks, for example, the Climate Change Act 2008 in the United Kingdom, would normally specify clear national goals, authorities, processes, and responsibilities. At present, India has not formulated any law (through Parliamentary legislation or through delegated legislation by the union government) for the purpose of giving effect to the goals of the Paris Agreement.

The National Action Plan on Climate Change (NAPCC), released by the Ministry of Environment, Forest and Climate Change (MoEFCC) in 2008, is the Indian government's official recognition of climate change concerns and the need to appropriately respond and adapt to climate change.

"The NAPCC addresses the urgent and critical concerns of the country through a directional shift in the development pathway ... The National Action Plan on Climate Change identifies measures that promote our development objectives while also yielding co-benefits for addressing climate change effectively" (GoI 2008).

The core of the NAPCC approach is the creation of eight national missions[1] "representing multi-pronged, long-term and integrated strategies for achieving key goals in the context of climate change" (GoI 2008). The NAPCC and domestic climate policy received detailed attention in the Twelfth Five Year Plan (2012– 17) document of the erstwhile Planning Commission, which emphasised that "[c]limate change concern should permeate all processes of planning in the long term ...

for any mission to succeed, it must have separable objectives, dedicated implementation machinery and adequate funding" (GoI 2013).

As a document with certain normative goals, including (at least, formally) a co benefits approach that stresses on the synergies between climate response and development needs, the NAPCC forms a useful starting point in India's climate change policy narrative. However, as pointed out in a detailed evaluation, the NAPCC approach is "too broad and lacks specificities", some missions have quantified mitigation targets while others are purely adaptive, and while the "solar and energy efficiency missions are considered successful, the mission mode approach for dealing with cross-cutting subjects has not worked" (Rattani 2018). Unfortunately, the Twelfth Five Year Plan's recommendation for comprehensive climate policy integration across sectoral planning in India has not materialised. There is a need to revisit the NAPCC in order to decisively re-assess and reformulate climate policy in India.

The technical document of the NAPCC mentions that legislations may be required at the central and state level to arrive at appropriate delegation of responsibility and authority for meeting some of the goals of the policy (GoI 2008). India's second BUR also states that "[t]o support the NAPCC, legal amendments have been carried out, wherever necessary, to improve monitoring and compliance under the missions" (GoI 2018). However, no comprehensive details on what legal amendments have indeed been carried out have been offered in India's second BUR, and the policy framework today continues to operate in a fragmented sectoral fashion.

In the absence of a comprehensive climate change legislation, or an updated policy document that effectively guides the country's commitments under the Paris Agreement and the UNFCCC, one must turn to India's general environmental policy for answers on specific aspects relating to climate change. India's policy framework concerning the environment, however, is an aggregation of a variety of uncoordinated sources relating to discrete environmental topics such as pollution, water, energy, transport, waste management, agriculture, mining, forests, environmental clearance, finances, etc (Naik 2018). The National Environmental Policy 2006 summarily lists out a catalogue of the essential elements of India's response to climate change without any indication of relative importance or modes of workability (GoI 2006).

Individual legislations such as the Wildlife Protection Act, 1972, the Water (Prevention and Control of Pollution) Act, 1974, the Forest (Conservation) Act, 1980, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 depend on a number of governmental departments and specialised regulatory institutions, including central and state-level pollution control boards, the central and state-level environmental ministries, and specialised central and state-level regulators (Naik 2018). Notably, most of these legislations were passed several decades before there was awareness and recognition of climate change, and do not reflect important concerns of the current national and international climate discourse. A guiding document embodying a vision for climate change adaptation and mitigation across sectoral legislations and policy documents is conspicuously absent.

India's domestic climate policy is further complicated by the country's federal structure wherein the legislative domains of the central government and the state government are distinct. While "climate change" does not figure on either list as a distinct head of legislative competence, various related topics do find mention. Areas such as treaty-making, certain specific industries, atomic energy and regulation of interstate waters are in the Parliament's domain. State legislatures, on the other hand, can make laws pertaining to local government, public health and sanitation, certain roads, bridges, and inland waterways, agriculture, irrigation, canals, water storage, regulation of mines, and certain industries. Some relevant overlaps exist under the Concurrent List, for example, in relation to subjects like electricity, forests, and protection of wild animals and birds. Climate change, and more broadly, environmental concerns, can be traced to a number of areas of legislative competence spread across the Seventh Schedule, with no overall authority or clear responsibility being identified at either the central or the state level. [2]

The NAPCC and India's second BUR cursorily mention several of the sectoral laws and policies, but fall short of providing an integrated and unifying policy framework. Even as some interesting state-level climate policy formulations, such as integration of energy planning for all new developments in Kerala or functional reorganisation of existing institutions in Odisha for promotion of renewable energy, are recently emerging in India, there continues to be considerable policy ambiguity and inadequate research available on questions of exactly what states can do in terms of India's overall climate change challenges and the unclear horizontal and vertical diffusion of existing policies (Jörgensen et al 2015).

India's domestic climate policy urgently needs a coherent vision for tackling climate change, that should be clearly reflected in the framing of legislation and policy documents addressing multiple sectors and aligned with multiple federal levels, and in the design of appropriate institutional frameworks to achieve climate policy objectives of mitigation and adaptation in a holistic and non fragmented way. Recent research on climate policy integration by Gregorio et al (2017) is of particular relevance here in planning the way forward for Indian domestic climate policy.

Disjointed Institutional Architecture

The NAPCC, unfortunately, does not do anything notable to improve the capacity for implementation of climate change responses (GoI 2008). It has been pointed out that the NAPCC is also ill-suited institutionally to effectively seek a synergy between climate and development concerns in India (Dubash et al 2018a). Critics have suggested that institutional, systemic and process barriers, including financial constraints, inter-ministerial coordination, lack of technical expertise and project clearance delays, stand as major challenges in the efficient implementation of the missions (Rattani 2018).

In 2009, then Prime Minister Manmohan Singh called upon states in India to devise their own climate action plans, in line with the principles and missions identified in the NAPCC (Jörgensen et al 2015). There is tremendous variation between the different State Action Plans on Climate Change (SAPCCs), due to differences in ascribing priority to climate change, institutional heterogeneity, developmental circumstances, and resource availability (Atteridge et al 2012).

The SAPCCs have been noted to be inadequate in many respects, particularly in terms of capacity and well-designed institutional mechanisms at the stage of implementation and monitoring (V Kumar 2018; Dubash and Jogesh 2014; Vasudha Foundation 2018). Budgetary allocation for the implementation of climate policy by the centre and states does not recognise that certain states may be more vulnerable to climate change than others (Sartori and Bianchi 2018). Most states have also shown reluctance in adopting the Energy Conservation Building Code (ECBC) even after a decade of its release (Mishra and Singh 2018). The emergence of India's climate policy in a top-down fashion (with the central government taking the lead) and financial bottlenecks in the form of dependence on financial transfers from the centre, have also limited the scope for bottom-up action by the states in spite of them possessing legislative competence over a number of important climate and energy policy topics (Jörgensen et al 2015). Aside from budgetary facilitation, the centre can also play a crucial role in providing relevant data to the states. States must have access to scientific predictions of climate impact in their territory, for which the centre can play an important role in facilitating the transfer of relevant data (Dubash and Jogesh 2014). India's second BUR contains only a brief mention of the SAPCCs, merely enumerating some of the broad topics that the SAPCCs deal with (GoI 2018), without offering any substantive detail on the measures undertaken by the states and the progress made so far.

While a third tier of governance in India does exist at the local level in the form of rural village councils and urban municipalities, significant devolution of powers relating to environmental and climate change concerns has not taken place at this level in most states. Most major cities in India do not provide incentives for green buildings, apart from not having sustainability plans, sustainability/resilience strategies, or comprehensive mobility plans in place (ASICS 2017). It is particularly worrisome to note that Indian cities effectively have very little functional autonomy in embarking upon climate change responses.

Unclear Foundational Values

An excessive focus on quantified mitigation goals often diverts attention away from core questions of environmental and social justice involved with climate change response in India. One of the important themes of COP24 at Katowice was "just transitions," which the host country Poland pushed for, through the Silesia Declaration. The declaration emphasises that efforts by countries to address climate change must include transitioning the workforce in an equitable manner, including through the creation of decent work and quality jobs. Notably, India did not join the parties to the Silesia Declaration. India's domestic climate policy, particularly the NAPCC, prioritises the country's development objectives while also achieving climate change co-benefits, but provides very little clarity on foundational values necessary to resolve specific cases of potentially conflicting or competing interests (Dubash et al 2013).

Although India's second BUR speaks of the creation of "green jobs" (GoI 2018), it is conspicuously silent on the future of those who depend on coal for a livelihood. Further, communities in water-stressed areas in India are likely to be affected by the water demands of thermal power plants (Krishnan 2018) as well as solar power projects (Chatterjee 2018). The fact that urban elites are responsible for the highest share of climate change damage in India (Michael and Vakulabharanam 2016) is conveniently avoided in most discussions of macro per capita emissions.

A decision is currently awaited from India's National Green Tribunal on a petition filed in 2017 by a nine-year old girl (on behalf of all children and unborn generations) who argued that the Indian government had failed to take any effective science-based measure to combat climate change and had also failed to implement environmental laws across India (Ridhima Pandey v Union of India 2017).

India's climate policy reflects an ambivalence in foundational values.. The idea of climate justice is useful in overcoming some of this policy ambivalence and adds an important element of normativity to India's broadly defined co-benefits approach. Fundamentally, climate justice is predicated on viewing climate change as more than just a scientific concept, and the focus therefore shifts towards gaps in the equity dimensions of climate change (Adams and Luchsinger 2009). Such an approach compels us to understand the challenges faced by communities most vulnerable to the impacts of climate change, and also informs how we should act to ensure that the transition to a zero-carbon economy is just and that it enables all people to realise their right to development (Canzi 2015).

In the past, India has strongly invoked the term "climate justice" in international negotiations with a focus primarily on equitable considerations between developing countries and developed countries with regard to past emissions and financial assistance (Venkat 2016). A more robust account of climate justice that includes intra-country social justice and environmental sustainability concerns would certainly be more in accord with the Constitution of India and the needs of the people of India.

How to Move Forward

India strongly needs a comprehensive policy document with a new vision (if not an integrated national legislation) to guide it forward in responding to the rapidly closing window against climate change. Such a new domestic climate policy must result from a collaborative and democratic exercise that actively seeks and incorporates inputs from policymakers, natural and social scientists, the academic community, civil society and communities from across the country. Stakeholder engagement must be based on equitable terms, with due recognition and compensation for the utilisation of the local participants' knowledge, research, time and resources (Klenk et al 2015). The role of villages, cities and states in co-creating India's climate policy must be explicitly endorsed and promoted. Simultaneously, the Parliament, state legislatures, and courts must carefully re-examine the existing policy framework through the lens of climate change, and revise the framework, as necessary. This is a prospect for future research and deliberation.

Parul Kumar (parul86@gmail.com) is a law and policy professional based in Delhi.

Abhayraj Naik (abhayrajnaik@gmail.com) is a visiting faculty member at the

National Law School of India University and a member of the Board of Studies for Urban Studies at the Bengaluru Central University.

THEMATIC ESSAY

Understanding Current Forest Policy Debates through Multiple Lenses: The Case of India

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SharachchandraLele[1]

Abstract: The forest sector in India is in turmoil again as the government proposes changes to the National Forest Policy and to the Indian Forest Act, and the Supreme Court appears to favour conservation over people's rights. This essay places India's forests in their socio-ecological context and using multiple perspectives—from ecology, environmental economics, common property theory, and political ecology—to explain the roots of the current controversy and think of ways forward.

1. Introduction

Across the globe, the 1990s witnessed a distinct trend of nation states transferring (or returning) rights over tropical forests to local communities (White and Martin 2002). India also followed this trend. After the Chipko agitation of the late 1970s in Uttarakhand and similar agitations in Jharkhand and elsewhere in the country, the 1988 National Forest Policy (NFP88), for the first time, recognised meeting the needs of local communities as a policy objective and participatory forest management as a policy instrument. The Joint Forest Management (JFM) experiment started in 1990 with prompting from the Ford Foundation and much financial support from bilateral and multi-lateral agencies and spread to all states. It seemed like forest sector reform in India was very much under way (Poffenberger and McGean 1996; Sundar, Jeffery, and Thin 2001).

Yet 30 years later, the forest sector in India seems to be in greater turmoil than before. The government's proposed revisions to the forest policy.

(MoEFCC 2018) and to the Indian Forest Act (MoEFCC 2019) have drawn much criticism. Simultaneously, the Supreme Court's order of February 13, 2019[2] pertaining to The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA) triggered a wave of protests, forcing the government to request a temporary stay. Why have these tensions resurfaced? How can we understand these debates and conflicts? What academic perspectives might provide useful insights into them? After providing a historical overview, I shall argue that conventional perspectives from environmental economics and even common property resource theory are insufficient to understand the forest problem in India. They must be preceded by a socio-ecological understanding of the resource, a political ecology analysis of whose rights must prevail, and then be complemented by multi-layered environmental governance theory.

2. Social Ecology Of Indian Forests

Western scientific' forestry treated forests as simply a set of trees to be managed for timber, i.e., essentially a privatizable good, to use the terminology of environmental economics. This explains the large private forests in the USA, a practice that was also prevalent in Europe. It also ironically explains the adoption of state forestry in the colonies, as a means to privatize the resource in the hands of the colonizers. At the other extreme, conservationists see forests only as providers of pure public goods such as watershed protection, biodiversity and now carbon sequestration. In which case, state management is clearly called for.

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[1] Distinguished Fellow in Environmental Policy and Governance, Centre for Environment & Development, ATREE, Bengaluru.; slele@atree.org Published by Indian Society for Ecological Economics (INSEE), c/o Institute of Economic Growth, University Enclave, North Campus, Delhi 110007. ISSN: 2581-6152 (print); 2581-6101 (web).

[2] In the case of Wild life First & Ors versus Union of India WP (Civil) 109/2008.

But tropical forests in general, and south Asia‘s forests in particular, are complex socio-ecological entities. First, they are highly diverse, requiring location-specific ecological knowledge. Second, they have been historically settled and used by Adivasi and non-Adivasi communities. Therefore, access to forests is not easily controlled, neither by individuals nor by the state, making them local-level common pool resources. But local dependence and use takes multiple forms: firewood, timber, grazing, non-timber forest products, and non-use values as well, and involves trade-offs amongst different local communities themselves. Third, while these forests do provide wider regional or global environmental benefits, these are often accompanied by local dis-benefits—such as crop damage or human-wildlife conflict. In other words, forest management always involves trade-offs between very different stakeholders located at different scales (Lele 2004). Thus, the problem of how to manage forests‘ is not just one of how to manage a complex common pool resource‘ but also for what purpose‘ and therefore for whom‘. The colonial, post-colonial and post-1990s periods must be understood in terms of which (whose) goals were prioritised and who faced the consequences.

3. ‘Nationalisation’ of Indian Forests

Modern day formal forestry in India began with the takeover of majority of the country‘s forests by the British government under the aegis of the Indian Forest Act of 1878, that was subsequently revised in 1927 (hereinafter IFA). These Acts created two main legal categories of forests—Reserved Forest (RF) and Protected Forest (PF)—and empowered the Imperial Forest Department to take over, manage and protect them. For what purpose? Though not explicitly mentioned in the IFA, the goals were clear: for timber and softwood production, and thereby revenue generation. A single goal, two levels of protection, and a single manager-cum-protector. The third category—Village Forest (VF)—was never seriously deployed.

This colonial takeover deprived forest-dwellers of much of their livelihoods. Shifting cultivation was banned. Timber and many commercially valuable non-timber forest products such as pine resin were ‘nationalised’. Grazing fees were imposed, and grazing areas were opened or closed as per the needs of timber forestry. Indeed, natural forests were felled on a large-scale and replaced with monocultures, further impoverishing the forests in terms of locally useful products, diversity, and catchment protection services. The beneficiary was the colonial state (Tucker 1983). Post-independence, the 1952 agricultural policy still visualised forests as providers of raw material for industry and a source of revenue for the state (Gadgil, Prasad, and Ali 1983). So, state control of forests continued, and in fact the area under RFs and PFs expanded as the forests in princely states and under zamindari or other forms of ownership were ‘nationalised’. Following state reorganisation, the newly formed states largely copied the IFA in passing state acts, and the imperial FD became state FDs, run by an —Indian forest service. Continuity, rather than de-colonisation, was the mantra.

Post-1970s, after a belated recognition that so-called game’ hunting had decimated India’s wildlife, the Wildlife Protection Act was passed, and wildlife conservation replaced timber production as the goal of forestry in some pockets. But conservation policy was still based on exclusion of local communities, and the social cost of this conservation has been high (Lasgorceix and Kothari 2009).

Of course, complete regulation of the activities of millions of forest-dwellers was never possible. Alienated from the forests that they still needed, local communities were forced to resort to theft’. Giving forest officers police powers in a landscape populated by marginalized and illiterate communities initially led to punishments, and eventually to rent-seeking and exploitation. Where communities were able to protest vehemently or violently, such as in parts of the Western Ghats, Uttarakhand, and Jharkhand, the colonial masters made some concessions. Post-independence, under political pressure of a democracy, these concessions increased. But in most cases, only access rights were granted, without ceding management rights, thereby making forests de facto open access and leading to their degradation.

4. Attempts at Reform

The NFP88 was a landmark because it shifted the priorities of forestry from production to environmental and local benefits, and the structures of forest management by introducing the idea of participatory management. The JFM programmes of the 1990s, implemented under pressure from civil society groups and lubricated with funds from international donors, were supposed to institutionalise this shift.

Unfortunately, JFM remained a shift on paper. It did not have statutory backing, nor did it mandate that all resource use areas be handed over to communities, nor did it give autonomy to communities to manage the resource as per their needs. JFM committees, areas and implementation extent were all as per the whims of the forest departments (Lele 2014). In the meantime, forest departments managed to replace revenues lost (due to conservation policies and bans on green felling) with international loans. But these loans have been used ineffectively (Kumar et al. 1999) and will have to be repaid by future generations.

5. Blind Spot

In the discussion so far, we have focused on forests. But for forest-dwellers, cultivated lands-habitation-forests form a mosaic that provides integrated livelihoods. The process of forest 'nationalisation' was problematic not only because it deprived communities of access to forest but also because in many cases it deprived them of their rights to habitation and cultivation. This was obviously the case with shifting cultivation, which was banned outright. Less obvious is the case of settled cultivation, which as per the IFA was to be recognized and excluded from forest reservation. Unfortunately, the hurried expansion of national forests following independence led to major deviations from this procedure (Sarin 2005; Vasan 2005). RF and PF boundaries were notified without adequate enquiry. Overnight, traditional forest-dwellers became 'encroachers' in their own lands (Sarin 2014). This unsettled 'nature' of cultivation and habitation rights was a blind spot even in the JFM period, till a Supreme Court order in February 2002 (WP (Civil) 202 of 1995) triggered widespread evictions, leading to nation-wide protests.

6. A Landmark Law

The idea of the FRA emerged originally to redress the problem of unsettled cultivation and habitation rights of forest-dwellers in improperly notified RFs and PFs, by allowing them to claim individual forest rights' (now section 3(1)(a)). But eventually the FRA as enacted also included provisions to redress the denial of forest access and management rights to forest-dwellers by introducing Community Resource (CR) rights (sections 3(1)(b) to (h)) and Community Forest Resource (CFR) rights (section 3(1)(i)) that can be claimed by village communities and which gives them fairly autonomous control. By doing so, and by also giving communities the right to say no to forest diversion (even if other state authorities including forest officers have approved the diversion), the FRA substantially devolves power away from state bureaucracies to communities. At the same time, the FRA requires that such community forest management meet sustainability and conservation goals—a requirement that even the IFA and the so-called Forest Conservation Act, 1980 do not have! Further, section 4(2) of FRA requires that communities shall not be displaced from protected areas unless it is demonstrated through due process that co-existence of communities and wildlife is not possible and there is informed consent for resettlement.

No doubt, the FRA has some limitations. First, the use of a single term 'forest rights' to refer to two very different tenure regimes—individual rights over cultivated or inhabited land (IFRs), and community rights to access (CRs) and to manage forested lands as forest (Community Forest Resource (CFR) rights)—is confusing. Second, by requiring that claims have to be made in order to recognize CFRs, it makes decentralised governance voluntary and subject to communities knowing about their rights and having the courage and ability to stake their claims. Third, it does not clarify the role of the forest departments once communities begin to manage CFR areas. Fourth, it does not explicitly provide timber rights, when JFM was already providing for a share in the proceeds from timber harvest. Nevertheless, in addressing the problem of wrongly drawn forest boundaries, in giving statutory backing for community-led forest governance, and in giving communities a voice in conversion of their forests to either protected areas or for non-forestry activities, the FRA constitutes a landmark and multi-dimensional reform in India's forest governance.

7. Resistance to Reform and its Explanations

The implementation of the FRA, however, has witnessed much conflict and bureaucratic resistance. Not only have forest bureaucracies dragged their feet in implementing many provisions, especially the CFR rights, but they have (through retired forest officers' associations) actively filed petitions challenging the constitutionality of the FRA. In this, they have been joined by several conservationist groups. These petitions resulted in the controversial interim court orders of February 2019.

Meanwhile, in a similar backlash, the forestry establishment has drafted a new policy that reverses the priorities set in NFP88. Worse, it has now drafted an amended IFA that inter alia gives forest departments the power to set aside rights given under the FRA, promotes the much less autonomous Village Forest model over the CFR model, and increases police powers rather than addressing the lack of accountability that has led to the (extensively documented) exploitation of forest-dwellers. The draft amendments will also empower forest departments to take over forests in the one region where they hitherto have not been able to nationalise' much forest land, viz., the Sixth Schedule areas of the northeast.

Why should forest sector reform generate such bureaucratic resistance and backlash? Is the direction of reform incorrect? Which environmental social science perspective enables us to identify policy directions and tools, and also explains the opposition to reform? Neoclassical environmental economics recognises the multiple values of forests, and although the concept of total economic value skirted the question of trade-offs, the concept of payments for environmental services (PES) is premised on the idea that forests may generate positive externalities that local forest-dwellers may not care about or provide unless compensated for. But this market- based solution' is in turn based on, among other things, the assumption of 'well-defined property rights, that is, that forest-dwellers already own' the forest and may legally choose not to provide these positive externalities if they wish. This assumption of private ownership holds in the Americas (hence the proliferation of PES schemes there), but not in India. And environmental economics is agnostic about how property rights should be assigned, as it only seeks economic efficiency and treats distributional questions as outside its scope.

Institutional analysis of the kind developed by Elinor Ostrom focuses on the common-pool nature of forests, and argues that community property can be a solution under certain circumstances, and can even be a more 'cost-effective' solution in some cases (Somanathan, Prabhakar, and Mehta 2009). Community management rights are thus conditional and based on efficiency arguments. Both economists and Ostrom-school analysts treat the state as a neutral actor, taking (and implementing) decisions in the public interest based on information that research may provide.

It requires one to take a political ecology perspective to foreground a different normative concern, that of equity and social justice, and to question the assumption of a neutral, undifferentiated, public-minded 'state'. The core question of 'whose rights or stakes must get priority' cannot be answered without asking 'what is a fair allocation of rights'. Political ecology acknowledges the unfairness (or 'historic injustice' to use the language of the FRA) in colonial usurpation of the customary rights of forest-dwellers and the further injustice in rendering them encroachers. Devolving rights back to local communities is therefore not a matter of efficiency, nor to be justified on the grounds of the conservation-mindedness of local communities, but as a right to more democratic governance (Lele and Menon 2014).

Furthermore, political ecology alerts us to the theoretical possibility of a non-neutral state, recognises the largely exploitative intent of the colonial state and opens up the possibility that many organs may remain largely unaccountable even when the country becomes free and democratic. One should therefore not be surprised when a forest bureaucracy resists and actively undermines reforms. This organ is the biggest landlord in the country (controlling about 23% of the landscape), has remained largely unchanged in its style and structure since colonial times and proudly boasts of a 150-year old history of 'scientific' forestry in a country that became free only 70 years ago! Moreover, it has been resource manager, policeman, regulator, funder and de facto policymaker all rolled into one for all this time. Naturally, it will not give up these sweeping powers willingly.

8. Way Forward

Each social science perspective is an almost inseparable combination of normative concerns and theoretical understanding of human behaviour, making it hard to reconcile with other perspectives. But if one is to find solutions, one must figure out a way of integrating across these perspectives in analysis and in action. Normatively, the tendency to see forest problems as only sustainability or conservation issues has to be resisted, and the question of justice (forest for whom?') must be faced head on. Indeed, the justice question is deeper than just the historical injustice perpetrated by a colonial and post-colonial state on forest-dwellers: there also exist inequities of class, caste and gender within such communities. A normative position in which the rights of forest-dwellers (and indeed of everyone) to decentralised democratic forest governance are coupled with these other societal goals will probably have broader acceptance.

On the theoretical side, a recognition of the complex multi-stakeholder and multi-scale nature of the forest resource makes a case for community-level forest governance to be nested under some form of regulation. But the generic insight that power needs to be accompanied by checks and balances to safeguard against its abuse and a specific recognition of our colonial legacy cautions against the automatic insertion of the forest bureaucracy, with its unrepudiated colonial baggage, as the regulator. Newer and more democratically accountable structures will have to be thought of (see Joint Committee 2010, chap.8).

Communities will also want to make a better living from forests, and will need support as they try to regenerate, protect and harvest from degraded forests and engage with markets. Fairness in fiscal policy requires that they be given access to any forest conservation related funds that were hitherto the monopoly of the forest bureaucracy, and even control over eco-tourism in their areas. This implies reforming funding mechanisms, such as the accumulated compensatory afforestation funds, and granting rights to operate and tax tourism. Ensuring equitable sharing within communities will require some structural changes to ensure better representation and voice for the marginalised, as well as major grassroots efforts to actualise these voices. The challenges in bringing about such a transition are of course enormous. Framing the problem as multi-dimensional in both its normative and analytical aspects may provide a fruitful starting point.

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The Indian Forest Act's proposed amendment is dangerous and fanciful

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Like other policies in the recent past, this one also shows the complete unwillingness of the forest bureaucracy in accepting a different role

By Neema Pathak Broome, Shruti Ajit, Meenal Tatpati

The amendment of the Indian Forest Act (IFA), 1927, has been long due. However, it was beyond imagination that an amendment of the colonial British Raj's Act, 70 years too late, would be worse than what the Raj had itself envisioned. The IFA amendment is like a fanciful flight of a colonial forester, drafted by the forest department, with the forest department and for the forest department (and the industry as its ally).

In line with other policies in the recent past such as the National Wildlife Action Plan 2017, and the draft Indian Forest Policy 2018, this amendment also shows the complete unwillingness of the forest bureaucracy in accepting a different role, and a nationally and internationally changed context. Most importantly, these policies and amendments to laws completely ignore the more democratic laws of post-colonial India such as the Forest Rights Act (FRA) 2006 and Panchayat Extension to Scheduled Areas Act (PESA) 1996, passed by Parliament of independent India in all its wisdom.

At the root of the need for enactment of FRA and PESA was the environmental and social injustice caused by colonial laws, primarily the Indian Forest Act 1927, by not recognising the rights and responsibilities of the adivasis and the other traditional forest dwellers.

The aim of these Acts is to recognise and respect the historically denied fundamental constitutional rights and responsibilities to use, manage, govern and conserve forests. In respecting these rights and recognising their contribution towards the conservation of forests, these laws intended to change the prevalent narrative of forest dwellers as necessarily "forest offenders and encroachers", to them being forest rights and responsibility holders, governing, managing and conserving their forests. Consequently, most existing clauses of the IFA and categories of forests under it were rendered irrelevant and/or stood in direct conflict with the FRA and PESA.

Considering that the FRA and PESA represented the country's post-colonial vision of democratic forest and conservation governance, it was very much expected that in its amended version, the IFA would undergo a major overhaul, align itself with PESA and FRA and go beyond where they left off. It was expected that the IFA amendment would do so by:

1. Reviewing the existing categories of Reserved Forests, Protected Forests, and Unclassed Forests, all of which were primarily established to serve the colonial interest of appropriating resources for revenue generation. Aligning itself with FRA, it would include the category of Community Forest Resource (CFR) Rights and forests over which Habitat Rights of Particularly Vulnerable Tribal Groups and the rights of pastoralist communities have been established.

   An under-estimation published in 2016 suggests that "In terms of area, potentially, up to 85.6 million acres or 34.6 million hectares of forests could be recognised as CFRs in the country. This would potentially benefit, an estimated 200 million Scheduled Tribes (STs) and other traditional forest dwellers (OTFDs) in over 1,70,000 villages, including by gaining collective rights over forests under the CFR Rights provisions of the FRA."

   Inclusion of CFRs as a category would make the category of Village Forests — primarily enacted to provide limited space for the local communities in the management of forests (that the colonial government was forced to create faced with resistance and revolts of forest-dependent communities) redundant.

2. India has a rich history and current examples of Community Conserved Areas (CCAs), where habitats and species are conserved by the local communities through local knowledge and governance systems. These conservation efforts have been ignored in our forest and conservation policies. It was expected that the amended IFA would create a category to recognise CCAs (some of which are/will be CFRs).

3. Considering that CFRs already provide for CFR Management Committees (CFRMCs), the Joint Forest Management (JFM)-forest department scheme to provide limited participation of the local communities in forest management, would become irrelevant. It has been widely accepted that JFM institutions have largely failed in the past and continue to be highly corrupt and internally divisive (inciting, enhancing, and feeding on internal village conflicts to continue corrupt practices, retain centralised political powers, and exclude women). It was expected that the IFA amendment would provide for effective financial and other support to the CFRMCs and similar other local institutions by the gram sabhas, including by creating and diverting forestry-related funds to them.

4. By aligning with Section 4 (1) e of FRA, which provides for the CFRMCs to draft management and conservation plans and strategies. By ensuring that these plans and strategies are recognised and adopted in all forest working and management plans. By ensuring that forestry sector funds are provided to the gram sabhas for implementation of their plans and strategies in the same way as the forest department would be availing funds for their own management and working plans. By ensuring that the gram sabha plans and strategies are integrated in all regional and landscape-level development and conservation planning and no contradictory plans are cleared.

5. By removing the existing IFA provisions of 'settlement' of rights to incorporate the process of recognition of rights as has been detailed in the FRA. Additionally, it could provide a mechanism for detailed recording of rights recognised under the FRA in the forest records, including by revising the forest maps to include CFRs, Habitat Rights Areas, and areas under the jurisdiction of different gram sabhas under PESA in scheduled areas. It was expected that it would provide for mechanisms and support for on-ground demarcation of boundaries where local villages thus requested.

6. By reviewing and withdrawing hundreds of forest offences which have now been recognised as rights under the FRA. By redefining 'offences' to include spaces for gram sabhas' rules and regulations for forests under their jurisdiction. By providing for a mechanism for all outsiders to adhere to gram sabha rules and regulations including project proponents and government functionaries.

   By providing support mechanism to gram sabhas to deal with powerful offenders, including timber and poaching mafia, where the gram sabhas may not be in a position to do so and asked for help. By ensuring that surrounding gram sabhas are consulted in offences such as poaching and smuggling even for forests which are not under gram sabha jurisdiction.

7. It was expected that the IFA would ensure that gram sabha consent for diversion of forests was strengthened to ensure forests are not diverted for industrial purposes. Considering that in states like Maharashtra, Madhya Pradesh, Odisha, Uttarakhand and West Bengal, many CFR gram sabhas and those who have not yet claimed CFRs are opposing degradation of biodiversity in their forests because of commercial felling and plantations by the Forest Development Corporations (FDCs), it was expected that the IFA would make gram sabha consent mandatory even for transfer of forest land for commercial forestry in keeping with FRA and PESA.

8. Post the recognition of rights for non-timber forest produce (NTFP) collection and trade under the FRA and PESA, hundreds of gram sabhas and in some cases, their federations are already engaged in harvest and trade of NTFP and revolutionising local economies, and well-being.

   It was expected that the proposed amendment would have ensured removal of all government levies and taxes (including the Goods and Services Tax, which is already taking its toll on the NTFP collectors) to provide maximum benefit to the NTFP collectors, their gram sabhas and gram sabha federations; ensured a mechanism for Minimum Support Price (MSP) to prevent exploitation by contractors and markets; and recognised the gram sabhas role in transit permits (TP) to be issued for transport of NTFP.

9. It was expected that the IFA would have restructured and redefined the forest department to be an extension and support agency to the gram sabhas managing and conserving their forests, with no power to interfere in the local decision-making processes. That they would accept the role of knowledge and information sharing and helping against powerful forces. On the contrary, the IFA Amendment has attempted to do just the opposite in all of the above mentioned points. These amendments seem to have five dangerous goals:

1. Delegitimise, limit or exterminate the rights where they have been recognised under the FRA and PESA.
2. Ensure no further rights are recognised where they have not been yet
3. Strengthen the forest department (including financially) to become an unaccountable (by providing various indemnities), autocratic, quasi-judiciary and para-military force, armed and with power to, on mere suspicion, cause violence against and/or arrest anyone for a non-bailable offence.
4. Unilateral power to the Central and state governments to take over whatever forests have not thus far been taken over by the forest department without any process, acquire rights and levy charges for any use by the local people.
5. Hand over large parts of forests for commercial production as production forests and do away with the 'gram sabha' consent clause by declaring Reserved Forests and Protected Forests, which can then be easily diverted for industrial purposes.

Who does it impact the most?

Wildlife and biodiversity

If the IFA amendment claims to be aimed at preventing destruction of forests, then it is going about it in the worst possible way.

In response to a Lok Sabha question on February 8, 2019, the government has answered that between 2015- 2019 alone, 54,648.54 hectares (ha) of forest land had been diverted under the Forest Conservation Act (FCA) for non-forestry purposes. In response to a similar question on September 8, 2016, the government had responded that on an average, 25,000 ha of land had been diverted annually for non-forest use since 1980. If calculated, it would amount to about 10, 00,000 ha of forests over forty years.

A Parliamentary Committee report on the status of forests in India tabled in both Houses in February 2019, states that the Ministry of Environment, Forests and Climate Change (MoEF&CC) has granted approval to 3226 projects. The report mentions the total forest area diverted for non-forestry purposes between 2013-18 to be variably between 70,920.61 ha and 2, 39,572.16 ha under FCA, 1980.

Areas of prime importance for wildlife and biodiversity are being cleared for forest diversion. These include nearly 842 ha of forest land of the Parsa coal block in the Hasdeo Arand forests which was given Stage I forest clearance by the Forest Advisory Committee; more than 465 ha of forest land for a cement plant in the Zari Jamni area of Yavatmal District in Maharashtra which is a tiger habitat and diversion of about 88 ha of forest land requiring the cutting down of more than 1,700 trees in the Pench-Melghat corridor for a grenade manufacturing unit.

This is apart from the total area under the Forest Development Corporations, converting local and biologically diverse forests to monoculture plantations, which amounts to over 1.28 million ha in 11 states. This data clearly shows that industry and infrastructure are a bigger threat to forests than the recognition of rights.

If anything, as more and more forest-dwelling gram sabhas are claiming forest rights under the FRA, more examples of sustainable forest management and conservation are emerging. It is these gram sabhas that are resisting extractive industries' destruction of forests and FDCs monoculture plantation.

By creating 'production forests' (Chapter IV A, Sec 34 C)) and doing away with gram sabha consent by declaring more and more area for Reserved and Protected Forests (Chapter IV Sec 29) and exterminating rights, the IFA is clearing the way for many more forest diversion projects. It is apparent that forests need to be rescued from the forest department as much as from encroachments and the industry for the long-term survival of wildlife.

Other traditional forest dwellers, pastoralists and particularly vulnerable tribal groups

Section 12 of the IFA leaves the rights of grazing at the mercy of the forest officials. The Divisional Forest Officer (DFO) makes the final call on what the 'carrying capacity' of the forest is going to be.

This will have adverse effects on the pastoral communities in India who are already facing several challenges in accessing and even having their rights recognised for pasture and grazing.

The Van Gujjars in Uttarakhand have been facing continuous harassment from the state, deeming them as "encroachers" even though they have been constantly challenging their rightful claim to pasture under the FRA. Similarly, the Raika have challenged forest officials over their rights to graze around Kumbhalgarh Wildlife Sanctuary in Rajasthan through provisions under FRA and they are yet to receive any respite from their struggle.

The state control over forests refuses to recognise nomadic communities as well as pastoralists who have been dependent on the forests for centuries. Exclusionary conservation policies and resource politics in the present have further marginalised the community. The failure of the state, the judiciary and the rule of law, especially the present IFA amendments, would only makes these communities privy to the continued violence meted out by the state.

Section 26(3) gives the DFO or a ranger, or sub-inspector or a tehsildar, the power to suspend rights to pasture and Section 26(4) to evict anyone who has been responsible for the same.

In the last three years, in Uttrakhand, there are evidences of Van Gujjar houses being razed to ground by forest officials and women mercilessly beaten up when they resisted and said that the land has been claimed under the FRA. Due to lack of implementation in the state and absolutely no recognition of any rights so far, the community is still seen as 'encroachers' and the amendment would further legitimise the violence that the forest department has been enforcing on the forest-dependent minorities.

Section 70 and 71 levies offences of grazing under the Cattle-trespass Act, 1871, which allows the forest officer to seize any cattle that may have been grazing in these regions and also impose fines that 'it may deem fit', thereby giving them furthermore incentive to harass and exploit the pastoral communities, who despite making claims under FRA, are facing it on an everyday basis.

In Section 34(D), the draft lays down the procedure for the central government to restrict and prohibit the practice of shifting cultivation in all forest land.

Within reserved forests, shifting cultivation is to be deemed as a "privilege" to control, restrict and abolish by the state government (Sec 10 (5)). This will have an adverse bearing on several Particularly Vulnerable Tribal communities across India who practice shifting cultivation and are not linked to the organised sector.

Jhum fields are not only an important food basket for these communities, but are also an integral part of the cultural and religious worldviews of these communities. In some areas like Odisha, these plots have already been taken up forcibly for commercial forestry purposes. This colonial and myopic view of shifting cultivation, which led to the marginalisation of several communities like the Baiga of Madhya Pradesh and Chhattisgarh, will further push these communities into oblivion.

Gram sabhas and persons dependent on and collecting Non-Timber Forest Produce

The sections mentioned for pastoralists are the same which apply to the use and collection of forest produce. Forest dwellers are completely at the mercy of the forest settlement officer as per Section 11, 12 and 16 of the amendments of the IFA. Section 12 hands over the power of the DFO or SO to decide the rights of access based on the 'carrying capacity' of the forest.

Villages in Maharashtra and Odisha have been sustainably using and managing the collection of NTFPs and there are successful cases where village gram sabhas (with active participation and leadership of women) in Maharashtra have managed to collect and trade NTFP, conserve and protect their forests, and resist mining proposals. The recognition of CFRs in these regions ensured autonomy over the NTFPs, leading to sustained economic growth which strengthens the democratic and autonomous roles of gram sabhas in natural resource politics.

In communities like these who are opposing mining, IFA just provides one more tool for arm twisting them into submission by threatening to take their rights away because a forest officer feels that extraction is not sustainable.

Additionally, Section 41-44 retains the control of transit of NTFPs in the hands of the state or the central government and makes them non-liable for any damages in the transit process. The central and state government are responsible for creating rules for transit which, by experiences narrated by gram sabhas, are one of the biggest challenges that they face today with the management and collection of NTFPs, specifically in the case of bamboo and tendu/kendu leaves. In the states of Maharashtra and Odisha, gram sabhas that have their CFRs recognized, now have the right to issue transit permit after a lot of struggle and conflict with the forest department. Most gram sabhas still face stiff resistance from the forest department and this creates a huge impediment in the economic security of the village which will only be further exacerbated by provisions under these amendments.

Adivasi communities whose rights are being curbed under the axiom of Maoism

The proposed amendments give legitimacy to the state forest department to mete out violence that has been faced by forest-dwelling communities in states which have witnessed increased militarisation in the name of Maoism.

Section 66 allows the forest, police or revenue officer the right to bear arms and injure a person whom they charge with forest offences. In the past one decade, we have seen increased militarisation in regions with rich mineral, forest and natural resources of central India, Odisha, Andhra Pradesh, Tamil Nadu and Kerala and more often than not, mobilisations by local communities are curbed by charging local leaders as "Maoist sympathisers", incidences of violence against women, wrongful detention and arrests as well as wrongful forest offences charges, especially in regions where there is Maoist presence.

The amendments will only strengthen the systematic violence on the communities, making it easier for forest diversions and exclusive conservation, further marginalising the forest-dwellers.

Conclusion

A clause wise analysis of this 123-page document is difficult, given its length, unclear language and confusing messages. A clause-wise critique at this stage in our opinion is also unnecessary as the current draft needs to be completely withdrawn in its current form. If the aim is to create any meaningful dialogue around the IFA then a completely new draft will need to be proposed and widely debated, including at the gram sabha levels where forest dwelling communities reside.

Using the current draft for any discussion and consultation would be dangerous as in addition to a few clauses mentioned in this text, there are many 'lost in the text and easy to miss' clauses and sub clauses, which could have huge future implications for the forests, biodiversity and forest dwellers of India.

(Neema Pathak Broom, Shruti Ajit and Meenal Tatpati are members of Kalpavriksh, Pune)

Glimpse of MoEFCC's Plans To Amend the Forest Act – Based on Who Gets To Edit It

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Ritwick Dutta

India's Ministry of Environment, Forests and Climate Change issued a 'Call for Expression of Interest' (EOI) on June 22, 2021, from consultancy organisations. The ministry would then shortlist some among them to prepare 'draft comprehensive amendments' to the Indian Forest Act 1927.

The last date for submission was July 2, and the bids were to be awarded on July 7. We don't know whether the ministry has awarded the contract to anyone yet. But irrespective of this, the EOI is of great public concern. The reason is not difficult to locate: the EOI to draft amendments to the Indian Forest Act raises fundamental questions about federalism, legislative drafting, due process and administrative propriety.

The first question is whether it is correct for the Central government to outsource the task of drafting a law to private consultancies. What are the officers of the government doing if legislative drafting has to be outsourced? The EOI creates the impression that the government believes the role of public servants is limited to commenting on drafts prepared by private entities.

Next, forests are in the concurrent list by virtue of the 42nd amendment to the Indian Constitution. Both states and the Centre have the right to enact law on the subject – so long as a state-level law does not conflict with a Central law. In exercise of the powers under the concurrent list (List III), the Parliament passed the Forest (Conservation) Act 1980. Here, the Centre assumed only one specific role with respect to forests: conservation of forest land. The law specifically provided that no forest land could be used for 'non-forest' purposes without the "prior approval of the Central Government". The Forest (Conservation) Act also prohibited the dereservation of reserve forests without prior approval from the Centre.

In substance, the law meant that the Centre could assume only a limited role with respect to India's forests. The responsibilities de facto rested with the states. This is why many states don't follow the Indian Forest Act 1927 but have enacted state-specific Forest Acts. Thus we have the Andhra Pradesh Forest Act 1967, the Karnataka Forest Act 1963, the Assam Forest Regulation 1891, etc.

The idea here is that state legislatures are best equipped to frame laws that bear local realities in mind. However, in case they wish to divert the forest land for non-forest use (even in an ancillary sense), they will need the Centre's approval first. States can also divert forest land for small community projects without asking the Centre. So as such, India's states have considerable decision-making powers vis-à-vis India's forests.

Note that the Centre can't divert forest land either unless a state government has submitted a proposal specifically asking for it.

So, the proposed amendments describe an attempt by the Centre to amend a law that is within the domain of the states. And if effected, they will repeal the Forest Acts of all states that don't follow the Indian Forest Act 1927.

Ease of doing business

According to the EOI, the objective of the amendment exercise is the following:

The exercise is focusing on decriminalising relatively minor violations of law, expeditious resolution through compounding relatively small offences, reducing compliance burden on citizens, rationalisation of penalties, preventing harassment of citizens, de-clogging criminal justice system, expanding and improving of the use efficiently of resources, and promoting people participation and ease of doing business.

One of the key objectives here, "reducing compliance burden on citizens", simply means lowering forest-land users – including mining companies and hydro power projects – need to submit compliance reports. "Expanding and improving" the efficient use of resources refers to opening up forest land for various uses, leading to more deforestation. Of course, the principal objective, given this government's track record, has been saved for the last: "ease of doing business".

Climate change, arresting biodiversity loss, conserving forests and protecting the rights of forest-dwellers don't feature in the call.

This (mis)alignment of the environment ministry's priorities is also reflected in who can 'express interest' in preparing the draft amendments. To quote verbatim:

- A registered legal firm/company/proprietorship firm/institution/joint venture/consortium with registered offices in India
- It shall have prepared at least (a) one judicial document and/or brief on behalf of Government, parastatal or public sector organisations; (b) one advice or appearance in the Courts for or on behalf of Government, parastatal or public sector organisations; and
- It shall have average annual turnover of at least Rs 1 (one) core in each of the last three preceding financial years
- It shall have handled at least one assignment of the value of Rs 50 lakh or above during the last three preceding financial years.

These criteria are, on the face of it, arbitrary and discriminatory. They proceed on the presumption that only a firm that checks these boxes would be best placed to understand the intricacies of the Indian Forest Act 1927. The criteria exclude organisations that have represented environmental groups and forest-dwelling communities, and work with forest-dependent communities to protect forests and wildlife. How many community-based groups have an annual turnover of at least Rs 1 crore or will have undertaken projects worth Rs 50 lakh?

The Centre needs to seriously review its policy of engaging private organisations, whether self-proclaimed think-tanks, law firms or even NGOs, when drafting laws.

To begin with, it needs to withdraw the EOI immediately. Drafting laws is a sovereign function of the state, and can't be equated to constructing roads, buildings or airports, which can be contracted to private entities based on their financial capabilities. But thanks to the environment ministry's choice of criteria, those who will be most impacted by changes in the law will have no opportunity to argue for their interests in a matter that concerns their lives, identities and livelihoods.

Ritwick Dutta is an environmental lawyer.

Proposed changes to Forest Conservation Act as larceny of village resources

This article was first published by Down to Earth on 12th October, 2021 and has been reprinted here with permission.

Proposed amendments to the Forest Conservation Act, 1980, are a blunder arising out of ignorance towards constitutionally and legally-bound procedures and limitations

By Satyam Shrivastava

The Union Ministry of Environment, Forest and ClimateChange (MoEF&CC) released a consultation paper October 2, 2021 on the proposed amendments in ForestConservation Act, with reference to the amendments made in 1988 in this Act.

It is a very conscious larceny (theft of personal property) ofvillage resources. The MoEF&CC has also invited comments and feedback on this paper within a month of its release. The Narendra Modi-led Union government is making every effort towards providing 'ease of doing business' to its cronies. This latest move needs to be seen in the same context.

It is effectively reiterating through these proposed amendments that this step is aimed at providing exemptions to businesses in the garb of 'development'. The paper proposes 14 amendments — each a doublespeak. On the one hand, the document suggests shrinking the scope of the Act in the context of business and development. Simultaneously, it talks of expanding the scope of the Act when it comes to community ownership over forest resources.

It offers full relaxation to businesses like safaris, zoos, linear projects, mining and other non-forest use on forest land. At the same time, it restricts and tightens the scope for community access and centuries-old traditional ownership by local communities.It is interesting to note that on July 26, 2021 the MoEF&CC, in a written reply, had said there was no 'specific definition' of 'forest'. But just 68 days later, itplanned to amend the Forest Conservation Act, 1980. It planned the amendment on the basis of the very definition provided by the Supreme Court in the famous Godavarman vs Union of India case, also known as 'Forest Case 202/1995', dated December 12, 1996.

This date is a judicial turning point in the discourse on forest and forest land in India. The apex court had then ordered that the definition of 'forest' was to simply refer to its conventional meaning in the future.

The court noted that the place where trees were present, would be considered as a 'forest' and the said land would be considered as 'forest land'. This would be apart from other definitions such as those recorded and notified by the Indian Forest Act, 1927 and in any government record. Land being controlled and managed by the forest department in any state and Union Territory (UT), would also be included.

The scope of the Forest Conservation Act, 1980 would expand automatically, once the dictionary meaning was adopted by the forest department. The states and UTs had welcomed this order and had adopted and implemented it without any delay.

Devil in the details

The Forest Conservation Act was initially an Ordinance (through the 42nd amendment of the Constitution), later enacted into a law by Parliament. It has just six sections. It addresses concerns regarding increasing deforestation and makes provisions for strict guidelines to prevent any harm to the forest cover due to human activity. The Ordinance also made the prior approval of the Government of India necessary for de-reservation of reserved forests and for the use of forest land for non-forest purposes. The Ordinance also provided for the constitution of an advisory committee to advise the Centre about the grant of such approval.

Anil Garg, an advocate and legal researcher based in Betul, Madhya Pradesh, has criticised and raised doubts over the objectives of the latest consulatation paper.He explained that on one hand, it attempted to stop deforestation and on the other, it allowed the non-forest use of forest land. Even legalising the de-reservation of reserved forest would require a compulsory approval, under the amendments as noted in the document.

In practice, anyone can take forest land for non-forest use with due approval from the Centre and due payment of compensatory levy. This is true even for reserve forests notified under the Indian Forest Act, 1927. The new document also discourages local communities to take care of their forests as part of their traditional practice and makes them offenders if they carry out any activity in the forest.

If we look at the offences and related penal provisions, the consultation paper seems soft in comparison to the Indian Forest Act, 1927.That Act provides for at least a year's imprisonment for forest offences, but the new document shortens it to only 15 days. It is strange to see this leniency towards offences in a document that is specifically aimed at conservation.

It treats an industrialist and a local tribal equally. If a village wants to develop some infrastructure on its forest land and an industrialist wants to establish an industrial plant or mine the land, both have to seek approval for non-forest use of forest land and follow the same procedure.

Anil Garg notes that the Union Government, through such a move, wants to play a greater role in the scheme of things. It should also be noted here that under the 42nd Constitutional Amendment, forests were included in the Concurrent List, as a subject under Schedule VII of the Constitution. Forests were previously a state subject.

If an amendment to the Act is really needed, it would be better to first recognise the 'symbiotic relationships' and then rationalise the approach for development and afforestation. This blanket order has created a lot of confusion and dispute in forest villages among forest dwellers and the forest department, by ignoring contextual factors. It has led to confrontations almost everywhere, especially between local communities and forest departments.

The consultation paper has brought community-owned forest resources within its purview. This has again led to conflict and made forest dwellers' life difficult. The pre-existing rural infrastructure was compromised and no new infrastructure could replace it. It has also stalled many pro-people development initiatives and deprived people of basic civil amenities in lakhs of villages situated inside or around the forests. A rapid increase in forest related offences has been noticed in the last 40 years.

Perspectives on amendments

Kanchi Kohli, a well-known environmentalist, said: A prominent compulsion of these amendments is reflects in their intention to increase the forest cover rapidly by following the Biodiversity Framework, 2020. This is an attempt to open forest land for funded plantations in the name of climate change and attracting funding for carbon storage.

She added: "This is an attempt to sanction pending and newline projects like railways and highways". CR Bijoy from the Campaign for Survival and Dignity, a national forum for forest and tribal dwellers, raised questions about the intentions of the MoEF&CC. "The proposed amendments completely ignore the existence of the Forest Rights Act, 2006. This is deliberate and condemnable. This indicates an anti-people intent, particularly against forest dwellers."

The MoEF&CC in 2009 had itself assessed that the Forest Rights Act, 2006, would require the handing over 40 million hectares to village-level institutions. Therefore, the most important amendment should have been to incorporate the provisions of the Forest Rights Act, 1980 into the Forest Conservation Act, 1980, said Bijoy. "The Gram Sabhas under Section 3(1)(i), along with Section 5 of the Forest Rights Act,2006 are the primary authority to decide whether anypart of the forest should be diverted or used for any purposes, whether non-forestry or forestry. This should have been included," Bijoy said.

Advocate Anil Garg raised a few questions: "If implemented, can these proposed amendments overtake / supersede the amendments done in the Constitution of India earlier as the 73rd 74th Amendments and the resulting provisions of Schedule XI?"

He added: Can these proposed amendments supersede various existing legislations passed by various state assemblies? For example, several laws came into force in the 1950s. These included the very first amendments to the Constitution in 1951, the Madhya Pradesh Land Revenue Code of 1954, the re-introduced Madhya Pradesh Land Revenue Code of 1959, etc. These had strengthened the rights of local communities by taking away power from erstwhile rulers.

"Can these amendments take revenue land within their purview although it is categorically a State subject in Schedule VII of the Constitution?" Garg asked.

He noted: Can any land de-notified under earlier orders be re-notified under the FCA, 1980 through these proposed amendments? For example, on December 11, 2014, a written reply to Question no. 1080 in the Madhya Pradesh Assembly submitted that the landmass constituted as chhote jhaad and bade jhad ke jungle (jungles made up of small and large trees) were de-notified. These had been notified earlier under Section 34A of the Indian Forest Act, 1927.

He further asked: "Can the landmass earmarked for the community's Easement Rights as mentioned in various records of the state governments and UTs be brought under the purview of FCA, 1980 through these amendments?" Lastly, these proposed amendments seem to give prominence to the Supreme Court order dated December 12, 1996 regarding the definition of a forest.Why, then, are they not acknowledging another order issued by the same Supreme Court on August 1, 2003 regarding the Chhote Bade Jhad ke Jungle on the lines of the interlocutory application (IA) filed by Madhya Pradesh?

Such land was exempted from the purview of FCA, 1980 through the IA. Can it be included again under the FCA, 1980 through these amendments? It is obvious that without proper and intensive consultation with stakeholders, placing such amendments to please businesses constitutes a blunder arising out of ignorance towards constitutionally and legally-bound procedures and limitations.

This proposal put forward by the MoEF&CC is certainly one of the best examples to understand that.

Satyam Shrivastava is Co-Director of Society for Rural Urban & Tribal Initiative (SRUTI) Views expressed are the author's own and don't necessarily reflect those of Down To Earth

NDA 2.0: What it Means for India's Environment?

This article was first published by Mongabay on 24th May, 2019 and has been reprinted here with permission.

By Mayank Aggarwal

- Since 2014, the National Democratic Alliance government has carried out a series of changes in India's environmental laws aiming to simplify them and promote ease of business. Many of such changes were marred by controversies as well.
- As the NDA government returns to power with a mandate bigger than 2014, activists fear dilutions of the green laws and rules against the interests of the tribal people and forest dwellers would continue unabated.
- The union environment already has, on its table, an amendment in the Indian Forest Act 1927, revision of the national forest policy and the new set of rules for the environment clearance regime.
- Farmer leaders hope that the central government would also take steps to solve the woes of the agriculture sector.

With the renewed mandate that the National Democratic Alliance (NDA) government has received, there is a likelihood of it continuing itsenvironmental policies, focusing on the ease of business and simplification of green laws.The new government already has some major policy decisions on the table waiting for approval. These changes, some of which were proposed in the last 100 days, are related to the amendments in the Indian Forest Act (IFA) 1927, an overhaul of the Environment Impact Assessment notification 2006 and the new National Forest Policy.

In the last five years, the government, led by Prime Minister Narendra Modi, introduced a series of changes in the country's environmental and forest laws which civil society groups termed as a dilution of the rules, attack on tribal rights and opening up of forest sector for private players. In March 2019, the central government's Ministry of Environment, Forest and Climate Change (MoEFCC) had proposed amendments to the over 90-year-old Indian Forest Act 1927 (IFA) and sent a letter to all states seeking their opinion. The proposed amendments recommended more powers to the forest authorities, encouraged large scale afforestation for carbon sequestration including involvement of private players and enhancement in penalties for protection of the forests.

Prime Minister Narendra Modi at the Bharatiya Janata Party's headquarters in New Delhi after the party's victory in India's parliamentary elections. Photo by Mayank Aggarwal/Mongabay.

The civil society groups have already announced their opposition to these amendments stating that they will lead to further injustice to the forest dwellers. The groups have promised to take the matter to court in case the government goes ahead with the amendments.

Besides this, the central government has also been looking at updating the national forest policy, the draft of which has already been made public but is yet to be finalised. The draft of the forest policy had also come under criticism for encouraging the participation of the private sector for undertaking afforestation and reforestation activities in degraded forest areas. But that was not a stand-alone proposal as the central government in December 2018 came out with a report that talked about leasing of wasteland to the corporate sector for re-greening it.

Subsequently, in April 2019, the MoEFCC turned its attention to another major environmental regulation – the Environment Impact Assessment notification 2006 (EIA) – which governs the environment clearance regime across the country.

The ministry has sent a zero draft of the proposed changes to replace the 2006 EIA notification with the 2019 version to all states, seeking their opinion. However, the point of contention is the changes proposed in the zero draft notification. It contains changes that environment ministry has already tried to bring in the 2006 notification in the last two or three years but failed after activists approached legal forums.

"If you go by what has happened in the last five years there is nothing to be confident about. In the last five years, not one concrete action was taken to protect the environment. One can only hope that in the next five years there will at least be some positive action to deal with environmental crisis," environmental lawyer Ritwick Dutta told Mongabay-India.

"I think the government should have a rethink on it, keeping in mind the fact that proposed changes in both the laws – IFA Act 1927 and EIA notification – were circulated when elections were going on. One is for the environment while another one deals with tribal people and forest dwellers. What is left after this? The government should not go ahead with these two damaging changes," Dutta said.

Modi government's track record doesn't inspire much confidence

Failure to ensure proper implementation of the Forest Rights Act 2006, during its tenure, was another issue for which Modi government came under heavy criticism. A prominent example of the government's apathy towards FRA was the recent case in the Supreme Court where eviction of millions of tribal and forest dwellers was ordered. However, after public pressure, the central government did approach the court for a review and the decision was stayed.

But these are not the only changes that the central government has brought in the environmental sector in the last five years. It carried out a series of changes in India's environmental laws to simplify them and make it easier for the industry to get green clearances – a promise made by Narendra Modi before he became the prime minister in 2014.

For instance, the government launched an online system for the application of green clearances for developmental projects, introduced standard guidelines for conducting environmental impact studies of projects and launched standard conditions for environment clearances to speed up the environment clearance processes. Due to these decisions, the average time for processing green clearances has already come down to 180 days from 580 days. The government's target is to bring it under 100 days.

Earlier this year, the government also replaced the Coastal Regulation Zone notification 2011 with CRZ 2018 which means opening up of the country's 7,500-kilometres coastline to heavy infrastructure development, benefitting the real estate and tourism sector, while threatening sensitive coastal ecology and interests of the fishermen. The process for this change had started as early as June 2014.

However, the government, after years of intense pressure from courts as well as the public, recently came outwith a national plan to tackle air pollution across India. The issue had also become a major topic for most of the political parties in the 2019 elections.

A deserted headquarter of Congress in New Delhi after their poor showing in 2019 elections. Photo by Mayank

"The NDA government's period (last five years) has seen a great deal of dilution and undercutting of the country's environmental and forest rights regulations. Some of the changes they wanted were halted by the opposition, but may come up again now," said Shankar Gopalakrishnan, who is the secretary of the Campaign for Survival and Dignity, a national platform of forest dwellers groups.

"If the changes that the first NDA proposed, especially those over the last year, are brought into force, we will see a major erosion of both environmental protection and the rights of tribals people and forest dwellers. But we can also expect that, as in 2014-15, these efforts will be contested," Gopalakrishnan told Mongabay-India.

India is already among the bottom five countries on the Environmental Performance Index 2018, ranking 177 among 180 countries. In 2016, India was ranked 141. Now, the green policies of the NDA government, during its second tenure, will decide where India will rank in the coming years.

Ritwick Dutta further said that "given the fact that in the last five years India was at the bottom in terms of the environmental index and nothing concrete was done for environment ... one can hope that now something will be done for the environment."

Will agriculture stress be a focus area?

In December 2018, several months before the 2019 Lok Sabha elections, the importance of rural stress and farmers issues during the election discourse was felt. BJP lost power to the Congress in Chhattisgarh, Rajasthan and Madhya Pradesh and agriculture was termed as one of the major issues behind those results.

As a result, in the budget in February, just ahead of the 2019 elections, the central government announced a series of measures focused at easing the problems in the agricultural sector. In the later months, the manifestos released by nearly all the major political parties focused on agriculture.

Farmer leaders hope agriculture would remain a focus area for the central government. Photo by Mayank Aggarwal/Mongabay.

Even after the results of the 2019 elections, the agriculture stress may not see an end due to issues like farmers not getting the right price for their produce, farm loans and poor rainfall impacting crops.

"The results of the 2019 elections are a proof that election in India can be won even after ignoring the interests of farmers and labourers. I am saying this because these issues were not at all a part of the discussion during this election. The BJP-led government only fought on the issues of Hindutva and nationalism while the opposition could not properly raise the issue of farmers problems. The win does not mean that the problems of farmers are resolved. Even the promises made to farmers by BJP in 2014 are far from fulfilled," Vijay Jawandhiya of Maharashtra Shetkari Sangathan told Mongabay-India.

"Now what remains to be seen is what steps Modiji's government would take for the farmers in the next five years as they had promised to double the income of farmers by 2022. Will it lead to more jobs for the labourers or will the farmers get a price for their produce? Modiji should answer these questions in the next five years and opposition parties should consistently raise these questions," he said.

Biodiversity Act Amendments Shift Focus From Conservation to Commercial Exploitation: Experts

This article was first published by India Spend on February 10th, 2022 and has been reprinted here with permission.

The proposed amendment will reduce the focus on conservation and sustainable use of biodiversity and give more importance to use of and access to bio-resources, particularly for commercial purposes, say experts

By Flavia Lopes

Mumbai: The environment ministry's proposed amendments to the Biological Diversity Act, 2002 could facilitate commercialisation of India's biological resources instead of focusing on their conservation, say environmental activists, and might undermine the traditional rights andknowledge of people dependent on these resources.

In December 2021, the Union Ministry of Environment, Forest and Climate Change (MoEF&CC) proposed comprehensive amendments to the BiologicalDiversity Act, 2002by way of the Biological Diversity Act (Amendment) Bill 2021. The amendment seeks to dilute the institutional oversight structure put in place by the original Act for use and access to bioresources. The Biological Diversity Act, 2002 was promulgated to give effect to the United Nations Convention on Biological Diversity (CBD), 1992, which aims for sustainable, fair and equitable sharing of benefits arising out of the utilisation of biological resources and associated traditional knowledge. The 2021 amendment seeks to substitute terms like "biological diversity" with "biological resources" and "holders of knowledge" with "holders of associated traditional knowledge".

"The changes are brazen and they are mincing no words about being open in what they are doing," said Kavitha Kuruganti, the founder convener of ASHA-Kisan Swaraj, a pan-India alliance of organisations working towards environmental sustainability, social equity and economic viability in Indian farming. An analysisof the amendment by ASHA-Kisan Swaraj called the substitutions "a dangerous change".

The analysis states that while "biological diversity" connotes a complex web of natural ecosystems, "biological resources", on the other hand, connotes a reductionist, linear understanding of biodiversity, that is meant for exploitation and profiteering. There is a fear of how codified knowledge will be interpreted in implementation and in a court of law when challenged," Kuruganti said.

"The amendment bill seems less about conservation of biodiversity and recognition of rights of communities which are custodians of this biodiversity, which is the primary objective of the Act, and more about how to make biological resources more accessible, particularly for commercial purposes, like to corporations," Neema Pathak Broome, coordinator of the Conservation and Livelihoods programme at Kalpavriksh, a Pune-based, pan-India environmental action group, told IndiaSpend.

"The amendment came as a shock because there has been, occasionally or often even, a sustained campaign that demanded for changes in the Biodiversity Act of 2002 to make it more in line with the Nagoya protocol(an international agreement on sharing of benefits from access to biological resources, of which India is a signatory) and ensuring that there would be better equity at the local level in terms of sharing of benefits," said Pathak Broome. "But what came was just the opposite of it--that sought to make the2002 Act even less equitable and that reduced the power of bio-diversity committees."

The Bill is currently being referred to a joint parliamentary committeefor review. The latestsittingof the committee on February 8, 2022, took inputs from representatives of the biodiversity boards of eight states.

IndiaSpend has asked the MoEF&CC for its comments on the claims by activists and experts that the amendment will enhance commercialisation of India's biodiversity. We will update the story when we receive their response.

Dilution of Institutional Structures

The 2002 Act called for a three-tier structureconsisting of a National Biodiversity Authority (NBA) at the national level, State Biodiversity Boards state level and Biodiversity Management Committees (BMCs) atlocal body levels. The primary responsibilityof the BMCs is to document the local biodiversity and associated knowledge in the form of a People'sBiodiversity Register.

But the amendment bill seeks to comprehensively dilute institutional structures such as BMCs and central/state biodiversity committees and give primacy to the NBA, say activists. The amendment statesthat the "Biodiversity Management Committee represented by the National Biodiversity Authority" will determine fair and equitable benefit sharing.

A statementissued by the Coalition for Environmental Justice in India, consisting of 34 civil society organisations, activists and experts, said that such dilution will compromise the oversight of the BMCs. "The benefit of this dilution will accrue to private corporations, including [multi-national corporations], and especially those involved in AYUSH[Ayurveda, Yoga, Naturopathy, Unani, Siddha, Sowa-Rigpa and Homoeopathy] industries," the statement read.

Fears that new provisions will engender biopiracy

The original Act required prior approvalfrom the NBA to access biological resources for certain categories of people/ corporate bodies, which included people who are not citizens of India and bodies which are not registered or incorporated in India, essentially any kind of "foreign presence", said Kurugunti. But the amendment restricts this to "foreign controlledcompany" that is incorporated outside India, which means that no company which is incorporated or registered in India is required to take the approval of the National Biodiversity Authority, she added.

"They have changed the definitions in such a way that through alliances with Indian partners, now foreign organisations can get access to the resources," said Pathak Broome. "These provisions are likely to create greater possibilities for biopiracy. These were already weak [and have] been weakened even further.

Biopiracyoccurs when organisations or researchers use indigenousbiological resources for commercial purposes, often based on people's traditional knowledge, without permission or official sanction. This leads toexploitation of the cultures the bioresources are drawn from. Examples are attempts by foreign firms to obtain patents on products long in use in India, such as neem, Basmati rice, turmeric and Darjeeling tea.

"The 2002 Act had a gatekeeping function when applying for Intellectual Property Rights, especially patents," said Kuruganti. "But, under the amendment, the prior approval of the NBA is not required for Indian companies with foreign stakeholders. So, in the case of biopiracy, it becomes a post facto struggle to establish that biopiracy occurred, and if piracy issues crop up."

Concerns over inadequate consultation

Experts have also pointed out concerns over how the new amendment was cleared without a consultative process. In the statement of objects andreasons, the ministry says that the amendment came as a result of concerns from stakeholders, including from the Indian system of medicine, seed,industry and research sectors "urging to simplify, streamline and reduce compliance burden to encourage a conducive environment for collaborative research and investments and simplify patent process (...)."

An initial assessmentof the amendment by the Legal Initiative for Forestand Environmentin December 2021 noted that the Bill was introduced by the MoEF&CC without seeking the public comments required under the Pre legislative Consultative Policy, 2014.

"The amendments were basically driven by inputs coming from Ayush industry and the seed industry," added Kuruganti. "It's an example of hasty decisions that fail to take into account the deliberative democratic process that needs to be followed, such as consulting the people who will be affected by the piece of legislation. All the pre-bill processes and the various committees that were set up, mainly consulted AYUSH and seed industry representatives."

The amendment also seeks to take the Biological Diversity Act, 2002 out ofthe prevailing environmental jurisprudence governed under the umbrellalegislation Environment Protection Act, 1986, per a statement by theCoalition for Environmental Justice in India. Under the 2002 Act, all offencesagainst the environment and associated rights are considered criminaloffences. By way of the new bill, the ministry proposes to reduce suchviolations of the biodiversity act to mere civil offences.

Flavia lopes is an environment and climate change reporter.

Section 4- Protection of fish production but not the fish: privatisation of fisheries policies in India

Coastal Regulation Zone Notification: What development are we clearing our coasts for

This article was first published by Down to earth on February 4th, 2019 and has been reprinted here with permission.

The Coastal Regulation Zone Notification, 2018, has diluted India's only protection system for the fragile ecology and opened it up to realtors and large-scale development projects

By Ishan Kukreti

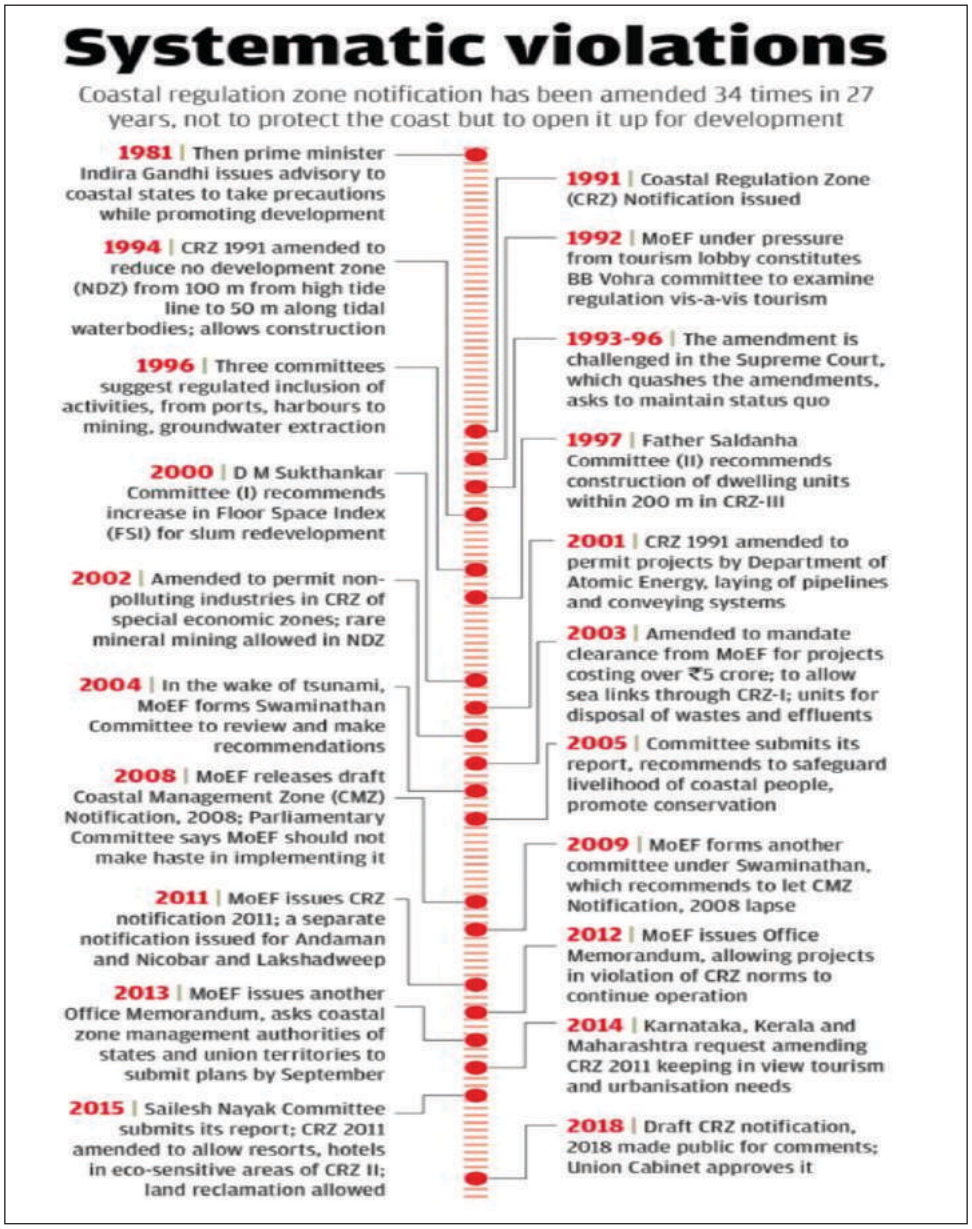
The coast is clear

As the year 2018 was drawing to a close, the Union Cabinet quietly cleared the Coastal Regulation Zone (CRZ) Notification, highly debated upon for its impact on coastal ecology. Before it was made public, swarms of real estate agents had started visiting the shanties of South Mumbai where the country's commercial capital tapers into the Arabian Sea. Valli Sengena, a rag picker from Sundar Nagari is highly sought after by the developers and their agents. Every day, as they visit the colony to cajole hundreds of fisherfolk, cleaners and domestic helps to obtain their written consent for acquiring the land, Sengena helps them make a deal. "I'll sell my jhuggi only when I get a lucrative offer. It is located bang on the coast and offers a beautiful view of the Gateway of India," Sengena says.

A few kilometres away, decades-old housing societies have begun holding urgent general body meetings to redevelop the property for more floor area. At places, developers are also eyeing the mangrove forests to set up tourism facilities. "The notification allows taller buildings in developed areas and construction along the shoreline," explains reality consultant Tarun Chandiramani. But such activities will spell doom for a region like South Mumbai, which is vulnerable to erosion, cyclones and storms. Denser construction will further heighten its vulnerability.

The government statement is clear: "The proposed CRZ notification 2018 will lead to enhanced activities in the coastal regions thereby promoting economic growth while also respecting the conservation principles of coastal regions. It will not only result in significant employment generation but also a better life and add value to the economy of India." But environmentalists say the notification favours limited interests. By opening up 6,068 kilometres (km) mainland coastline for more commercial activities, it has put at risk the ecology and communities vulnerable to extreme weather events and sea level rise.

Regularising population and commercial pressure on the active play zone of the sea waves was at the heart of the notification, when it was first issued in 1991 under the Environmental Protection Act, 1986. It demarcated an area up to 500 metres from the high tide line (HTL) all along the coast as CRZ, classified it into four categories depending on their land use or sensitivity and regulated developmental activities in the areas. In the aftermath of the 2004 tsunami, which killed 10,000 people along the eastern coast, CRZ Notification 2011 was brought in to beef up coastal zone. But over the period, CRZ has been more violated than protected.



In fact, over the last 27 years, the notification has been iterated twice and modified 34 times, making it the most amended law in the history of India.

"The objective of the latest notification is fundamentally different from the earlier ones," says Kanchi Kohli of the Centre for Policy Research, a Delhi-based think-tank.

Diluted by design

Hotels, resorts and temporary tourism facilities can now be built closer to the shore; mangroves to make way for ports, harbours

Coastal Regulation Zone Notification, 2011

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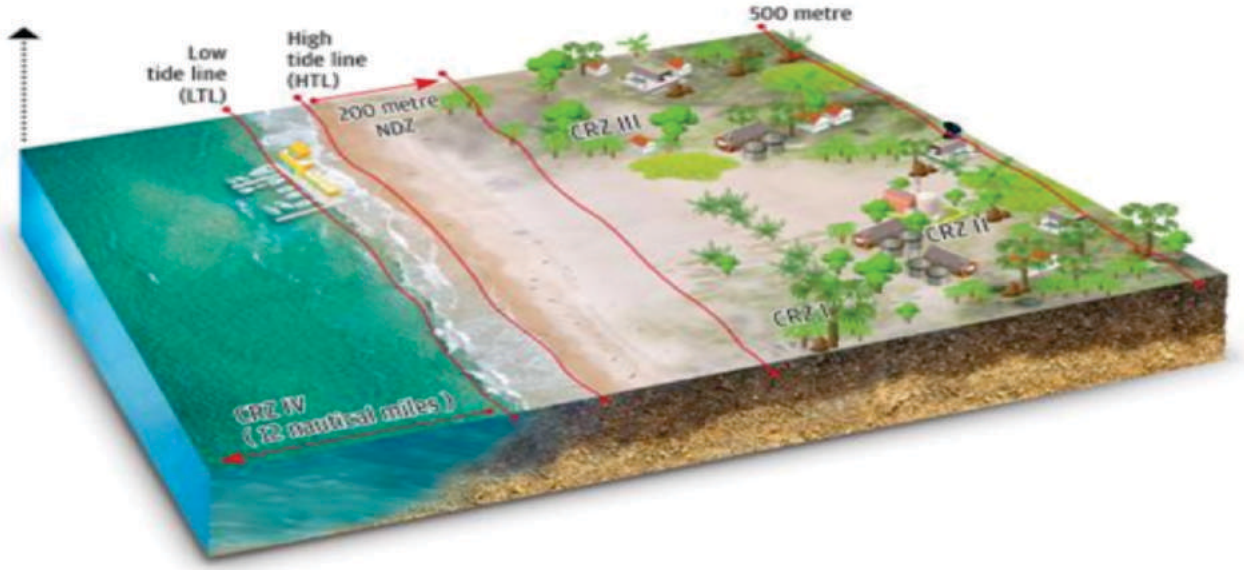
CRZ I: Eco-sensitive and intertidal areas
CRZ II: Areas which have been developed up to or close to the shore
CRZ III: Areas that are relatively undisturbed and do not fall under CRZ-I or CRZ-II
CRZ IV: Area between Low Tide Line and 12 nautical miles into the sea/ tidal influenced waterbodies
NDZ: No development zone that extends up to 200 m from High Tide Line towards land in CRZ-III area



Coastal Regulation Zone Notification, 2018

GRAPHICS: RAJ KUMAR SINGH / CSE

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CRZ I A: Eco-sensitive areas
CRZ I B: Inter-tidal areas
CRZ II: Areas which have been developed up to or close to the shore
CRZ III A: CRZ-III areas, where the population density is more than 2,161 sq km as per 2011 Census
CRZ III B: Areas with population density of less than 2,161 per sq km, as per 2011 Census
CRZ IV A: 12 nautical miles from the Low Tide Line towards the sea
CRZ IV B: Tidal influenced waterbodies
NDZ: 50 metres from High Tide Line in CRZ III A areas, 200 m from HTL in CRZ-III B areas

For instance, as per the 2011 notification CRZ-1 includes the most ecologically sensitive areas like mangroves, coral reefs and sand dunes, and intertidal zones. It was off-limits for tourism activities and infrastructure development, except for defence, strategic and rare public utility projects. The latest notification further categorises CRZ-1. It allows "eco-tourism activities such as mangrove walks, tree huts, nature trails, etc" in eco-sensitive areas, demarcated as CRZ-IA. Sea links, salt harvesting and desalination plants and roads on stilts are also allowed in CRZ-IA. The controversial land reclamation, in which new land is created from oceans or lake beds and is known to have strong impacts on coastal ecology, has been allowed in intertidal or CRZ-IB areas, for ports and sea links.

In CRZ-II, a substantially built-up area, project developers can now increase the floor area ratio or floor space index, and build resorts and other tourism facilities. A large part of South Mumbai falls in this category.

Under earlier notifications, hotels and beach resorts were also allowed in CRZ-III, or relatively undisturbed areas that do not fall under CRZ-I or II. But their construction was prohibited in no development zone (NDZ) of CRZ-III, which extends landwards up to 200 m from HTL. The latest notification drastically shrinks NDZ to 50 m from HDL in densely populated areas (where population exceeds 2,161 per sq km as per the 2011 Census). This technically allows resorts, hotels and tourism facilities to be built right up to HTL.

"Providing housing facilities just 50 m from the coastline would expose the inhabitants to severe weather events, that too without any buffer," says V Vivekanandan of Fisheries Management Resource Centre, a non-profit in Chennai.

CRZ-IV, which includes the shallow belt of coastal waters extending up to 12 nautical miles, is not only a crucial fishing zone for small fishers but also bears the maximum brunt of waste from offshore activities, such as oil exploration, mining and shipping. The 2011 notification had thus laid importance on regulation of pollution from such offshore activities. Instead of strengthening the regulation, the 2018 notification allows land reclamation for setting up ports, harbours and roads; facilities for discharging treated effluents; transfer of hazardous substances; and construction of memorials or monuments.

What's distressing is no study is available to show the carrying capacity of coastal areas to accommodate such increased development or the projected impact of such a change on the coastal communities.

Rights wronged

CRZ 2018 overrules the concerns of 171 million, or 14% of the population living in coastal districts. Over 12 million of them depend on fishing

Back in 1991, the safety and livelihood of the coastal communities was given priority while drafting CRZ notification. "In fact, the committee under MS Swaminathan, set up in the aftermath of the tsunami, went as far as suggesting a land rights recognition law along the lines of the Forest Rights Act, 2006 for the communities who subsist on the coastal areas based on their customary rights," says Vivekanandan.

The suggestion was never implemented, and now the precarious nature of their customary ownership makes them easily dispensable to make way for tourism and other development, he adds.

Contrary to the 2011 notification, which clearly says fishing activity by communities will not be regulated, the new notification puts them under the regulated category. "CRZ-III areas are the ones where traditional communities live and subsist on the natural resources. While the notification changed the land use in CRZ-III areas to bring in tourism, its impact on the livelihood of local communities have not been taken into account," says Kohli. According to T Peter, general secretary of National Fish Workers Forum and member of the Kerala Independent Fish Workers Federation, the new notification brings clearance in CRZ-IV areas under the purview of the Centre. "Earlier, the area was under state government. Now with the Centre giving clearances for projects in the area, it will be difficult for communities to get their voices heard in Delhi," Peter says.

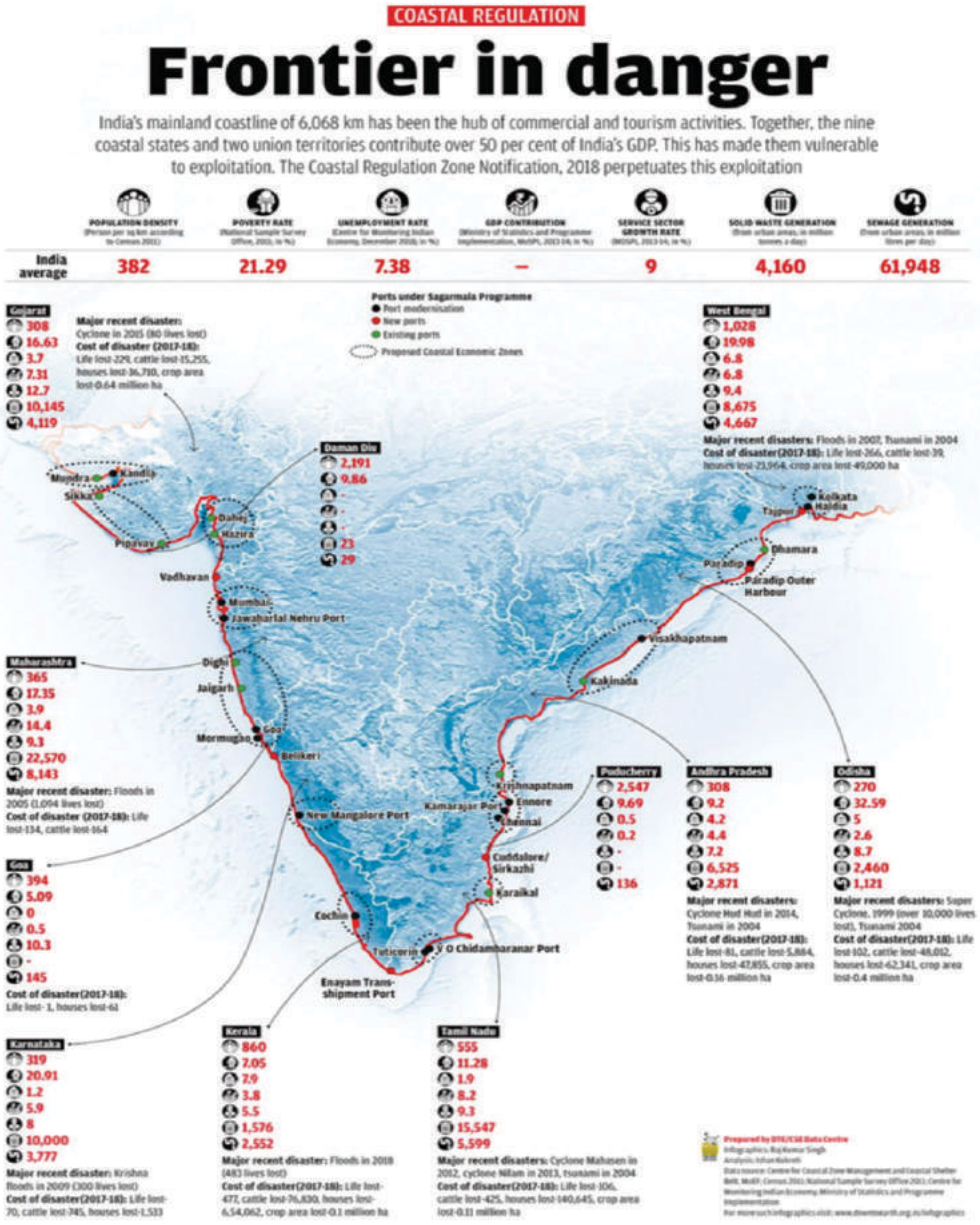
This indicates serious flaws in the drafting process. "Coastal ecology is volatile, with changing coastline. So, most activities by the traditional communities in these areas are seasonal in nature," says Kohli. Yet, the government has relied on satellite imagery to demarcate CRZ categories with little or no corroboration on the ground. This will lead to increase in conflicts in the future," she says.

While these conflicts could have been avoided by holding consultations with communities, it was done in frivolous manner," says Probir Banerjee of PondyCAN, a non-profit working towards costal restoration. "I attended a meeting in Puducherry. It barely lasted an hour and people did not really know what was at stake," he adds. While the drafting of 2011 notification is known for holding 11 consultations with stakeholders, from companies to communities, the Sailesh Nayak committee, responsible for the latest 2018 notification, was more of a closed door discussion among bureaucrats. Even the committee report was not put in the pubic domain, until a Right to Information application was filed.

Industry lobby at WORKS?

550 ports and related projects, 14 economic zones, 11 tourism circuits, roads stretching 2,000 km under way along the coastline

The notification comes at a time when India's coastal zone is teeming with activities. The most ambitious of all is the Sagarmala programme. Launched in 2015 by the Ministry of Shipping, it "aims to promote port-led development" by harnessing the "7,500 km long coastline (including offshore islands governed under Island Protection Zone Notification since 2011), 14,500 km of potentially navigable waterways and strategic location on key international maritime trade routes". The government has identified about 550 projects worth Rs 8 lakh crore to be implemented by 2035. So far, 14 have been completed and 69 are under construction.



To boost industrial and exports growth, Sagarmala also envisages setting up 14 coastal economic zones (CEZs), each housing a industrial clusters, ranging from petrochemical, cement, leather to power, electronics and food processing. Coastal and port connectivity roads, stretching 2,000 km, under the Bharatmala project of road and national highways are also being planned.

Experts say the notification has been drafted to facilitate these flagship projects of the government. For instance, its provisions for land reclamation and permission to build roads even in ecologically sensitive CRZ-I facilitates the creation of CEZs. The government has declared Sagarmala, Bharatmala and CEZs as "strategic projects", which have blanket exemption from CRZ provisions. The sea, tidal wetlands, virtually any kind of geography can be legally obliterated for such projects. "While land reclamation was being done surreptitiously earlier too, CRZ 2018 notification gives a clear indication for land reclamation," says Kohli.

Initial experience shows ports under Sagarmala are causing ecological devastation, barely benefitting the communities. In Valiyathura, a fishing village in Kerala's Thiruvananthapuram district, the sea gobbled up over 200 houses between June and July 2018 (photo above). Part of the office of the Valiyathura branch of the National Centre of Earth Science Studies has almost been levelled by the coastal erosion, says Sheeba Patrick, ward councillor of the area. Residents blame it on the Vizhinjam Port, built by multinational conglomerate Adani as part of Sagarmala. "At least 15 kilometres of the coast and 30,000 people will be affected when Vizhinjam project is completed," says Joseph Vijayan, who has been fighting for over four decades to protect the livelihood of fisherfolk in Kerala.

The fishing community in West Bengal's port city of Haldia narrates a similar tale. Eight jetties are being planned under Sagarmala in the river port. "Effluents from the Mitsubishi Chemical Corporation Plant has already poisoned the Hooghly river.

Our income from fishing has reduced by one-third since industrialisation started in the region two decades ago," says Saibul Ali, a fisherman at Rupnarayan bank in Haldia. "Once the jetties are in place, fish will stop coming to the shore.

Finding a place to cast the nets will be a task because of ship movements," says Angshuman Midya, president of Rupnarayan Chawk Matshya Obotaran Kendra, a fishers' cooperative.

Though development of coastal communities is one of the four pillars of Sagarmala, so far, Rs 1,415 crore has been allocated towards communities against a massive outlay of Rs 3,91,987 crore towards port modernisation and new port development; port connectivity enhancement and port-led industrialisation. Explaining the futility of the programme, Debi Goenka, executive trustee, Conservation Action Trust, says, Indian ports are neither on the major international shipping routes nor do they have the capacity to handle large ships. Why would they come to Indian ports? Data available with the Ministry of Shipping shows that while the capacity of major ports was increased from 965 million tonnes per annum (MTPA) to 1,451 MTPA between 2015-16 and 2017-18, their capacity utilisation has plummeted to 46 from 62 per cent during the period.

At other places, the Ministry of Tourism's Swadesh Darshan Scheme is at loggerheads with fishers. Under the scheme, 11 theme-based tourist circuits, are being built in seven coastal states, the Andaman and Nicobar islands and Puducherry. One such circuit is in the making at Chennai's Marina and Elliot's beaches at the cost of Rs 14.60 crore. The authorities plan to provide Wi-Fi facility, sea-view seating, first-aid kiosks and e-toilets to tourists visiting the beach and better connectivity to reach the place. So they have converted a service road on the Marina beach into a high-speed concrete road. It has been traditionally used by people from Nochikuppam slum for selling fish and emptying and mending their nets.

In times of CLIMATE CHANGE

In the past two decades, 45% of coast has been lost due to erosion; natural disasters along the coast has cost the country $80 billion

From severe cyclonic storm Ockhi and the freak monsoon in Kerala to the devastating cyclone Gaja, the sea remains a harbinger of bad news for India. In October 2018, the Intergovernmental Panel on Climate Change released a report warning that global temperatures have already risen by 1.2°C; mean rate of sea level has risen by 1.7 millimetres a year between 1901 and 2010, resulting in a rise of 0.19 metres. Studies by the Indian National Centre for Ocean

Information Services, say the sea level along India is rising at 0.33-5.16 mm per year and predict that the frequency and intensity of unseasonal and extreme weather events will increase in the coming decades. According to a study by the UN International Strategy for Disaster Reduction, natural disasters along the Indian coast cost the country $80 billion between 1998 and 2017.

Worse, according to the Central Water Commission's Shoreline Change Atlas, India has lost 3,829 km, or 45 per cent of the coastline, in just 17 years till 2006. While coastal erosion is a natural phenomenon carried out by waves, tidal and littoral currents and deflation, the report says these factors get exacerbated by activities like land reclamation, dredging of harbours, navigational channels and tidal inlets, construction of groynes, jetties and other structures on the coast.

The National Centre for Coastal Research under the Ministry of Earth Sciences, in its Status Report Seawater Quality Monitoring (1990-2015) found pollution levels rising in coastal waters. It found ammonia and phosphate levels to be high in all the 24 locations that were monitored, which it attributes to dumping of untreated sewage into the ocean. "Increasing nutrients in the coastal water may lead to ecological disturbances affecting the coastal ecosystem processes and services," the report warns.

CRZ notifications right from 1991 have stressed on planned phase out of untreated sewage and waste disposal in the water. But this provision is rarely implemented despite the fact that all states, barring Goa and Kerala, have their Coastal Zone Management Plans in place.

Under these circumstances, it is imperative to bring in a stringent coastal policy, to conserve both the ecology and the communities. "The government, instead of releasing notification after notification and introducing infinite number of amendments, should come up with a comprehensive act for the coastal areas," says Peter.

Banerjee says the best way to protect the coastal zone has probably been answered in the European Commission's 2004 study, "Living with coastal erosion in Europe". It says just leave the beach intact!

(With inputs from Gajanan Khergamker in Mumbai, Sudarshana Chakraborty in Haldia and Rejimon Kuttappan in Thiruvananthapuram)

Draft National Fisheries Policy seeks big growth but ignores fishers

This article was first published by Mongabay on July 21st, 2020 and has been reprinted here with permission.

By Supriya Vohra

- In February 2020, the government of India released a draft of the National Fisheries Policy. The draft policy aims to accelerate the development of the fisheries sector by focusing on increasing investments, infrastructure and doubling of exports.
- The policy emphasises on developing deep-sea fishing, mariculture, inland fisheries and aquaculture.
- Fishermen bodies, marine experts and other experts working with the fisheries sector feel that the policy is export-oriented, production-driven and based on capital investments. They feel that it is neither protecting the interest of the fishing communities nor the environment.

Aiming to accelerate the development of the fisheries sector, the Indian government has released the draft National Fisheries Policy 2020 that intends to integrate all components — marine and inland, capture and culture, and post-harvest – in a single document and create an environment to increase investments in the sector, double exports, and incomes of fishers and fish farmers.

It tries to encompass elements of the 'Blue Growth Initiative', the Agriculture Export Policy 2018 and the targets set under the Sustainable Development Goals. The policy also looks at integrating the fisheries sector with other areas like agriculture, coastal development and ecotourism to meet the goals of "Blue Economy" while keeping the "socio-economic upliftment and economic prosperity of fishers and fish farmers" especially traditional and small-scale fishers.

Researchers and members of fisher rights unions have criticised the draft policy for being export-oriented, production-driven, and based on capital investments, which they fear would strip small scale fishers off their rights of access to commons, and also damage the environment in the long run. In addition, they say that the policy does not talk about women. It is silent on caste and class. Fishing communities in India are not homogenous. They have distinct social governance structures and traditional practices, depending on where they live on the coast. They are also organised into sectors, such as the mechanised and non-mechanised sectors.

In a press release, National Fishworkers Forum (NFF), a federation of trade unions of independent and small-scale fish workers stated that the policy is neither in favour of the fishing communities nor for protecting the oceans and the coast.

In recent years, fish production in India has had an average annual growth rate of seven percent. The share of the fisheries sector was 1.03 percent of India's Gross Domestic Product (GDP) in 2017-18, and the sector has been one of the major contributors of foreign exchange earnings as India is one of the leading seafood exporting nations in the world. The fisheries sector contributed Rs. 1.75 trillion (Rs. 175,573 crore) to India's GDP(at current prices) during the financial year 2017–18, and claims to support nearly 16 million fishers and fish farmers. The document says that India has more than 10% of the global biodiversity in fish and shellfish species, and the total fisheries potential of India has been estimated at 22.31 million metric tons in 2018. The draft policy attributes the rapid growth of seafood exports to "the boom in brackishwater aquaculture."

Sunil Mohamed, retired principal scientist and former head of molluscan fisheries division at the Central Marine Fisheries Research Institute (CMFRI) in Kochi explained that integrating all the sectors in one policy is a mistake. "The marine (fisheries) is not comparable to inland and capture and culture fisheries are completely different sectors," he told Mongabay-India. "The sectors need to have separate policies, which they have had in the past, in various stages of drafting. This looks like they have borrowed some points from each and pasted them together to make a unifying policy. In the bargain, we may have lost several important aspects of each policy," Mohamed said.

There is a National Marine Fisheries Policy 2017, which was notified by the central government in April 2017, a draft of the National Inland Fisheries and Aquaculture Policy 2019 which was released in February 2019, and a draft of National Mariculture Policy 2019 which was also released in 2019. In light of the National Fisheries Policy 2020 draft, it is unclear what will become of the rest.

In fact, there has been a lot of confusion around the draft national fisheries policy. It was first put online on the website of the union government's department of fisheries on February 12, 2020. However, no final date for comments from stakeholders was mentioned. Subsequently, on June 16, 2020, the department of fisheries posted an update that senior officers of the department, in a meeting taken by the secretary of the department, discussed the draft national fisheries policy 2020. Since then, there has been no information about its present status. Queries sent to the central government's fisheries department have remained unanswered so far.

Fishing boats docked in Dahanu. The draft National Fisheries Policy released in February 2020 aims to accelerate the development of the fisheries sector by focusing on increasing investments, infrastructure and doubling of exports. Photo by Kartik Chandramouli/Mongabay.

Push for deep-sea fishing and mariculture

The draft states that the marine sector is "dominated by the socio-economically backward artisanal and small scale fishers", that there is "stagnation in the growth of marine capture fisheries," and that it is "imperative to figure out alternative livelihood options." It suggests two initiatives for small scale fishers: to skill them in deep fishing – which includes exploring the areas beyond national jurisdiction (ABJN), and give a push to industrial fishing and deep-sea fishing for "high-value resources" like tuna, tuna-like species, oceanic squids in a "sustainable manner" and to skill them in mariculture — the practice of cultivation of economically viable marine plants and animals in seawater. The policy sees massive potential for the country in mariculture, projecting an annual production of four to eight million tonnes.

The problem with this, according to Siddharth Chakravarty, who works at The Research Collective and analyses fisheries policies through the lens of labour, gender, and class, is that "the further you move away from the shore in terms of capture fisheries, and the more you try to enhance production in artificial ways through intensive culture fisheries, you automatically add two aspects to it. One is the need for upfront capital to be able to conduct and undertake these activities. The second is that you invariably use more intensive technologies."

"So compared to a near-shore gill-netter, a long-liner is going to be much more intensive both capitally and ecologically. A mariculture pond that tries tuna ranching ... for that cage you need infrastructure that is more capital-intensive and this will have an ecological impact as well," he said.

He also pointed out that the government is largely basing fishery development on the fact that it needs to invest through entrepreneurs, and that investment will be matched by government support. "What it means for fishworkers is that it excludes them, because women, lower caste fishers and those involved in allied activities operate within a socio-economic system where livelihoods are not embedded in the cycle of investment, extraction and profit. So, in addition to the schemes being financially unviable, there is also a clash of cultures and outlooks in the way the state sees and the people perceive 'development'," he told Mongabay-India

In mariculture, when somebody would make an investment in the coastal waters, they are inserting their private property into a common property rights regime. And it becomes an exclusive piece of investment that belongs to someone, and the fish in it are not a shared resource like other fishery resources are. "There is going to be a creation of exclusive zones, and a need to protect those zones, and there is going to be a social exclusion in addition to the capital exclusion and ecological exclusion," Chakravarty warned.

Oyster culture in Sasihithlu, South Karnataka. The draft policy attributes the rapid growth of seafood exports in India to "the boom in brackishwater aquaculture." Photo by Supriya Vohra.

Inland fisheries and aquaculture – privatising common resources

The inland fisheries include all rivers, canals, floodplain lakes, high altitude lakes, ponds, wetlands, tanks, reservoirs, brackish water, all saline and alkaline affected areas of the country. The policy aims to "enhance fishing" in all these areas, including high-altitude lakes in the north and north-eastern parts of India, and wetlands and reservoirs in protected areas. Pradip Chatterjee, convenor of National Platform for Small Scale Fish Workers (Inland), said this means privatisation.

"Not privatisation as in going into private hands — the state is going to take these areas under their jurisdiction and then it is going to lease them out to private entrepreneurs or beneficiaries, who are then going to enhance fish production," he said. "All these are public water bodies, and traditional fishers have been fishing in them since time immemorial. Why should it be leased? Commons are for the public. The traditional fishers and fish farmers are going to lose their natural rights over these water bodies — they will be turned into contract labourers," Chatterjee told Mongabay-India.

He emphasised that the rivers and wetlands are already polluted and that fishworkers are barely earning a livelihood, which forces them to migrate and seek work in other states. "The tenure rights are not secure for the farmers in this sector as it is mainly verbal and there is no support from the government," he said.

According to the draft policy, "aquaculture sector documented one of the highest growth rates in productions and providing livelihood and nutritional security in the country," and "deserves greater attention in the form of incentives/concessions as in agriculture like income tax, power supply, loan facility, insurance covered, drought and flood relief and transportation, etc."

But aquaculture is also known for causing an immense amount of pollution in the form of eutrophication of water bodies ultimately leading to habitat destruction and also destroying livelihoods of those who invest in this fish farming method. While the draft policy talks about using "mitigation measures," there is no indication of what those measures are.

In addition, "small fishers and allied workers who are not going to be able to invest in aquaculture as a beneficiary component by putting a certain percentage into that farm, it means that access to common property resources, to resources that are seasonal like ponds and dam waters where the fisheries department has been putting seeds and some capture fisheries happen, as they start becoming privatised or polluted areas, it will begin to exclude people," Chakravarty added.

Shrimp farms in Baguran Jalpai, West Bengal. Photo by Kaelyn Maehara.

Game fishing and ecotourism – potential to work if done right

The draft proposes to "implement dedicated programmes for developing fisheries sector in islands." One of them is game fishing or recreational fishing, which according to Sahir Advani, junior adjunct fellow at Dakshin Foundation and postdoctoral research fellow, Institute for Resources, Environment and Sustainability at University of British Columbia, is "increasingly being recognised as a sustainable means to connect with aquatic ecosystems and as alternative livelihood options for small-scale fishing communities."

"In the Andaman Islands, the game fishing industry brings in a lot of foreign revenue, provides employment opportunities to local communities, and has a low impact on marine ecosystems if the principles of catch and release with minimal stress to fish are followed. While an economic valuation of the game fishing sector in India remains to be undertaken, it will likely be beneficial to the local economy and is a good example of ecotourism, if done right, responsibly, and equitably" he told Mongabay-India.

No representation for women

In a webinar organised by the NFF earlier in June, Jesu Rethinam, convener of Coastal Action Network and member of NFF said that "women are further invisibilized in the (draft) policy."

She said that the policy aims at the rationale of schemes which has been envisioned in the Pradhan Mantri Matsya Sampada Yojana (PMMSY). The PMMSY is a financial scheme of Rs 200 billion (Rs. 20,000 crore) launched by the central government in May 2020 this year, to bring about the "Blue Revolution". It was criticised for focusing on economic and technological growth as opposed to catering to the food security and livelihood needs of the fishers, given the exponential losses incurred by the fisheries sector during the COVID-19 pandemic.

"There are women in many parts of the country who engage in capture fisheries in both marine, backwaters, estuaries and inland, there is no mention of them," and wherever mentioned they "are mere claims with no progressive intent for the fishworkers," she said.

A fisherwoman in Loktak Lake, Manipur. The fisheries sector claims to support nearly 16 million fishers and fish farmers. Photo by Kartik Chandramouli/Mongabay.

No focus on sustainability, rights or livelihoods

Chatterjee stressed that there is total neglect of the traditional knowledge of the fishworkers, in this proposed policy and there is nothing on their rights. "Development without rights will lead to eviction of fishworkers from their livelihood," he said.

"Over the years we have created a narrative of poverty, of helplessness, of back-in-time, of small as being inferior, and therefore we are very successfully able to deploy all those words to then imply that there is a need for development," said Chakravarty.

"But when you go in and look at the scope of the document, the development is not actually directed towards people for whom the society's sympathies at large have been evoked."

Advani explained that India's envisioning of the fisheries sector has for a long time been all about gaining returns from marine exports. "The language used in most policy documents focuses on resource exploitation rather than management," he said.

He explained that fisheries sustainability can be considered in six dimensions – ecological, economic, social, technological, ethical, and institutional, and "Indian fisheries policies seem to be focused largely on economic and technological dimensions with short-term sustainability targets in mind."

"There needs to be greater consideration of long-term sustainability and across the dimensions of social, ecological, ethical and institutional for Indian fisheries to become truly sustainable," he said.

Banner image: Workers at a shrimp farm in Baguran Jalpai, West Bengal. Photo by Siddharth Chakravarty.

Lakshadweep: 'New laws calculated effort to alter habits of people evolved over generations'

This article was first published by Down to Earth on May 31st, 2021 and has been reprinted here with permission.

Changing land laws and bringing in outside corporates could change the very character of fragile Lakshadweep

By K A Shaji

An uninhabited atoll in Lakshadweep. Photo: Lenish Namath via Wikipedia

The new laws recently brought about in the Union territory of Lakshadweep were a calculated attempt to alter the habits of people evolved over generations, residents of the Arabian Sea archipelago have said.

The administrator of the islands, Praful Khoda Patel, has introduced a number of legislations since February including the Lakshadweep Animal Preservation Regulation, the Lakshadweep Development Authority Regulation, the Prevention of Anti-Social Activities Regulation and the Lakshadweep Panchayat Regulation.

These have been criticised. Many islanders fear will they permanently 'alter their culture' if implemented.

PP Muhammed Faizal, who represents Lakshadweep in Lok Sabha, claimed:

The present administrator has launched an outright attack on the land rights of the local community. The draft Lakshadweep Development Authority Regulation would cause removal or relocation of people from their property for town planning or other developmental activities. If he does so, it will adversely impact the livelihood of the tiny fishing community.

"What is happening here is a calculated effort to alter the habits of people evolved over generations," he added.

Patel had already stopped non-vegetarian items in the mid-day meals for school children and in government-run hostels. He was also banning the slaughter of cattle, transportation, selling and buying of beef.

Faizal alleged:

Alcohol sale has been prohibited in the islands, given the religious and cultural sensibilities of the local community. At present, permits for the sale of liquor are getting issued in four islands in the name of promoting large-scale tourism activities. The existing panchayat law is now getting amended to prohibit anyone with more than two children from contesting elections, an apparent move against Muslims. This again is motivated by the stereotype of Muslims having more than two children.

There were also attempts to cut-off the traditional trade links of the islands with Kerala. "Ships from the islands used to take cargo to Beypore port in Kozhikode district. Now, orders have been issued to divert such transit ships to the Mangalore port in Karnataka," he said.

Action and reaction

Patel was the home minister of Gujarat under then Chief Minister Narendra Modi in 2012. He is the first politician since 1947 to be appointed administrator of Lakshadweep. His predecessors were all civil servants.

Among the most powerful and damaging could be the draft Lakshadweep Development Authority Regulation 2021. It provides for the development of townships as well as acquisition, alteration and transfer of landed properties owned by Lakshadweep residents.

Smitha P Kumar is an educationist and writer who taught in Lakshadweep for a long time. She said Patel's plans to facilitate mindless tourism by allowing substantial private investment and corporate operations would negatively impact the archipelago's fragile environment and livelihood.

Kumar said:

Large-scale developmental activities like coastal constructions, huge ship traffic, beach side resort tourism and beachside fishing will cause large scale livelihood pressures on the local community. The islands require responsible tourism, which is minimum and reasonable with keeping larger interests of the local community in mind.

Another legislation that is in the throes of a controversy is the Lakshadweep Animal Preservation Regulation, 2021. It bans cow slaughter in addition to the buying, selling, transportation or storing of beef or beef products in any form.

In addition, non-vegetarian food has been removed from school midday meals and hostel dining halls.

"We want to preserve milch cows," Lakshadweep Collector S Asker Ali told the website The Print. But, his words ring hollow as Lakshadweep is an overwhelmingly Muslim society. Critics have said the laws have been brought because of old prejudices regarding Muslims among people of a Bharatiya Janata Pary background like Patel.

Kochi-based conservation activist and environmental lawyer Harish Vasudevan also points to something else:

The islanders' precarious livelihood and the diverse ecosystems of which they are a part need official recognition rather than altering the midday meal menu of local schools and enforcing a ban on cow slaughter. Now, there are attempts to prevent people from rearing cows for milk and meat. This, even as Gujarat's cooperative giant Amul is attempting to take sole control of all milk-related needs of the islands.

Ali Akbar is a resident of Kavaratti, the capital of the Union territory. He said the administration's decision to close down dairy farms and open Amul outlets can be seen as part of a larger plan to alter the food and living choices of the local community altogether and to facilitate the entry of dominant players from outside into the hitherto small economy of the islands.

Akbar said the present controversial actions of the administrator were just a cover-up to the unilateral tourism plan, which would ultimately destroy the very identity of the islanders.

He said efforts were already on to implement a large tourism project involving the construction of beach and water villas with 370 rooms.

The project has been mooted by NITI Aayog and the Union Ministry of Home Affairs, reportedly under pressure from corporates.

Last January, 114 scientists hailing from over 30 universities and research institutes across the country had urged the Union territory administration to abandon the controversial project, keeping in view of the possible ecological impact it would have on the region's highly fragile lagoons and beaches.

The introduction of liquor and large-scale tourism could have large-scale social and environmental impacts. The islands face waste disposal as a significant problem, affecting the water quality. Tourism has increased the presence of micro plastics in the seawater, affecting fish health. More tourism will ensure more such disasters, warn conservationists.

A fragile paradise

The political controversy comes even as the fragile archipelago has had to deal with a number of natural disasters recently.

The Union territory located about 200 km from the west coast of Kerala in the Arabian Sea, comprises 16 atolls and 32 islands. However, human presence is limited only to 11 islands.

All the islands are northeast-southwest in orientation, and they are characterised by shallow lagoons on the west and steep reef slopes on the east. These peculiarities provide a perfect haven for several marine flora and fauna.

The islands' water bodies are accommodating rich seagrass beds and algal and coral communities. They provide a haven for various fish species, invertebrates, sea turtles, elasmobranchs and marine mammals.

The density of the human population in Lakshadweep, unlike other states and Union territories, is also significantly less than the national average.

But, in recent years, the fragile archipelago had faced significant climate change-related disasters. In 2017, Cyclone Ockhi had caused large-scale destruction.

Now, during every (southwest) monsoon, surging storms damage the islands. Large-scale coral bleaching events reported in 2013 and 2016 are another threat the islands face in the environmental sector.

On May 31, 2021, the legislative assembly of Kerala, the state with which the archipelago's residents share ancestral and cultural links, unanimously passed a resolution.

It demanded Patel's recall and requested the immediate intervention of the Centre to protect the lives and livelihood of the islanders.

Conserving marine ecosystems through the Wild life Protection Act is not very effective

This article was first published by Mongabay on June 10th, 2021 and has been reprinted here with permission.

By Shivani Swami

India is a mega-biodiverse nation. It is home to 7-8% of the recorded species of the world. Its marine ecosystems are equally biodiverse: of the 32 animal phyla known to science, 15 are found in the marine ecosystems of India.

In consequence, illegal trade in marine species in India is rampant.

The primary Indian law protecting wildlife, including marine wildlife, is the Wild Life (Protection) Act 1972 (WLPA). It prohibits the hunting of animals listed in its six schedules (lists) and regulates trade in such animals and their parts. It also provides for the declaration of protected areas within which human activities are restricted.

These two approaches – banning hunting of and regulating trade in species by listing them in the schedules, and designation of protected areas – have found some success in protecting terrestrial wildlife. However, their efficacy in protecting marine ecosystems is questionable.

Marine ecosystems and terrestrially oriented policies

The WLPA, in its original form, was oriented terrestrially. For almost 20 years after its enactment, it did not contemplate protected areas in terrestrial and marine ecosystems separately. The Act did not lay down any separate procedure for the declaration of marine-protected areas, and its Schedules listed very few marine species. However, in light of international developments in marine conservation, the Ministry of Environment, Forests and Climate Change of India (MoEF&CC) has superimposed the existing terrestrially-oriented policies on marine ecosystems. Over 30 marine protected areas (MPAs) have been declared in peninsular India and over 100 in the Indian islands. In addition to the crocodiles and turtles that found a place in the WLPA schedules during its initial years, a number of elasmobranchs, coelenterates and molluscs, which together constitute a majority of the marine species protected under the legislation, have been added to its schedules since 2001.

Of the 41 marine species protected under the WLPA, most are listed in Schedule I. Animals listed in Schedule I, along with those listed in Part II of Schedule II, receive the highest degree of protection under the WLPA. Hunting of animals listed in these schedules is prohibited and licenses to hunt them are granted only in exceptional circumstances. Dealing in, transporting, and buying of such animals is also prohibited. In contrast, dealing in animals listed in the other Schedules is regulated through a licensing regime.

It is unclear whether this approach has effectively reduced illegal trade in marine animals, especially those in Schedule I and Part II of Schedule II. For instance, 173 species of sea cucumbers are found in Indian waters and, of these, around 20 are considered commercially important. In 1982, the MoEF&CC banned the export of all sea cucumbers less than 3 inches in size. Later, in 2001, all sea cucumber species were listed under Schedule I of the Act resulting in an absolute ban on their trade. Despite this, India remains a global hotspot for sea cucumber poaching and smuggling. In a press release, the MoEF&CC described sea cucumbers as some of the major species being smuggled through Indian airports as recently as May 2019. Besides sea cucumbers, protected marine species like sea cows and marine turtles are also widely caught and traded for their meat, blood and carapace in India.

That trade and hunting of these animals is rampant despite their inclusion in the Schedules to the WLPA can be attributed to two reasons.

Firstly, the Schedules lack direction and are not truly representative of the actual status of species in Indian ecosystems.

Originally, the Schedules were organised on the basis of the importance of species as 'Game.' The hunting of animals in Schedule I was banned. Those in other Schedules could be hunted after obtaining special game hunting licenses, big game hunting licenses, or small game hunting licenses. Since then, the Act has been amended several times. In his analysis of the schedules over four amendments, S.S. Bist, former Principal Chief Conservator of Forests & Head of Forest Force for the Government of West Bengal, observed that the amendments "had not followed any criteria and resulted in making the Schedules unwieldy and unstable."

Further, until 2001, the schedules did not contain any fish species. Even after 2001, fishes have not been adequately protected under the WLPA. A significant reason has been the lack of adequate scientific data.

Judicious management of resources needed for marine ecosystems

Secondly, even though marine animals are listed in the schedules for protection, they become subject to a policy that is more suited to the protection of terrestrial wildlife. This policy of complete prohibition on hunting and strict regulation of trade in such animals disregards their role in the lives of fishing communities. Although the MoEF&CC cited the dependence of fisherfolk on marine life as an inhibiting factor until the inclusion of fishes in the Schedules, no special provisions were added in the WLPA to address these concerns when fishes were included.

This transposition seems uninformed by key socio-ecological differences between terrestrial and marine systems. Indian coasts are far more densely populated than its forests. In many fishing villages, poverty is acute and infrastructure is abysmal. Fishing communities are heavily dependent on marine resources for their livelihood and sustenance. Most importantly, even as communities move towards modern forms of fishing, they are known to have traditionally adopted sustainable fishing practices. These include spatial and temporal regulations like fishing zones, seasonal bans, and regulation of type of fishing gear and vessels.

In stark contrast to these practices, the WLPA is based on dualist ideas of humans versus wildlife. It attempts to demolish dependence regimes. The inclusion of marine species in the schedules is rarely preceded by successful drives to provide alternate sources of livelihood to dependent communities. In addition to causing social unrest, this has caused illegal trade in species to flourish. For instance, before the ban in 2001, sea cucumbers served as a source of livelihood for around 2,00,000 fisherfolk in the Ramanathapuram and Thoothukudi districts of Gulf of Mannar and the Ramanathapuram, Pudukottai and Thanjavur districts of Palk Bay. After the ban, the trade value of sea cucumbers rose substantially as the ban reduced supply but demand in the international market remained high. Since wildlife smuggling is a low-risk, high-profit offence, trade in sea cucumbers continued to flourish underground and became unaccounted for as well as more lucrative. The ban consequently became ineffective.

Alternate strategies have been advocated by experts. Vardhan Patankar, head of the marine programme at Wildlife Conservation Society-India (WCS-India), based on his analysis of stakeholders' knowledge of and attitudes towards the WLPA in the Andaman Islands of India, has suggested the use of regulation, preventive community-based policing, constructive engagement with fisherfolk, and the promotion of alternative livelihoods for fishing communities instead of a ban. Similarly, while analysing strategies for conservation of sea cucumbers in India, the Central Marine Fisheries Research Institute, suggested regulatory methods for conservation supported by proactive measures like resource enhancement of populations through sea ranching in place of a total ban.

Terrestrially-oriented area-based conservation measures

Besides the species-centric approach represented by the schedules, the Act also adopts a habitat-based conservation mechanism. It provides for the declaration of four types of protected areas: sanctuaries, national parks, conservation reserves, and community reserves. These are meant to be land parcels with minimal human disturbance that promote in situ conservation of habitats and species. As one moves closer to protected areas, human activities become increasingly regulated. Within 10 kilometres of any sanctuary or national park, any person possessing arms is required to register themselves. At the border, entry without a permit or entry with a weapon is prohibited. Within protected areas, destruction, exploitation or removal of any wildlife is prohibited.

These restrictions affect sizeable communities that are dependent on the areas for sustenance. India has 3.57 million marine fishers spread across 3,305 coastal villages. However, the management of MPAs is marked by a lack of community involvement.

The declaration of sanctuaries or national parks outside territorial waters is preceded by a dialogue over community rights. The government first settles claims to any rights over the area. If a claim is accepted, the land is either excluded from the limits of the sanctuary or the subsistence of rights within the sanctuary is allowed. However, sanctuaries or national parks that do fall within territorial waters, can be simply declared through a notification to this effect without any claim settlement process.

This ignores the reality of the fisherfolk of India. Take the Gahirmatha Sanctuary in Odisha for example. It was notified by the state government in 1997 off the coast of Kendrapara district. The sea off the Gahirmatha coast provided business to over 43,000 fishers in 90 villages. A considerable portion of this population lived below the poverty line. Despite this, decision makers did not consult or involve the affected communities in the management plan for the Gahirmatha Sanctuary. At the same time, restrictions on fishing that followed the declaration of the Sanctuary, such as the reduction in fishing days from 240 to less than 100, were not matched by clear evidence of positive ecological impacts.

Unsurprisingly, many communities have objected to such approaches that deny local communities' control over and access to resources. This lack of local acceptance has led preservationist policies to fail. Efforts to exclude trawlers from the Gahirmatha Sanctuary, for instance, failed due to resistance from trawling communities. In fact, conservationists have since accepted that the exclusion of trawlers is not the most effective method of conserving the sanctuary's turtles and that certain kinds of fishing in the area may be benign.

A solution: Stakeholder participation and flexible laws

Implementing the WLPA without an assessment of its likely socio-economic implications is impractical, especially when communities carry a sentiment of alienation from the process. While communities are expected to participate in implementation, they are not participants in the formulation of management strategies. Thus, fishing communities must be integrated into the implementation as well as formulation of these laws. Fisherfolk should be included in the management bodies of protected areas so they may introduce traditional, sustenance-oriented fishing practices in these areas. From within the system, they can keep policies abreast with traditional knowledge. In respect of modern fishing practices, they can proffer information regarding areas where their adoption is crucial for the sustenance of fishing communities, areas in which they may be harmful or benign.

Flexible laws would be a consequence of community involvement. The current rigid structure of laws based on the exclusion of humans from natural habitats is grounded in the idea that economic activities and wildlife conservation are antithetical to each other. In part, this is due to the idea, often advocated by conservationists, that fishing communities live in absolute 'traditional harmony' with wildlife. In reality, communities themselves are now demanding modern development. Once these developments are accounted for, conservation laws can be designed to vary with landscape in a manner informed by perspectives of fisherfolk. This is likely to develop an ethic that combines utilitarian and conservationist ideas.

Thus, the application of the WLPA to marine ecosystems must be guided by scientific data that correctly identifies species that need protection; a regulatory, as opposed to a proscriptive, approach; and sociological impact studies of protected areas.

Shivani Swami is a law officer with the Counter Wildlife Trafficking team of Wildlife Conservation Society-India.

Opinion : The Blue Lining- Indian Marine Fisheries Bill 2021

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By Dr. John Kurien

Black flags on boats, beach protests, strikes and petitions of dissent mark the reception being given to the long awaited Indian Marine Fisheries (IMF) Bill 2021 by small-scale fishers around the country. The Bill is expected to be tabled in the current monsoon session of parliament.

The Bill has seen two earlier drafts since 2019. Both were hastily formulated in tandem with the politically charged discussions which were taking place in the World Trade Organisation (WTO) on fisheries subsidies. Even at the most recent July 15, 2021 virtual session of the WTO on fisheries subsidies, Commerce Minister Goyal argued against the stand of developed counties for Special and Differential Treatment (S&DT) being restricted to "poor, artisanal fishers". He wanted S&DT to be extended to the whole fisheries sector. His stand was applauded by most developing countries.

The latest IMF 2021 Bill seems to follow the same logic by treating the marine fisheries sector of the country "as a whole" without considering the special and differentiated needs of the small-scale, artisanal fishing communities who have always been the backbone of the sector. Interestingly it is this approach, which earned kudos among developing countries, that is being contested at the national level, and accounting for the widespread protests.

Who Fishes Where?

Marine fisheries resources, estimated to yield over 4 million tonnes annually, over which we have sovereign rights conferred by the United Nations Convention on the Law of the Sea (UNCLOS), are in the exclusive economic zone (EEZ) that extends up to 200 nautical miles from the baseline and spread across a huge aquatic territory of over two million square kilometres.

Within the EEZ lies what is designated by UNCLOS as the territorial sea (TS) which extends to 12 nautical miles from the baseline and covers an area of only about 10 percent of the EEZ.

However, as the TS accounts for the more shallow and nutrient laden waters, where primary productivity spurred by sunlight is highest, it accounts for well over 75 percent of the marine resources despite the much smaller area. As per our Indian Constitution, fishing in this TS is in the remit of the State List and hence the responsibility of nine maritime states and union territories to manage. The UnionGovernment, as per the Union List, is responsible for 'fishing and fisheries beyond the territorial waters".

Until about the late 1980s, the small-scale, artisanal fishers of India largely confined their fishing to day trips within the TS due to technological limitations. Thereafter, with access to greater mechanical propulsion and navigation devices, many have expanded their horizons to the limits of the EEZ and even beyond, undertaking fishing trips lasting 10-15 days. It has been on these trips that they notice foreign vessels fishing in our EEZ.

The IMF 2021 Bill 'nationalises' the EEZ by invoking a Section 3: "No foreign fishing vessel shall be permitted to engage in fishing and fishing related activities in the maritime zones of India under this Act". This is certainly welcome by the whole domestic fishing sector.

However, next the Section 4: "Indian fishing vessels shall engage in fishing and fishing related activities within the exclusive economic zone and in the high seas under a license issued by the licensing authority" has been one of the provisions of the Bill which is not relished by our small-scale fishers across the country as they consider this an effort to now restrict them to the territorial sea and regulate their current open access to the EEZ.

Demand for Differentiated Treatment

Small-scale, artisanal fishers demand for a special and differentiated treatment domestically. They deem the special licensing requirement being imposed under the Bill as being both costly and impractical. The current authorisations to fish – in the form of registrations and licences -- being provided by the coastal states is being deemed as adequate, because their ventures outside the territorial sea are not a regular feature. However, given the straddling nature of fish stocks, the customary right to follow the fish – even beyond the TS and into the EEZ -- cannot be linked to possession of a separate licence, they argue.

The definition of 'small-scale fisher' in the Bill (Section 2(r) as a person who use fishing vessel is less than 24 metres in length is also problematic. The use of length as the sole criteria is faulty. The 24-metre cut off, will also include most of the large-scale fishing vessels in India, many of which are individually owned. If the objective is to support the genuine small-scale sector, then a horse-power rating below 50 HP and the exclusion of bottom trawl nets should be included as criteria.

Sustainability a Casualty?

The 2021 Bill, unlike its earlier drafts, completely drops all the emphasis on biodiversity, ecosystem integrity, conservation and sustainability which was included in the earlier drafts. This is a regressive measure and reflects a very crass approach to a renewable resource which is hugely influenced by nature processes.

The 2021 Bill also does not acknowledge the need to follow the FAO/UN Code of Conduct for Responsible Fisheries (CCRF) – the voluntary guidelines endorsed by nearly all developed and developing nations as a moral soft law framework for marine fisheries. It also fails to acknowledge the FAO/UN Small-Scale Fisheries Guidelines which it gradually becoming the Magna Carta of small, artisanal fisher's world over.

The 2021 Bill mentions the creation of a Marine Fisheries Development Fund (Section 7(1)) into which the licence fees and other collections will be remitted and the Fund in turn used for development and management of fisheries and the welfare and safety of fishers.

The overall impression is that of a hastily rehashed Bill, for a sector which is not deemed as mainstream, being rushed through Parliament so that India can make a claim to the global community of having the legal instruments for governing our EEZ and its marine resources. The unstated position seems to be that any inadequacies and loopholes can be fixed as they get noticed.

Perhaps more engaged domestic discussions with the numerous organisations representing the interests of fishers of the country, the trade and export industry representatives, the coastal MPs and MLAs, and sections of the fishery scientific and administrative community would have produced a more holistic and carefully crafted Bill.

This government seems to be in a hurry to change or introduce legislations in every field. With much more burning issues to be tackled, that marine fishery issues are even being tabled, may be the only blue lining.

(The writer is with the Azim Premji University. Views are personal.)

Section 5 - Energy production without safeguards

India's new coal geography: Coastal transformations, imported fuel and state-business collaboration in the transition to more fossil fuel energy

Patrik Oskarsson (a)*Kenneth Bo Nielsen (b) Kuntala Lahiri-Dutt (c) Brototi Roy (d)

[a]*Department of Rural and Urban Development, Swedish University of Agricultural Sciences, Sweden*
[b]*Department of Social Anthropology, University of Oslo, Norway*
[c]*Crawford School of Public Policy, Australian National University, Australia*
[d]*Institute of Environmental Sciences and Technology, Autonomous University of Barcelona, Spain*

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The advance of renewable energy around the world has kindled hopes that coal-based energy is on the way out. Recent data, however, make it clear that growing coal consumption in India coupled with its continued use in China keeps coal-based energy at 40 percent of the world's heat and power generation. To address the consolidation of coal-based power in India, this article analyses an energy transition to, rather than away from, carbon- intensive energy over the past two decades. We term this transition India's new coal geography; the new coal geography comprises new ports and thermal power plants run by private-sector actors along the coastline and fuelled by imported coal. This geography runs parallel to, yet is distinct from, India's 'old' coal geography, which was based on domestic public-sector coal mining and thermal power generation. We understand the development of coastal thermal power as an outcome of long-term electrical energy shortages and significant public controversy within the old coal geography. By analysing the making of the new coal geography at a national level, and scrutinizing its localised manifestation and impact through a case study of Goa state, we outline the significant infrastructural investment and policy work of a dispersed network of public- and private-sector actors that slowly enabled this new coal energy avatar. We argue that the enormous effort to establish India's new coal geography further entrenches the country's reliance on coal. The result is that for India, energy security is a choice between domestic and imported coal.

1. Introduction

While Europe and North America are transitioning away from coal, its reign over power generation is not over yet. Among the main coun¬tries that consume coal, India remains a key player: not only is domestic coal extraction and use still expanding – the country is also emerging as a key agent in the global coal trade as the second biggest importer [1,2]. India's increasing use of coal, coupled with China's unrelenting coal consumption, means that coal contributes 40 percent of the world's total power and heat generation: a share in global energy production which has remained the same for the past 40 years in spite of growing attempts at decarbonisation [2]. The catastrophic implications of burning coal for power generation at this rate are well documented and can on its own destabilise the climate change target of staying below the two-degree centigrade rise in temperature [3,4].

*Corresponding author at: Ulls gr-and 1, Box 7012, 750 07 Uppsala, Sweden.
E-mail addresses:patrik.oskarsson@slu.se (P. Oskarsson),k.b.nielsen@sai.uio.no (K.B. Nielsen),kuntala.lahiri-dutt@anu.edu.au (K. Lahiri-Dutt).

[1] See the Export-Import database of GoI's Ministry of Commerce,https://commerce-app.gov.in/eidb/.

[2] Available statistics use financial rather than calendar year.

[3] Domestic coal mining meanwhile recorded an output of 730 million tons for 2018–2019 [8].

India is expected to become the main international coal importer in the future as Chinese reliance on imported coal reduces [2,3], with Indonesia and Australia being the main coal exporting countries [5]. India has long imported higher purity coking coal for steel-making, primarily from Australia. The import of thermal coal for power pro¬duction is, however, entirely new. Before 2002, thermal coal did not even exist as a category in official trade statistics.1 In the fiscal year 2007–2008, India imported 10 million tons of thermal coal. This rose to 45 million tons in 2011–2012 [6]. 2 The latest available figure from 2018 to 2019 shows imports of 150 million tons [7],3 and for the fiscal year 2019–2020, the projection is 200 million tons [9]. Using 2007–2008 as a baseline, this amounts to an increase in recorded imports of 1,400 percent in just over a decade.

In response to India's dramatically increasing coal imports, we analyse the production of what we term India's new coal geography: an entirely new landscape of thermal power infrastructure based on inter¬national supplies of coal, which has so far not been mapped and ana¬lysed systematically. The new coal geography is predominantly coastal and controlled by private actors who operate ports and power plants that rely on imported coal. And it runs parallel to the domestic public-sector mining and power generation of the 'old' coal geography. To map and analyse this new coal geography, we ask: What are the political- economic and technical-infrastructural realignments that have enabled coal-based power generation in this new coal geography? How is this geography configured at the national level and how do subnational regions change infrastructurally, politically and environmentally when they are integrated into the new coal geography? By addressing these questions that incorporate both the making of the new coal geography at a national level and its localised manifestations and impact in specific contexts, we argue that India's rise as a global player in coal trade, coupled with the emergence of a new coal geography at home, represents an energy transition to (more) coal-based energy. This energy transition will add to India's already substantial reliance on coal energy for years to come, with significant negative consequences for global climate change. This finding is in line with recent research on energy transitions that show the remarkable endurance of fossil fuels like coal, in spite of available, lower cost renewable options both globally [10–12] and in India [13,14].

The article is structured as follows. We start our analysis of the making of India's new coal geography by providing theoretical entry points into energy transitions and the making of resource geographies. This is followed by a discussion of our methods. We then proceed to map and analyse the new national coal geography, followed by its localised manifestations and impact through a case study of the Indian state of Goa, which is rapidly emerging as a new coal hub. In the next analytical section, we bring our findings from the national and the state level together. Finally, in the conclusion, we reflect on how the enormous scale of financial and political investments that has enabled India's new coal geography is likely to block the country's transition away from coal.

2. An energy transition to (more) coal-based energy

The sizeable literature on energy transitions has, to date, mainly focused on how to design, implement, govern and operate new low- carbon power production facilities, based on the assumption that older forms of energy will disappear once renewable options become available [10,15]. One cause for great optimism has been the increasing avail¬ability of cost-competitive forms of renewable energy around the world giving impetus to the massive decarbonisation efforts that are urgently needed. One factor that underpins the optimism in much of the energy-transitions literature is the understanding of energy transitions as the process of a new fuel acquiring a large or dominant share of overall use [16]. Following this definition, historical examples of energy transitions include transitions from wood to coal and from coal to oil. However, if we focus not on the share, but rather on the total amount of energy used, a quite different picture emerges wherein no actual energy transition has ever taken place in modern times [10] as the amount of coal, wood and oil that are currently used globally are all at historic highs. New energy forms, including more recent renewable ones, are, from this perspective, what Bell and York [11] term additions rather than transitions. This is the case because older forms of energy may reduce their overall share of energy use but remain important, or even continue to increase, in terms of amount. From an energy addition perspective, the global energy system remains locked into high coal-energy use for the foreseeable future undermining reports of 'a terminal decline' [12,17]. An energy addition perspective in this manner focuses our attention on how 'the teleological model [of energy transition research] asserting the "death of coal" needs to be fundamentally re-examined' ([10]: 208).

As some parts of the world reduce their use of coal, primarily Europe and North America, it becomes pertinent to understand how and why India is not only expanding domestic coal production and use but also adding an entirely new energy geography based on imported coal [2,18]. Understanding the specific national and international networks that continue to support high carbon energy is vitally important in order to seek actual energy transitions away from the use of fossil fuels rather than merely adding renewable energy on top of existing fuels, as has been the case at a global level to date. To understand the emergence of new coal energy, we draw inspiration from recent work on resource geographies within Human Geography, and specifically assemblage thinking, which enables us to see the interlinking of different networks of humans and materials [19-21]. Putting in place a complex resource geography like coal energy is, from this perspective, always 'a process of making, of continuous transformation, and of becoming, rather than as something final or static' ([22]: 240). Resource geographies rely on a set of interlinked logics of economy, territory and subject formation [23,24] that bring together a rich 'energyscape' [5] of new relations, as different sites become connected in the production, transportation, generation and transmission of energy. Such relations not only shape energy and socio-environmental outcomes; they also crucially produce economies and forms of politics whose impact may span generations [25]. If we understand resources and energy 'as interconnected networks tying together sites and scales' ([26]: 434], we see how the shaping of a new (coal) resource geography depends on much more than merely infra-structural solutions. By looking across 'material infrastructures, socio- cultural artefacts and political structures' ([26]: 437), energy appears as 'fragmented, contested and converted at particular sites' ([26]: 446). New resource geographies – in our case, India's new coal geography – thus emerge as one spatial aspect of 'a global assemblage of finance, infrastructure, and expertise that together constitutes the political economy of coal' ([27]: 153–154). Rather than seeing energy produc¬tion as a singular and fully functional system with a controlled and centralised design, this conceptualisation draws our attention to distributed experimentation by many different actors in pursuit of partial and compartmentalised energy solutions.

In this article, we analyse one crucial aspect of the present energy-scape of coal, namely, how the assemblage of the network of relations across Indian national and state government together with domestic and international private sector entities in power generation, logistics, and transmission produce India's new coal geography. Coal is perhaps the resource that more than any other material commodity has shaped India as a nation, including its political economy and ecology [28]. Coal transforms landscapes and rearranges social relations around the coal fields, along transport routes and in India's megacities where much of the electrical energy is consumed. Coal is also fundamental to India's national and global relations by influencing industrial growth, the balance of trade and national energy-security concerns. Crucially, the availability of coal in large quantities close to the surface across central- eastern India, the long history of extraction with significant technical and infrastructural provisions and the many-faceted and multi-tentacled bureaucratic superstructure that surrounds it combine to give unprecedented preferential status to this fossil fuel – in spite of the many factors that support a transition to low-carbon energy. The creation over the past two decades of a new coal geography in India marks a significant departure from the well-established trajectory of domestic energy security rooted in coal-based resource nationalism, what Chatterjee [29] calls India's model of fossil developmentalism.

A prerequisite for understanding how this new coal geography has been assembled is to disentangle the existing system of domestic coal economies in India. Lahiri-Dutt [30] uses the concept of 'coal worlds' to show that that the Indian coal industry is neither singular nor homogenous. She identifies four separate coal economies, which she terms national, neoliberal, statecraft and subsistence coal. With multiple and complex labour arrangements, these coal economies are defined by different coal worlds that have distinct production logics and labour and supply arrangements. The first two coal economies (national and neoliberal) constitute the official economies that contribute to large- scale power production in the public sector, for electrical energy, and in the private sector, to generate power for industries like cement and steel. The two other worlds constitute the informal sector, with varying degrees of legality involved; and they present different community uses of coal in small-scale operations that might even defy straightforward distinctions between legal and illegal (hence termed non-legal by Lahiri- Dutt). Against this backdrop, the new coastal coal geography has emerged as a fifth coal world in India since about the year 2005. This new coal world operates within the formal large-scale system of coal energy, yet with distinct production logics and supply arrangements vis- -a-vis the other two formal coal worlds, in addition to the specific spatial dynamic of coastal infrastructure.

The backbone of Indian energy[4] security was always Lahiri-Dutt's [30] national coal: domestically produced coal that relied on a set of interlinked public sector enterprises. In this 'old' (and still-expanding) coal geography, the state-owned enterprise Coal India Limited extracts coal in the central and eastern parts of the country. This coal is then transported by the Indian Railways via heavy-duty links to the main cities of the north, west and south, with the National Thermal Power Corporation – or one of the many state electricity boards around the country – as final customers. All this is done for electricity generation primarily for the "urban-industrial nexus" [28]. [5]India's coal energy sector has, in stages since India's Independence, managed to put in place a relatively robust model for coal extraction and transport and for electricity generation and transmission. The sector has been able to produce and transport ever larger amounts of coal, particularly from the 1980s onward, to new and expanding metropolitan power plants, even as it has faced stiff resistance and pressure from a vast number of groups and actors around the country [28,31]. Yet in spite of its vast scale and substantial policy support, neither coal production nor thermal power generation have ever kept pace with electricity demand [31,32]. India's old coal geography has continued to struggle to serve all consumers, to remain financially viable and to adhere to environmental and social legislation [31]. Reforms to increase coal-based power generation have included opening up to private sector coal mining and power generation for use in cases such as, for example, steel and cement production in 1993 [28]. Significant weaknesses have, however, remained, and these culminated in the early 2000s, when the already distressed old coal geography entered into a prolonged state of crisis as the large gap between demand and supply escalated dramatically. As other forms of electricity production failed to contribute, India's inability to supply electricity in line with developmental targets, and with the aspirations of key pressure groups [31,32], became evident. A discourse of 'a national energy crisis' subsequently took hold and set in motion policies and programs seeking to expand energy production outside of the traditional central-eastern coal heartland.

Another aspect of the 'energy crisis' is the profile of Indian coal and thermal power companies as among the lowest cost producers in the world [33]. A large part of this low-cost profile – the ability to produce cheap coal-based electricity – is the sector's inability or unwillingness to deal appropriately with a range of social and environmental conse-quences, including compensation and resettlement of project affected populations, environmental mitigation, and proper mining closure and post-mining rehabilitation when operations stop [28,34,35]. The reor-ientation of coal-based energy production to new territories, that is, the coastal regions, promises improved stability against some of the challenges that plagued the old geography, such as 'disruptive' public coastal states along India's western and south- eastern coastline generally display a more predictable pro-business orientation, are better governed, and are less prone to political instability and unpredictable populist policies that have often characterised the central and eastern coal belt. The move away from the forests and agricultural fields into new territories has generated new political con-flicts due to new forms of land expropriation and dispossession [37,38]. Operating along the coastline comes with new challenges, including administrative approvals to use often ecologically sensitive stretches of land [39] as well as environmental and other clearances and permissions [28,29]. While coastal land might be seen as 'available' – since ownership, as is the case in the coal-bearing inland, is vested with the state as common property [38] – or is seen as 'unproductively used land' [40], much coastal land is in fact occupied by informal land users, generating new conflicts and resistance movements.[6] Coastal coal infrastructure, like elsewhere in the country, thus requires high-level political support to secure land and administrative approvals for developers.

India's new coal geography signifies dramatic rearrangements of coastal land use, the rise of new private players in the sector, significant infrastructural transformations, realigned domestic energy-security concerns and modified international relations – even as it extends and solidifies the use of coal energy at a time when renewable alternatives are not only needed but are also increasingly affordable. Understanding the making and manifestation of this new coal geography thus offers important insights into the future of coal, not just in India, but globally. Before we turn to a more detailed mapping and analysis of the making and manifestation of India's new coal geography, we introduce our research methods.

[4] Since our analysis focuses on the spatial and political-economic aspects, we prefer the use of coal geography to Lahiri-Dutt's coal world.
[5] We here outline only the main characteristics of the old geography for comparative purposes (see [28] for further details). protests and litigation related to mines and thermal power plants [28,36]. In addition, the
[6] Such processes are well known in the global and Indian land-grabbing literature where so-called vacant lands have been identified for new in¬vestments [41–43].

3. Research design and methods

In this exploratory case study we outline and explain the emergence of a new, national coal-based energy geography that is separate from the dominant geography of thermal power production in India. Following Bridge and Gailing we understand energy transitions as 'the production of novel combinations of energy systems and social relations across space' ([44]: 1038). Further, we define India's new coal geography as coal energy infrastructure established in coastal India with mainly pri-vate sector involvement, predominantly using imported coal,[7] and supported by the Government of India (GoI) in the fields of energy policy, infrastructure and land governance. Such coastal energy infra¬structure was absent across India before the year 2005, barring in a few megacities such as Mumbai or Chennai.

Our political economy understanding of energy transitions enables us to look beyond socio-technical solutions in infrastructure to embrace political challenges, which shape outcomes [44,45]. Significant con-troversy has followed the development of India's new coal geography with differences of opinion within the national government and widespread resistance to specific projects among various civil society actors and groups. The picture that emerges from our analysis by necessity plays out unevenly across the nation [45]. To analytically integrate the 'big picture' of the new coal geography in its entirety, with the 'smaller picture' of its manifestation in, and impact on, particular localities and environments in Goa state, we apply a multi-level perspective. This al¬lows us to outline national energy development while providing deeper insights into one specific local context. This is particularly relevant in India's federally organised governance system wherein the state governments exercise authority over several domains that impact directly on energy transitions, including land governance.

We use the Goa case study as an 'exploratory' rather than a typical case [46] to analyse emerging sub-national rearrangements of existing and new energy infrastructures that enable the new coal geography to materialise. By moving the analysis to a lower level, we draw attention to (1) the extensive and oftentimes environmentally destructive trans-formations in infrastructure, land use and biophysical environments that occur as particular regions are integrated into India's new coal geography; and (2) the uneven and regionally varied nature of the national geography. In using Goa as our case study, we acknowledge that it is not a representative case – indeed, it is India's smallest state, and one of its wealthiest. At the same time, the integration of Goa into the new coal geography, as it currently unfolds, is characterised by two transitions that render Goa useful as an exploratory case: the transition of the region from marginal to central in the coal trade as existing iron ore export infrastructure was repurposed for coal imports; and the slow but steady transition in coal imports from coking to thermal coal.

For the big picture, we combine publicly available government documents and news reports with satellite images. We analyse the thermal power projects that were approved up to 18 November 2019 in all the coastal districts of India, according to information available on the website of the Ministry of Environment, Forest and Climate Change. We found 84 cases in total that we classified as coastal, and we examined their environmental clearance approvals along with other administra¬tive documents to identify their stages of operation (under construction, delayed, operating or cancelled), the composition and percentage of coal in supplies (domestic/imported) and the project promoters (private/ public). We also used the largest inventory of global environmental justice movements, the Atlas of Environmental Justice (www.ejatlas. org) [99], in combination with local news reports to analyse active protests against these coastal power plants.

To examine actual implementation on the ground and create the map in Fig. 1 below, we visually inspected satellite images. This does not require advanced GIS analysis. As Oskarsson, Lahiri-Dutt and Wennstr-om ([34]: 9) point out, 'anyone with an internet connection can browse Google Earth images to see the "black holes" at the heart of India's energy security' since mining, transport and electricity-generation activities based on coal colour the infrastructure and its immediate surroundings pitch black. Unfortunately, a lack of data prevents us from fully untangling the international coal supply network to see the 'global picture' that feeds into India's new coal geography. We know, however, that supplies come from Indian-owned mines in, for example, Australia, Indonesia and Mozambique [47,48], while other supplies are purchased on the global market from independent producers, or even occasionally on the domestic market if coal is available at a lower rate.

[7] Available environmental approval documents show that many coastal power projects propose to use a mix of domestic and imported coal in spite of their different chemical compositions.

Our analysis of the Goa case is based on a combination of qualitative field research in the ethnographic tradition, coupled with a desk study of relevant documents. The second author has worked on environmental challenges in Goa over several years, while the fourth author conducted month-long fieldwork in 2017 focusing explicitly on coal protests. The fourth author conducted 11 semi-structured interviews with social and environmental activists, journalists, fishing communities and concerned citizens affected by coal projects. The fourth author also observed community meetings that passed resolutions against coal. We have also analysed key policy documents pertaining to coal-related infrastructure projects in Goa, and have closely monitored the news coverage of coal- related developments in the state over the past four years. We have also analysed reports and other public statements produced by civil society and activist groups.

4. The emergence of India's new coal geography

The preconditions for India's new coal geography lie in the liberal-isation of the economy from the 1980s onward, which slowly opened the coal energy sector to private sector actors [28]. An early key reform in the sector happened in the year 2000, when the private sector was allowed to mine coal for its own industrial production purposes in, for example, cement and steel-making units. And since 2018 the entire sector has been opened up for private companies, including interna¬tional ones [49]. Other significant policy reforms that have paved the way for the new coal geography include the possibility of importing the coal and power generation technologies required to expand energy production. In combination, these reforms and rearrangements repre¬sent dramatic change for an industry long stuck in old ways of producing energy [28,31].

As shown above, it was in response to an intensifying energy crisis that extensive policy experimentation in the domain of energy began around 1995. This process would unfold over several decades and involved frequent adjustments between various branches of the GoI, led by its Ministry of Power. The focus was initially on domestic coal-based power expansion (as well as hydro), but widened over the years to include private sector thermal power from 2006 [39,40]. Key to the development of India's new coal geography was the Ultra Mega Power Production (UMPP) policy, introduced in 2005, to support large power plants of at least 4000 MW using high efficiency Super Critical Technology. By establishing a set of very large power plants, the GoI hoped to generate a further 100,000 MW by the year 2012. Nine projects were originally proposed, with four located next to coal mines and five in coastal locations. One key reason for selecting coastal locations – other than the use of imported coal – was the possibility of using seawater for cooling, thus solving the problem of scarcity of freshwater that hampered plants on the fringes of Indian cities [50].

While most coal projects proposed since the early 2000s were based on the use of domestic coal, UMPP projects encouraged the use of im¬ported coal of a higher quality than what is available in India, particu-larly in terms of sulphur content [51,52]. Over the years, more proposals were made. Fifteen received approval, with approximately half of these intending to use imported coal [50]. However, to date only two UMPPs have become operational: the coastal Mundra power plant in Gujarat and the Sasan power plant next to a coal mine in the central Indian state Madhya Pradesh [52]. Reasons for the failure of UMPP projects to start operations are similar to those that have affected other large power plants across the country: public protests over land acquisition, delayed or denied environmental approvals and a lack of affordable coal supplies [51]. In spite of its limited appeal, the UMPP policy did manage to open up a new approach to producing power in coastal locations, something that had not been attempted before. One key Ministry of Coal planning document noted already in the early years of coastal power developments that 'importing power grade coal for consumption in power plants at certain coastal locations ... is considered necessary for enhancing fuel diversification and energy security ([53]: 4)'.

While overcoming the energy crisis has been a top, long-term na¬tional goal, significant resistance to foreign energy dependency remains within key government ministries. The import of oil and natural gas weighs heavily on India's balance of trade, and branches of the GoI have therefore not looked favourably at adding coal to the list of imported fuels. Successive high-level ministers have continued to reiterate their intention to end all import of coal, and recently the Minister of Coal stated that all coal imports would end in the fiscal year 2023–2024 [54]. Yet in spite of such statements, the amount of imported coal continues to rise. This is in no small part due to other branches of the GoI offering support for coal imports, including reduced taxes.[8] But exactly where all this coal is used is unclear as data remains incomplete.

[8] While analysing why different Indian ministries entertain widely different attitudes towards coal is beyond the scope of this article, we note that such 'internal contradictions within the state', to use Poulantzas' [55] wording, are not uncommon in India. See Sampat [56] for a comparable and highly illus¬trative example of such internal contradictions in the domain of land use and governance.

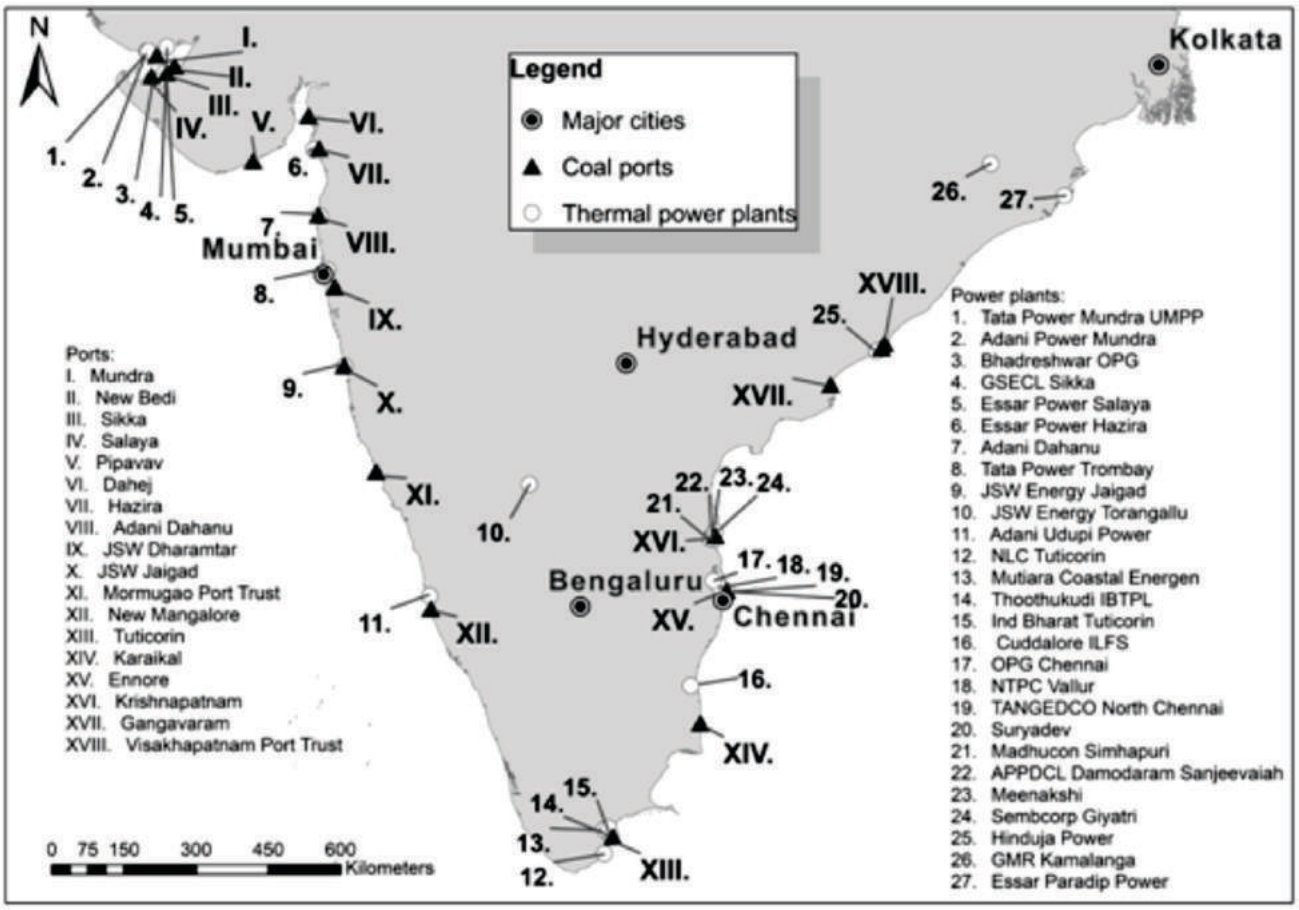

Fig. 1. Coastal power plants and coal ports.

The Central Electricity Authority [57] of the Ministry of Power states that for the fiscal year 2018–2019, 61 million of a total of 150 million tons of im¬ported coal was used in power production. Of this, 40 million tons was used for coastal coal producers designed to use imported coal, while a further 21 million tons was imported for power plants intended to use domestic coal. The imported coal in the latter category is termed 'blended coal' and is used to augment uncertain and more polluting supplies from domestic sources.[9] All in all, many coastal as well as interior power plants continue to struggle with the quantity, quality and price of coal.

In GoI environmental approval documents, thermal power-plant proponents are typically only required to broadly indicate the source of the coal they plan to use, even though the composition of the coal has a direct bearing on pollution-control measures as well as financial viability. For example, the approval for Adani Power Ltd.'s Mundra thermal power plant merely states that international coal will be used [59]. At times requirements are included to specify the country of origin, such as Indonesian coal for the Ennore Creek thermal power plant [60]. Coastal power plants may also indicate a range from 100 percent im-ported coal to as little as 30 percent. Adding to the regulatory uncer-tainty is the flexibility that producers have to use more domestic coal when this becomes available, as the GoI has allowed already operating power plants to shift part of the coal to lower cost Indian coal [57]. Available statistics indicate, however, that the opposite also occurs as power plants designed to run on domestic coal use imported coal [57]. Given this flexibility to switch between sources of supply, we may expect further coal supply changes as operators align with domestic and international coal market fluctuations, changing regulatory norms and the overall trajectory of the Indian power sector. Indonesia is the world's largest exporter of thermal power coal and has been the main source for India's coastal power plants. One source places the country's share at 61 percent in 2018 [61]. Domestic and international coal market purchases make up the remainder of imported coal to India, although details about the quantities and qualities remain scarce. Direct ownership of coal assets abroad by Indian firms include Indonesian mines, where Tata Power has been the co-owner of the PT Kaltim Prima Coal mine since 2007 [48], while GMR has been a co- owner of PT Golden Energy Mines since 2011 [62].

[9] Among the 54 public and private thermal power plants listed in 2020 as using blended coal, many are located far from the coast in northern states like Punjab or Chandigarh [58]. These power plants have, in many cases, been forced to import low ash coal to comply with air quality regulations.

A number of Indian companies have attempted to establish Australian coal mines. The largest and most controversial among these is the Adani Group's pro¬posed Carmichael mine and GVK's Alpha Project [63,64]. The cost of transporting coal is always a major concern for low-cost operations like those in India [65], but transportation costs become even more impor¬tant for imported coal since transport across oceans is often two to three times as high as the cost of transporting domestic coal. Data from the Indian Ports Association [66] show that 58 million tons of coal was handled across public sector ports during the six months from April to November 2019. However, these statistics do not disaggregate handling, and some of the coal that is moved along the Indian coastline is domestic coal. The Adani Group, which owns a number of thermal power plants, also handles about a third of all Indian coal imports via its ports [9]. The company operates five ports around India with the flexibility to switch to domestic coal if this becomes preferable to international coal. In a newspaper interview, one Adani executive stated: '[...] that's the advantage we have. Having ports on both sides of the peninsula, you can catch coal for instance at Dhamra and ship it to Goa, Vizag [Visakha¬patnam], Mundhra or Dahej' [67]. The power plants of India's new coal geography will depend on shipments of coal for decades to come, and an operator such as the Adani Group is well positioned to ensure a flexible supply of it via its ports, from a variety of international and domestic sources. Flexibility in coal supply and port infrastructure are, in this manner, two additional key enablers of the new coal geography.

Table 1

Coastal thermal power plants in India.

Total proposed	84
Cancelled or delayed	54
Operating	27
Under construction	3

Source: [69] and own analysis.

GoI data shows that 77 coastal power plants with widely variable power-generation sizes were approved from 2005 to 2014, mainly by private sector proponents, but also by public sector ones. The projects were environmentally approved, which means that specific sites had been identified and that detailed Environmental Impact Assessment reports had been finalised and extensively vetted in both public hearings and by environmental experts [68]. In contrast, after 2014 only seven projects have been approved, possibly because imported coal has become more expensive. Had all 84 environmentally approved coastal power plants been operational, they would have added significantly to India's current 281 operational thermal power plants [69]. However, as of early 2020, 'only' 27 of these 84 power plants (with an installed ca¬pacity of 36,600 MW) are operational while a further three are under construction. This indicates the difficult and contested path from formal approval to actual operations (see Table 1). In addition, the operational power plants often have less installed capacity than in the approval document, but the range is very wide, from a mere 60 MW to 4620 MW.

Some of the new energy producers are among India's largest business groups, including Adani, Reliance and Tata. The Adani Group has, in addition to building ports, been active in thermal power by building its own coastal power plants and buying already existing ones [70]. At the same time, the company has invested in a new power plant away from the coast, running on domestic coal [71]. Other power producers include companies with generic names like Coastal Energen Pvt Ltd and Thermal Powertech Ltd.[10] Little is known about these companies and their operational and financial strengths. Data also shows five public sector power plants using imported coal, though only as a supplement to the main supply of domestic coal.

As seen in Fig. 1 below, we find thermal power clusters across a few states: in Gujarat (seven power plants), Andhra Pradesh (six) and Tamil Nadu (seven). These are industrialised or higher income states and have higher energy demand. Within the states with coastal power, most of the power plants form coal clusters in the immediate vicinity of a coal port. A few larger companies have also been able to build dedicated ports to import coal to meet their own needs. Moving the coal a short distance overland from ports to power plants appears the preferred choice for operators, rather than locating the power plant on cheaper land further away from the port. But the picture is somewhat muddled as we also witness the opposite phenomenon where power plants that are located in or close to the main coal mining regions import coal, while power plants located further away from Indian coalfields still use domestic coal.

[10] M/S. Coastal Energen Pvt Ltd. runs a 1050 MW power plant in Thoothukudi District, Tamil Nadu, M/S. Thermal Powertech Corporation India Limited has a 1980 MW unit in Nellore District, Andhra Pradesh. M/S. Ind-Barath Power (Madras) Ltd. operates a 660 MW power plant in Thoothukudi District, Tamil Nadu. M/S. Torrent Energy Ltd operates a 950 MW unit in Bharuch District in Gujarat.

The possibility to secure domestic coal supply contracts in many cases appears to trump the logistical considerations of coal transport.

In sum, India's new coal geography consists of coastal power plants spread across the country and driven by many different investors, from well-known Indian business groups to state power producers and rela¬tively unknown private entities. The fact that these plants have great operational flexibility indicates the considerable political support they enjoy: where public authorities could have strictly enforced approval conditions pertaining to plant size, fuel use or environmental regulations, they have, in practice, preferred that power plants are established and become and remain operational.[11] It is, however, also apparent that many power producers persistently struggle to operate profitably with widespread low plant load factors, frequent attempts to renegotiate power purchasing rates and attempts to secure lower cost coal supplies (see e.g. [61,72,73]). While we thus note that overall the private sector appears to be preferred, when establishing new port and power plant infrastructure, the new coal geography, along with India's wider coal sector, struggles in actual operations, characterised by dra¬matic declines in private shareholder value and recurring government bailouts of public power plants [33,72].

While this section has mapped and analysed the big picture of India's new coal geography, we now turn to the analysis of how this geography is established in specific sub-national locations.

5. Goa: Reassembling infrastructure for India's new coal geography

Although Goa is now emerging as a new coal hub, it was iron ore mining that had long played an important role in the state's economy, and much of the state's infrastructure was configured to cater to mining. Mines in their own right claim much land, but the mining infrastructure additionally incorporated road transport networks [76] and riverine spaces, since much of the ore was transported by barge from the mining areas to the Mormugao port for export. The public sector Mormugao Port Trust (MPT), which operates the port, derived most of its revenue from iron ore exports. If capital is indeed value in motion, as Marx would argue [77], the mining ban that was imposed in Goa in 2012 severely undermined the ability of Goa's mining infrastructure to serve the needs of capital. When mining activities stopped, the associated infrastructure no longer underpinned the movement of raw materials, goods and services, and thus no longer played a role in the generation of capitalist value. Mining sites turned unproductive, barges and trucks sat idle, roads and rivers saw less traffic and activities and revenue for MPT fell dramatically. The ban on mining was thus a central component in a conjuncture in which multiple factors coalesced to create enabling conditions for the emergence of a new coal geography: the loss of jobs and income caused by the collapse of mining; a dormant infrastructure; a revenue crisis at MPT; a new national Indian government with grand visions for new infrastructure projects; and private industrial actors requiring coal. From this conjuncture emerged attempts to rework the state's existing infrastructure to a new coal geography.

At Mormugao port, central actors (both public and private) moved relatively quickly to reposition it as a multi-commodity port with an important coal component. In 2015, the port had two dedicated coal terminals, both run by private operators: one by a subsidiary of the private sector group Jindal South West (JSW), JSW Port Ltd.; the other by the private sector conglomerate Adani Group's Adani Mormugao Port Terminal Private Ltd. While coal had started arriving in minor quantities already in the 1990s [78], total coal imports stood at only 2.7 million tons in 2001. In 2011–2012, this amount had risen to nearly 7 million tons and in 2015–2016 to nearly 12 million tons per year – an increase of more than 70 percent in four years. In contrast to the new national coal geography, for which thermal coal is crucial, coking coal still dominates at Mormugao port. Coking coal comprised 82 percent of total coal im¬ports in 2011–2012 and 67 percent in 2015–2016. But a transition is clearly under way as the growth of thermal coal imports has outpaced coking coal during this period: thermal coal imports more than tripled while coking coal imports grew by 37 percent.

[11] Since economic liberalisation, the structural power of Indian business in general has expanded dramatically, if unevenly [74]; but beyond such general assertions, little is known about how energy investors connect to policy makers, the strategies they deploy, etc. Gautam Adani, the chairman of the Adani Group, India's largest private coal mining company, largest coal port operator and largest coal importer, is known to have been close to Prime Minister Modi for many years, and allegations of crony capitalism (also in the coal sector) are often raised [75]. But details remain scarce.

The integration of Goa into India's new coal geography aligns with the big national infrastructure programs of the GoI, namely Bharatmala and Sagarmala. The former is a road and highways project, while the latter seeks to 'unlock' the potential of India's waterways and coastline to promote 'port-led prosperity'. Under Sagarmala, a new master plan for Mormugao port was finalised in 2016 in which coal imports played a key role. To turn the port into a coal hub, the plan envisioned several new infrastructure projects at the port. One was the capacity expansion of the existing coal berths run by private actors to double imports [79]. The second was the expansion of the approach channel to enable much larger vessels carrying more cargo to dock. The third was the develop¬ment of three additional berths to be used for coal import by Vedanta Limited, one of the largest extractive industry companies in the world [80]. The ambitious master plan operates with an 'optimistic scenario' in which up to 50 million tons of coal would arrive per year by 2035. To reach this target the master plan identifies 17 coal-backed power plants and more than 20 steel plants 'in the pipeline in the hinterland' ([81]: 291) as potential clients and envisions a much greater role for imported thermal coal in the future.

The coal geography that MPT's 'hub' connects to is truly global. As described by The Indian Express [82], a coal shipment for a steel factory in Karnataka began its journey in South Africa's Richards Bay – one of the largest coal export facilities in the world – where it was loaded onto a vessel sailing under a Bahamas flag, by the Singapore based importer Adani Global Private. After it arrived in Goás Mormugao port, it was transported by road to its final destination in Koppal, Karnataka state. Currently, the destination for most of the imported coal is the expand¬ing, coking coal dependent steel factories in Karnataka, across the state border [79]. The Karnataka steel industry includes key actors at the MPT such as JSW Steel, another subsidiary of JSW. Its Bellary unit is the largest steel plant in the region, requiring more than 15 million tons of coking coal per year [78]. While this demand is largely met by ports located on India's East coast, JSW's terminal at MPT supplies one third of the coking coal [78,79]. The closer proximity to Mormugao port cuts down costs for JSW and is the main driver of the company's desire to expand its import via Goa. The Adani Group, another key actor involved in the reconfiguration of Mormugao port, mainly imports coal for its clients in the steel industry in Karnataka. But Adani is also India's largest private thermal power producer with an installed capacity of 12,450 MW, most of which is coal based. This includes a 1200 MW capacity thermal power plant in Udupi, in coastal Karnataka, which uses 100 percent imported coal as fuel and is proposed for a significant expansion to 2800 MW.

While the first part of Goa's infrastructural rearrangement thus centred on the expansion of an existing public port to enable private operators to import more coal, the second part centred on enabling the movement of imported coal from Mormugao port to destinations in Karnataka state. This involved widening and/or linking existing roads, doubling existing railway capacity and setting up power transmission lines to provide power generated outside the state to flow into Goa. Existing road, rail and riverine infrastructure is thus being reassembled to suit the needs of coal, with new infrastructure being added as well. These ambitious plans for a new road-river-rail corridor between Goa and Karnataka all entailed construction in the ecologically sensitive Western Ghats mountain range, one of the world's 'hottest biodiversity hotspots' and home to two wildlife sanctuaries. In addition to widening existing roads to enable more trucks to pass, an entirely new highway on viaducts running through pristine parts of one wildlife sanctuary is planned [78,80]. The new power transmissions lines similarly run through the wildlife sanctuary for several kilometres, while the laying of a second railway track through the Western Ghats takes place on the steepest gradient anywhere on the Indian Railway System [83]. Ac cording to official figures, more than 34,000 tonnes of coal is transported by this rail route every day, most of it by JSW [84,85]. Existing riverine infrastructure is also being integrated into the new coal geography. Six rivers have been nationalised under the National Waterways Act, 2016, in order to facilitate their rapid 'development' with, among other things, new jetties [86] that are ostensibly designed to stagger coal silos from MPT towards the east [82]. In combination, the road and rail projects will mean that 80,000 trees need to be cut and more than 200 ha of protected and reserve forests in the Western Ghats diverted [83]. The integration of Goa into the new coal geography will in these ways affect a large number of Goan villages [87,88].

Many of these deeply interrelated coal projects only make economic and infrastructural sense when seen as a singular intervention. Offi¬cially, they have, however, been split into small, isolated projects. This obscures the bigger infrastructural transformation underfoot, artificially minimises the 'official' environmental impact of the new coal geography and makes it difficult for those affected by localised coal-related de¬velopments to organise politically across sites and scales (for similar experiences see [34,89]).

Yet from an environmental justice perspective, the negative impacts have been evident in Goa, and resistance has been considerable. Goan activists and civil society groups have documented how repeated violations of coal handling at Mormugao port, for example uncovered coal storage areas, causing coal dust to travel for miles [90], 'blackening lungs, pushing up incidents of respiratory disorder ... threatening fragile forests, paddy fields, countless streams and rivers' [84]. Cases of bronchitis, sinusitis and pulmonary disorders have reportedly increased manifold, and the layers of coal dust that settle on fields and plants may damage photosynthesis, affecting crop yields and biodiversity [82]. Inadequately covered rail wagons spill coal along their journey through the state and release fugitive dust emissions [90]. The increased movement of trains and trucks with heavy loads also threaten old heritage buildings [84], and the channel dredging and ca-pacity expansion at MPT coupled with riverine coal transport threaten to destroy the livelihoods of local fishing communities [80]. Coal has also been documented washing up on beaches, both in large chunks and as fine dust.

The vibrancy of Goan civil society [91] has ensured considerable popular opposition to the integration of Goa into India's new coal ge-ography. Close to one third of Goa's villages have passed resolutions opposing the movement of coal through their areas [83], and different social movements have organised to stop coal-related infrastructural developments. This includes the Old Cross Fishing Canoe Owners Co-op Society, which is connected to the National Fishworkers Forum, as well as Goa Against Coal and Our River, Our Rights. The environmental ap¬peals court – the National Green Tribunal – has been petitioned and cases have been filed in state-level courts; and the popular protests against coal led to the mandatory public hearing on environmental impacts for the Mormugao port expansion and road construction being extended to a full eight days, making it probably the longest ever public hearing in India. And, in the summer of 2020, protests against laying double tracks for railway transportation of coal erupted in many vil¬lages. Various state institutions have also interfered in the process. The Goa State Pollution Control Board has ordered reduced coal handling at Mormugao port, or has temporarily withdrawn its consent to operate, following breaches in pollution levels or excess coal handling. The Goa Coastal Zone Management Authority has expressed concerns about the consequences of dredging the approach channel to the port; and the High Court has admitted Public Interest Litigation against coal, even if it has refused interim stays on coal handling [92]. The integration of Goa into India's new coal geography has thus been highly controversial and the negative environmental and social consequences evident. But the import and transport of coal continues with strong political support. The emergence of Goa as a coal hub within India's new coal geog-raphy is illustrative of the uneven and varied manifestation of this ge-ography and of the ways in which it appropriates, reassembles and adds to existing infrastructure to suit the needs of imported coal, often with environmentally destructive effects. For instance, rather than using a newly established port on 'easy to acquire' coastal lands, existing public sector ports were used in Goa. Both in Goa and in several other states, private companies operating within public sector ports are in fact the key movers of coal. In this regard, Mormugao port resembles Visakha¬patnam port in Andhra Pradesh, Chennai port in Tamil Nadu and New Mangalore port in Karnataka, where official ownership is with the public sector, but where privately operated 'berths' within these ports do the actual heavy lifting. The infrastructure put in place by the national In¬dian government over many decades is thus put to use in the new coal geography by private sector investors who are able to swiftly adjust to new opportunities for importing coal or for moving domestic coal from one coast to the other. While the overall extent of this form of 'hidden privatisation' – where formal ownership remains public while opera¬tions are carried out by private companies – is not known, it is striking that parts of India's old coal geography have similarly been stealthily privatised, with many of Coal India's officially public sector mines in central India now outsourced to private operators [30].

Our Goa case is also illustrative of some of the contingencies and conjunctural specificities (e.g. the collapse of mining and the revenue crisis of MPT) that enable and shape the uneven integration of a region into India's new coal geography. In this sense, more regionally focused empirical research is needed to understand the specificities for other regions and states. Unlike, for example, Goa, Andhra Pradesh and Tamil Nadu, the state of Gujarat follows a very different pattern insofar as its coastal coal infrastructure does not consist of a focused geographical agglomeration next to a major port. Instead, many power plants in Gujarat simply have their own ports. In contrast, although Goa has a major public port by national standards, its State Electricity Department does not have its own power generating facilities, but depends entirely on allocations made by the central government, with roughly 80 percent of the contribution coming from coal-based power plants outside the state. Specific state-level political economies are thus important in shaping how a region is integrated into (or is left out of) the national coal geography.

Lastly, the Goa case has illustrated the considerable political support for India's new coal geography. The arrival of coal in Goa has been very unpopular among a broad section of citizens, and opposition has been significant. Goa arguably has India's most vibrant, most active and most resourceful civil society. Class and rural-urban differences are less pro¬nounced in Goa than elsewhere in India, and there is a long history of social movements from below centred on the preservation of land, for¬ests and livelihoods, all of which continue to inspire environmental activism in the present [91]. Yet, while the anti-coal campaigns in Goa might have succeeded in slowing down the transitions underfoot, they have not been able to stop coal in its tracks.[12] This does not bode well for other states where the political support for coastal coal is equally robust, but civil society is weaker.

As we argued earlier, Goa may not be a 'typical' case of how sub- national regions are integrated into India's new coal geography. While further research may indicate differently, there may in fact not be a typical sub-national case. Other states with significant coastal power – primarily Gujarat, Andhra Pradesh and Tamil Nadu – all present different combinations of features that have enabled the new coal ge¬ography. In contrast, states with coastal locations and industrialised economies like Maharashtra, Karnataka and West Bengal, which could have been integrated into the new coal geography, have not extensively supported coastal coal power plants. Untangling the drivers of the un¬even un¬even manifestation of India's new coal geography is thus a complicated affair that requires in-depth studies at the intermediate and local levels.

6. Conclusion: A new Indian coal geography reinforces fossil fuel dependence

The development of a hitherto unmapped new Indian coal geogra¬phy, located along the Indian coastline, dependent on imported coal and reliant primarily on the private sector, presents the emergence of a new resource landscape. This new energyscape is disconnected from the 'old' coal geography that was centred on extraction in the coal-bearing cen¬tral-eastern heartlands, heavy duty railway transport and power pro-duction on the peri-urban fringes of mega cities. India's new coal geography reinforces fossil fuel dependence, and, as such, represents a transition to additional coal-based energy in spite of the rise of lower cost renewable energy solutions.

While the prolonged Indian energy crisis from the 1990s onward paved the way for the establishment of the new coal geography, there was no clearly articulated government master plan driving its emer¬gence and no coherent centralised policy approach that made it happen. What we have seen is, rather, a prolonged period of gradual and distributed experimentation and flexible adjustment by private and public sector companies, but also across national and state governments, at a conjuncture of energy crisis that created enabling conditions for the emergence of a new coal geography operating alongside the old one. The new coal geography is thus not simply the outcome of unleashed market forces as much as private sector investors who were taking the lead: private coal depended on state divestment and reduced government control over energy and coal, but it also crucially piggybacked on India's political and bureaucratic structures for support, clearances and per-mits. Indeed, existing public infrastructure and extensive government support were (and continue to be) essential for making the new coal geography financially, politically and logistically possible. India's new coal geography, thus, relies on deregulation, even as it looks for support from the same political and bureaucratic structures during initial establishment and continued coal operations. The private sector in¬vestors of the new coal geography, in this manner and in the words of Bear ([95]: 19), sought to 'accumulate capital and power from the long- term history of colonial public works and their reconstitution in the present'.

While coal, thus, continues to be India's favourite fuel for electrical energy, the reasons for this are not simply straight-forward path- dependence. The flexible and responsive public–private collaboration in the domain of coal energy that we have analysed in this article has managed to put in place coal transport and thermal power generation capacity (via old and new coal geographies) on such a scale that it has largely succeeded in overcoming India's persistent electrical energy supply crisis.[13]

[12] 12 This ability to ignore or fend off anti-coal protests in Goa is derived from the intimate nature of its dominant state-business alliance wherein the distinction between political and economic elites is blurred. Many political and bureau¬cratic careers in Goa are built on successful business ventures – in the real estate sector or in more or less direct involvement in the mining industry. It is well documented that some of Goa's most important political families function as focal points for large networks that span across the government, the bureau¬cracy and industry, whose shared interests they both articulate and respond to [93,94].

[13] Other persistent problems such as the equitable distribution of electricity to all citizens, including the poorest, and the inability to deal with the negative environmental and social consequences of energy production remain largely unaddressed at a national level [21,22].

Coal energy, thus, continues to enjoy policy support, in spite of occasional statements to the contrary [96]. And very large public investments have already been sunk into the material and infrastructural systems that sustain the new coal geography, suggesting that it will not be easily abandoned.[14] At the same time, it is very clear that a large part of India's thermal power sector is far from profitable. Operations are characterised by low plant-load factors, renegotiated price-purchasing agreements, changes to lower cost coal supplies, reduced environmental control and hollowed out shareholder prices on the stock market. The state-business collaboration that is able to build and operate coastal coal energy infrastructure is, in these respects, a highly uneven one without clear winners. And yet the infrastructure continues to find enough support to remain operational while coal imports rise steadily. [15]

And as we move to the state-level, we are able to note how, inaddition to the prolonged work of experimentation and adjustment be¬tween many actors, the consolidation of coal also depended on consid¬erable on-the-ground work to retrofit existing, and adding new, infrastructure. In other words, even as India continues to rely on coal, which is the most conventional form of energy known in the country, it has taken an enormous amount of effort to establish the new coal ge¬ography. These efforts include large monetary investments by private-and public-sector actors in infrastructure capable of handling millions of tons of coal and generating vast amounts of thermal power. But they also include the proactive support of political and bureaucratic structures across consecutive national governments and the different sub-national legislative bodies which are part of India's system of federal governance. In our Goa case study, support from public authorities was apparent, with a few notable exceptions, as various civil society groups and actors objected to aspects of the new coal operations from the expansion of port facilities, to storage and transport solutions. With the spectre of energy crisis still in recent memory, it appears that Indian policy makers prefer to continue supporting the new coal geography, even when renewable energy is available at a lower cost.

At a moment in history when climate change is evident and India's domestic renewable energy sector is fast expanding, the well-entrenched and expanding infrastructure and policy support, which underpins the new coal geography – and hence coal energy in India more generally – raises particularly complicated and uncomfortable questions about the country's possibilities to transition to low carbon energy in the future: Is India's new coal geography sufficiently robust to fend off the twin challenges of climate change and cheap renewables in the short to me¬dium term? Based on the analysis in this article, the answer would seem to be a tentative yes. In relation to the increasing use of imported coal, it is noteworthy that India's first domestic commercial coal mine auction took place on 18 June 2020 under the slogan Unleashing Coal. With this auction, the government aimed to attract new private investors to 41 domestic coal mines – many of them in biodiversity rich forest areas – and make the country self-reliant in coal [97]. Tellingly, the prime minister had spoken of turning coal to diamonds through the auction process [98]. Rather than a transition away from coal, the main energy-policy question in India today, thus, concerns the relative share of do¬mestic to imported coal within the dominant coal-based energyscape.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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[14] Further research would do well to connect India's new coal geography to its various international supply chains to understand rearrangements in coal- producing territories around the world and the political economy of coal trade.

[15] We also note that more than half the imported coal cannot be traced in our analysis of formal thermal power plants. Further research may be able to un¬cover additional coal geographies centred on the import of coal for various industrial purposes.

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How Reduced Scrutiny of Polluting Units could lead to Industrial Disasters

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Recent changes to environment clearance rules allow polluting industries to expand their operations and change their product mix without full central scrutiny. This may weaken the already poor compliance with environmental regulations and could even lead to industrial accidents like the 2020 Visakhapatnam gas leak, experts say.

Nikhil Ghanekar

Recent changes in the environment clearance process for India's most polluting industries will allow them to expand their capacity and change their raw materials without seeking the central environment ministry's approval. This dilution of rulesmay not only worsen India's high pollution load but also result in lethal industrial disasters, experts warn.

The March 2021 amendment to the Environment Impact Assessment notification of2006 reduces the scrutiny of habitually polluting units such as petrochemical, cement and fertiliser factories wishing to undertake critical changes in capacity and product mix. Earlier, these units could increase their capacity only up to 50% without a fresh clearance from the Ministry of Environment, Forest and Climate Change. Now, they only need to secure a "no increase in pollution load" certification by agovernment-empanelled auditor or institution. And there is no longer a limit on the expansion.

This dilution in rules shows an abdication of responsibility on the environment ministry's part, said experts. Not only do Indian industries have a weak track record of compliance with pollution control rules but also systems put in place to allow relaxed scrutiny – such as the Online Continuous Emissions Monitoring System – have been patchily implemented, as we explain.

Also, the limited scrutiny of a unit's expansion, while ignoring the impact of associated activities such as road building, power supply and waste treatment, underestimates the environmental risk, experts said.

The highly lethal gas leak at the LG Polymers factory in Visakhapatnam on May 7,2020, may have been "indirectly caused" by the unit's poorly scrutinised expansion carried out without the requisite environmental clearance, said the report of the panel that investigated the disaster.

Rameshwar Prasad Gupta, secretary, the environment ministry defended the move on the grounds that prior approvals are not a fail-proof fix for polluting industries though he admitted to the problem of compliance. "Laws and prior approvals are no substitute for good compliance. We are also working on this issue," he said, "Having priora approvals does not solve our problems, our compliance will have to increase irrespective of whether we have prior approvals or not."

We discuss some such steps to improve compliance, such as the installation of the Online Continuous Emissions Monitoring System, later in the story.

No lessons learnt from Vizag disaster

The leak of styrene gas from one of the storage tanks at the chemical plant of LG Polymers India in Visakhapatnam in coastal Andhra Pradesh killed 12 people and made hundreds ill. This was one of the worst gas leaks since the 1984 Bhopal gastragedy that killed over 5,000 people and left lingering side-effects on over half a million.

LG Polymers had expanded its polystyrene production without a valid environmental clearance from the Union environment ministry and this may have indirectly led to the accident, concluded the high-power committee constituted by the Andhra government to probe the disaster. It reported that the company had expanded operations six times(production went up from 235 tonnes per day to 313 tonnes per day) between 2004and 2018 on the basis of just approvals from the state pollution control board. As per the EIA notification of 2006, this clearance should have come from the MOEFCC.

An appraisal of the project's expansion by the Union environment ministry wouldhave involved stricter scrutiny on two counts: It would have taken into account the project's potential impact on human health and natural and human-made resources. This would have been done by the relevant sectoral Expert Appraisal Committee based on an Environment Impact Assessment report. An EIA report, among otherthings, includes baseline data on pollution and natural resources.

Second, the project would have been subject to a public hearing and consultationunder the EIA notification of 2006, which allows citizens living around the projectsite the legal space to voice their concerns over suspected risks from a project tothemselves and their communities. "In case the LG Polymers had made an application on time, perhaps the terms ofreference would have addressed the possibility of leakage of vapours/gas from thestorage tanks/processes," the probe report said.

Former bureaucrat and Vishakapatnam-based social activist EAS Sarma criticised themanner in which the LG Polymers issue was handled. The fact that similar accidentshappened in other plants in the area subsequently showed that no lessons had beenlearned from the disaster, he said. In its report, the probe panel said that LG Polymers bears "absolute liability" as a polluter but in its concluding remarks, it only offeredadministrative and regulatory suggestions to the state pollution control board.

Sarma said that at the time of clearing successive expansions at LG Polymers, thestate pollution board had been aware that the unit had not secured the prescribedenvironmental clearance but ignored the fact. "The Union environment ministrywhich is required to ensure that no industrial unit functions without an environmentclearance never cared to monitor and enforce the same," he added.

The unit was set up when the population around it was small. As the populationdensity increased, Sarma explained, the risk factor increased. "When an expansiontakes place in a densely populated area, it can have widespread and long-termenvironmental and health implications. The two laws for preventing air and water pollution, under which pollution control boards are created, require them to make anassessment of the location of an expansion from that point of view but the AndhraPradesh Pollution Control Board ignored it in the case of LG," Sarma said.

The operations at LG Polymers have ceased and all its permits, licenses and consentswere withdrawn after the incident, an LG spokesperson told IndiaSpend over email.The National Green Tribunal took suo motu cognisance of the gas leak and orderedthe company to pay Rs 50 crore as interim compensation to the victims of the gas leakand for the restoration of the environment. The company had moved the SupremeCourt against a few other directions of the NGT in this regard and the matter is pending.

Highly Polluting industries get exemptions

The March 2021 notification will apply to only those units which had obtained anenvironmental clearance while originally commencing operations. But highly polluting industries involving hazardous processes – those making pesticides,fertilisers, petrochemicals, cement, soda ash, asbestos and pulp and paper – as well asdistilleries and coal washeries, among others – will benefit from it.

The industrial processes and product use covers greenhouse gas emissions that occurduring industrial processes. These emissions can be caused by industrial activity, theuse of greenhouse gases in products, and from the non-energy use of fossil fuelcarbon, as per the guidelines of the Intergovernmental Panel on Climate Change.These are industries that transform raw material by chemical and physical means.

In 2016, India's industrial processes and product use emitted 2,26,407 gigagram ofcarbon dioxide equivalent greenhouse gas, accounting for 8% of the country's totalemissions, as per India's Third Biennial Update Report to the United NationsFramework Convention on Climate Change. A carbon dioxide equivalent is the metricused to compare emissions from various greenhouse gases on their global warming potential.

In this category, cement production is the largest emission source in India, accountingfor about 47% of total industrial processes and product use sector emissions, thereport said. Industries under this category need the Centre's environmental clearance because of the significant impact their operations have on human health andresources, environmentalists say.

Now, as per the new notification, once certified by auditors, the certification for "no increase in pollution load" would be examined only by the State Pollution Control Board.

Along with certification, the industries also need to install and implement the Online Continuous Emissions Monitoring System and have it connected to the servers of the Central Pollution Control Board and State Pollution Control Board, the notification said. Industries would have to apply for an environmental clearance if the State Pollution Control Board concerned holds that the expansion or changes in raw materials will result in an increase in the pollution load.

'Why not use the existing data system?

Under the amended law, the pollution load of companies that have expanded operations will have to be checked based on the estimated emissions, effluents and discharge figures provided by them to the environment ministry when they obtained their initial environmental clearance.

Environmental lawyer Ritwick Dutta questioned this move. Why cannot the pollution data generated through online continuous emissions/effluent monitoring systems be checked to verify this pollution load, he asked. In February 2014, the Central Pollution Control Board had issued directions to 17 categories of highly polluting industries to install online continuous emissions/effluent monitoring systems to help to track emissions and discharge of pollution. "Instead of the auditors, the pollution control board should be checking if there is no increase in pollution load," said Dutta.

This online continuous emissions/effluent monitoring systems system providesreal-time data to Central Pollution Control Board and State Pollution Control Boards, the central and state-level pollution watchdogs. All the industries covered under the new notification were also covered under the Central Pollution Control Board's directions. However, the system has taken off in fits and starts and remainsnon-functional in many places.

Representational image. Photo credit: Himanshu Sharma / AFP

Continuous emissions monitoring slow to take off

The online continuous emissions/effluent monitoring systems were intended to increase self-regulation and help strengthen the monitoring regime. While the Central Pollution Control Board first directed 17 categories of industries to install the missions monitoring system in 2014, the Supreme Court went one step ahead. In its February 22, 2017, judgment, it directed all states and Union Territories to make provisions for online, real-time, continuous monitoring systems to display emission levels, in the public domain, on the portal of the state pollution control board concerned.

However, of the 32 State Pollution Control Boards required to install the onlinecontinuous emissions/effluent monitoring systems as per the Supreme Court order,only 50% had complied with the judgment, revealed a 2020 analysis done bynon-profit organisation Legal Initiative for Forest and Environment.

As many as 50% of the industries that required installation of online continuousemissions/effluent monitoring systems had not created the necessary portal. Of the 16states and Union Territories that complied with the judgment, only six (38%) allowedusers to assess historical data, five displayed data going back to 30 days and theremaining only current pollution levels.

In March this year, the NGT admitted a petition challenging non-compliance of theSC order on the installation of online continuous emissions/effluent monitoringsystems. It directed State Pollution Control Boards and the Central Pollution ControlBoard to act against truant units and directed states to respond on whether pollutiondata was being made available publicly.

Dutta also pointed out that the expansion of industries and changes in product mixdoes not entail an increase in pollution load only via the main project unit but alsothrough allied activities. The EIAnotification of 2006, Dutta said, talks about the"potential for cumulative impacts", which include the development of supporting infrastructure such as roads, power supply, waste treatment, housing, supply andafter-use of the site.

"Production might be more efficient even after expansion due to the use of newtechnology," Dutta said. "But increased production will be accompanied by anincrease in transport, ferrying of supplies and such allied activities."

Shortage of technical experts

Other experts said that the new notification will further weaken an already weakenforcement and compliance mechanism, as was also found by the Comptroller andAuditor General of India in 2017.

The new notification is in line with the overhaul of environmental regulations assuggested in 2014 by a high-level committee that was headed by former cabinetsecretary TSR Subramanian, Kanchi Kohli, senior researcher at Delhi-basedthink-tank, the Centre for Policy Research, said. "The ministry's high-level committeehad introduced the concept of 'utmost good faith' as central to its recommendations.What has been rolled out through the introduction of 'no increase in pollution load'certification is the enforcement of the high-level committee's suggestion," she said.

The high-level committee was constituted in 2014 to review all major environmentallaws and regulations of the country. The parliamentary standing committee on Scienceand Technology, Environment, Forests and Climate Change had, however, rejectedthis committee's report.

Kohli said that companies that fail to comply with conditions set by the environmentministry while granting them clearances must not be given permissions to expandoperations without due scrutiny. Also, public hearings must be held before a companyis allowed to expand production or change its product mix, she added.

Between early 2015 and late 2017, State Pollution Control Boards had exempted 146of 206 classes of polluting industries from routine inspections and allowed them toself-certify their compliance, IndiaSpend reported inJanuary 2020.

The Central Pollution Control Board and State Pollution Control Board are also facingan acute shortage of technical experts, which is weakening their efforts to enforce airquality standards, we had reported in 2020.

"Public hearings prior to the grant of expansions were one opportunity where severalunresolved impacts could be flagged and addressed," Kohli added. "Moreover,impacts that were never disclosed as part of the impact assessment process can beofficially recognised and steps taken to mitigate risks both for project-affected peopleand project operations. Therefore, it is crucial that there is a periodic review of all the promises and commitments made by project operators."

Wind-solar parks: Conflicts galore but India wants more

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Mayank Aggarwal

- The Indian government has proposed a new policy for the development of wind parks and wind-solar hybrid parks which identifies 19 sites across seven states that together have a potential of about 54,000 megawatts of installed capacity.
- The proposed policy is in line with India's target of 175,000 MW by 2022 and ambition of 450,000 MW by 2030 but experts and community leaders argue that it overlooks land conflicts, concerns related to environment and issues faced by communities in such areas.
- Experts warned that irresponsible energy development won't help in India's pursuit of clean energy transition and would merely shift conflict from coal-bearing areas to the ones where clean energy projects are concentrated.

The Indian government has identified about 10,800 square kilometres of land across seven states to develop wind parks or wind-solar hybrid parks totalling about 54,000 MW. But the proposed policy for such parks is largely silent about concerns related to the environment, land and communities that are increasingly gaining the centre stage and impacting projects worth billions.

On November 13, Indian government's Ministry of New and Renewable Energy (MNRE) made public a concept noteon 'Development of wind parks/wind-solar hybrid parks' and sought comments and views from stakeholders including other Central government ministries, the Central Electricity Authority, state governments, power distribution companies, and wind power developers by November 28.

The proposal has identified the availability of 10,789 square kilometres land at 19 sites in seven states (Tamil Nadu, Andhra Pradesh, Karnataka, Gujarat, Rajasthan, Madhya Pradesh and Telangana) that has the potential for installation of 53,945 MW renewable power capacity – with parks the size of at least 500 megawatts (MW) size each. But it clarified that it is an indicative list only and states may decide to develop such wind parks or solar parks at other feasible locations.

The proposal clarified that parks of lower capacity may also be developed depending upon the availability of land and resource but even then, the capacity of each park shall "not be less than 50 MW" and said, "park developers may also be allowed to pool small investor into the single park."

The proposal to develop such parks come while India is racing to achieve a target of installing 175,000 MW of renewable energy power by 2022, a commitment it made as part of its global climate goals. At present, India's installed renewable energy capacity is about 89,635 MWonly which means that in the next two years India needs to nearly double it to achieve the required target.

But India is lagging behind the target of 40,000 MW of rooftop solar – which was the vital part of the 175,000 MW target. In such a scenario, the government is probably looking at developing large solar parks and wind parks to bridge the gap. Recently, the government in Gujarat cleared land allotment of about 60,000 hectares in Kutch region for the development of 41,500 MW mega solar and wind energy park that is estimated to attract investment of around Rs 1.35 trillion.

In 2015, under its international climate change commitments, India had promised to cut down its emissions intensity by 33-35% by 2030 and have 40% of its power, around 350,000 MW installed capacity, from renewable power.

Thus, India's ambitious pursuit of clean energy transition is in line with that plan but what is probably missing is proper environmental and social impact assessment of the green energy plans to understand its impact on the environment and communities. For instance, one major complaint against the rapid clean energy transition is that it is usurping fertile agricultural land and massively impacting avifauna.

Land remains a critical concern for solar and wind parks

Justifying this latest proposal of developing wind parks or hybrid solar-wind parks, the MNRE noted that even though a series of steps have been taken to promote large scale wind, solar and wind-solar hybrid power projects issues like "land and transmission" of power are plaguing their growth.

"While solar power project is commissioned on contiguous land, the wind power project requires scattered land on footprint basis which not only increases the transmission cost but also increases the possibility of land-related issues. These challenges and uncertainties have raised the concerned of investors in the sector," the ministry said.

Emphasising that this new scheme could help overcome such challenges, the ministry explained such parks will be a "concentrated zone of development of wind/wind-solar hybrid power projects" and will provide an area that has "proper infrastructure including evacuation facilities in place and where the risk of the projects can be minimised."

"Wind energy park will provide a plug and play solution (availability of land, transmission, necessary infrastructure and necessary approvals) to the investors for installing wind/ wind-solar power projects," the ministry said."India's targets are massive and wholly unrealistic, but if pressed will lead to substantial adverse impacts on the environment and communities living around such developments. Moreover, the huge amount of renewable capacity installed doesn't translate into the power generated by those renewable power projects – so what matters is the efficiency of such projects and not the installed capacity," Lisa Linowes, who is co-chair of the United States-based Wildlife Energy and Community Coalition (WECC), told Mongabay-India.

WECC is an alliance of grassroots environmental and community organisations, scientists, and conservationists working to protect communities and wildlife threatened by irresponsible energy development. The advocacy groupsaysit seeks to alert about the "environmental consequences of renewables" and support "communities fighting industrial-scale renewable energy projects" but claim they do no "accept and have never accepted, any funding from any energy company, investor, union, or any other entity." It also specifies that "some of WECC's members are pro-nuclear, others are pro-natural gas."

"The questions that need to be answered before India pursues such a massive renewable programme involving huge solar and wind parks are – whether there is sufficient available land, whether comprehensive environmental impact assessments are conducted prior to construction and whether a proper compliance of environmental safeguards is carried out after a project is operational," Linowes questioned.Renewable projects including such solar and wind parks are already facing resistance from communities – including legal cases.

For instance, Sumer Singh Bhati, a Rajasthan-based farmer involved in agriculture and camel dairy work, explained that they have approached the National Green Tribunal against one such project which is threatening theirpastoral land, agricultural farmsand local wildlife including critically endangered great Indian bustard.

"The government is letting such parks come up in ecologically sensitive areas. Our area is the habitat of the great Indian bustard and we recently had a case of one such bird being electrocuted by power transmission lines. Also, the government has failed in addressing the concerns of the farmers. I have around 400 camels but the land that was there for grazing has been destroyed. There is no planning or concern for the local farmers," Bhati said.

Conflicts in the development of renewable can impact investments

Project developers also understand concerns around land and how it can impact the investment put in by the developers.

Gautam Das, who is co-founder and the CEO of Oorjan Cleantech, said that it "would be great if the farmers or the landowners are able to participate in this opportunity."

"So, land can be taken on lease from them and they can earn an annuity income over 25-30 years depending on whether the end use is for solar or wind. However, this requires strong legal documentation and enforcement toprovide confidence to the investors. The ecosystem is evolving fast but there is a long way to go," Das told Mongabay-India.

He cautioned that India would cross major milestones in the instalment of solar power "only when investors are confident about the ecosystem along with credit and operation risks." Das emphasised that policy uniformity across the country and time-bound execution are the biggest aspects the government need to immediately address to solve the woes of the sector.

The MNRE specified that though probable sites have been identified on the basis of availability of mainly wind resource and suitability of land for wind power projects, the developers can install solar projects as well if they find a site to be suitable.

The government says that this will "pace up the deployment of wind power projects in the country" and "major uncertainties" of wind power project developers including land, transmission, clearances would be minimised, which would "not only reduce the commissioning time of wind power projects but also lead to competitive tariffs."

Clean energy transition should not shift the location of conflicts

Renewable energy adoption is vital for a coal-dependent nation like India. Though India has already made and is looking at making rapid strides in renewable power development, experts want India to exercise caution and consider its impacts on the environment and communities.

Otherwise, it would only result in shifting of conflicts from coal-bearing areas to areas where renewable projects are concentrated and this clean energy transition would only harm the environment and communities.

Lisa Linowes said land conflicts, transmission lines that evacuate power without impacting the birds and level of impact on communities living around such parks are some of the questions that need to be answered.

"For instance, it is now clear that industrial wind energy facilities produce high levels of noise that can drive people from their homes. Rather than embracing large capacity targets, the focus should be on stricter regulations and post-project monitoring. Whether it is the pre-construction period or post-construction period, the impact of wildlife needs to be understood. Even in many parts of the US, such studies are not done even as there is a clear impact on avifauna including bats. Instead, the debate turns to choosing the lesser evil regarding fuel sources," she argued.

On the MNRE's proposed solar park policy, Das noted that "policy implementation and project execution at ground level may take far more time than ideally what it should. Hence, investors are sceptical to fund the projects at the construction stage."

Das added, "We always prefer that the developer arrange bridge funding and hand over the operation assets to the investors. Interim or bridge funding is a significant challenge which the ecosystem and government need to address. Open access and park level approvals, ROW and land-related issues are additional concerns."Prime Minister Narendra Modi had recently highlighteda target of 450,000MW by 2030continuing India's efforts to become a leader in clean technology.

Linowes warned against "blindly pursuing" mega renewable projects without understanding their larger impacts on the environment or communities.

"Solar and wind power developers are installing large projects which are yielding large financial rewards for them but the policymakers are forgetting that it is leading to a huge impact on wildlife and communities. We need to ensure wildlife and communities coexist otherwise the current policies like the one practised by India is inexcusable. India, in fact, has an opportunity to learn from US' renewable programmes including the mistakes made before embarking on a similar path," she noted.

India's U-Turn on 'Clean' Energy Is a Bad Move

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The Narendra Modi government has used the pandemic to push for cheap and dirty coal power even if it kills.

Kanchi Kohli and Manju Menon

At the start of 2020, the Central government made an important set of changes to India's coal sector through an ordinance and then amendments to the Coal Mines (Special Provisions) Act, 2015. Through these, the government has expanded opportunities for privatised, commercial mining. Coal blocks can now be owned by private entities without any prior coal mining experience and any "specified end-use."

These big shifts have raised many questions about what the government hopes to achieve by commercialising coal in this era of intense competition from renewables in the electricity sector, the rising NPAs of thermal power plants (TPPs) and a massive global withdrawal from fossil fuel for climate and environmental reasons.

In March 2020, India went into an economic lockdown to manage the spread of the COVID-19 pandemic. With the economy further shrunk and challenged by effects such as a fall in power demand, the government's continued coal sector "reforms" have earned criticism even from the private sector. Who would be crazy enough to invest in coal now, was everyone's question. In a shocking follow-up, the government has dangled a potentially dangerous carrot to investors in India's coal blocks. It has done away with the regulation requiring power plants to use "washed" coal, by terming it an unnecessary cost on coal users.

The "washing" requirement was introduced in 1997, and promised the use of cleaner coal in power production. It was India's only legitimate justification to extend the life of coal as a development fuel despite the climate crisis. Now, with this U-turn that allows private entities to dig out and burn low-grade coal to produce electricity, the Indian government stands exposed not only as an unreliable climate saviour but one that sacrifices the rights and safety of all its citizens to protect the interests of private coal mining and power generation.

The governance failure of coal washeries

Indian coal is known to contain 30-50% ash, meaning that for every two units of coal burned, one unit of ash could be produced. So, a manufacturing or power producing unit has to burn more coal and in turn generate not only ash but also noxious gases, particulate matter and carbon emissions.

Coal washeries are units that reduce the ash content in coal through a mix of segregation, blending and washing techniques. These technologies are meant to allow the conservation and optimal use of coal reserves by improving the quality and efficiency of low grade, high ash Indian coal. Washery units set up in different locations were also meant to make improved coal available across manufacturing and industrial areas and thus reduce the reliance on long distance transportation of different grades of coal to units that needed them. Most importantly, washed coal would also provide high grade "coking" coal that is essential for the steel sector. Also read: How Malleable Laws, Pliant Panels Helped OIL Secure Clearance to Drill in Biodiverse Area Despite the known importance of coal washing to our coal dependent economy, this sector made up of medium and small-scale units (MSMEs) has mostly been a governance failure. After the nationalisation of coal in 1972-73, India's washing capacity fell out of step with the massive increase in coal mining and the consequent exhaustion of our better coal reserves.

In the 1993 amendments to the Coal Mines (Nationalisation) Act, 1973, which first legalised the privatisation of coal blocks in India, private players showing "coal washing" as end use were also given captive coal blocks. Although the legal amendments invited private actors to invest in coal washeries, it generated much less interest than expected. According to the 2017 statistics, India has a total of 60 washeries with a capacity of only 185 MT. Of these, 15 are operated by Coal India Limited, India's largest coal mining PSU, 19 are private coking coal washeries for use by steel industries and 38 are non-coking coal washeries run by private players like Aryan, Adani and Jindal.

The tendering processes followed by CIL for washeries moved at a snail's pace. PSU contractors and private washeries have complained of the prohibitive costs of obtaining land and environment and forest approvals. Coal price regulation did not incentivise coal washing. The sector has suffered from lack of efficient linkages in the coal supply chain and there has been no R&D that is suited to our coal and industrial needs. This is specially the case with coking coal production and so India has been importing almost all the coking coal needed for its steel industry. Due to the lack of washeries, CIL produced coal cannot be used where needed. The shortages and erratic supply of washed coal to the power sector has resulted in India importing for its TPPs also at great cost to the exchequer.

But beyond all these technical issues is the political economy of coal. The story of the coal washeries drags us back to the mismanagement of the coal sector that lay beyond what the Supreme Court observed and addressed in the historic coal scam case in 2014. The mismatch between the regulation of coal blocks by the Congress government and growth in the coal consuming sectors created a huge unmet demand for coal. The coal washeries soon became a route to divert good coal into these grey markets as coal rejects. Chandasi near Varanasi is one such market active from the days when CIL had monopoly rights to mine coal. Various grades of coal which were legally or illegally mined, diverted or stolen, would land up here. As noted by journalist Rajshekhar, this was the "market that stepped in to correct a state failure"

India's environment ministry laid out notifications mandating the use of low-ash producing coal in TPPs in urban, critically polluted, and ecologically sensitive areas and in power plants beyond 1000 km of coal mines (G.S.R. 560(E), 19.9.1997 and G.S.R. 378(E), 30.5.1998); as well as the safe disposal of ash produced (S.O. 763 (E) dated 14.9.1999). In January 2014, at the peak of the coal scam, the UPA introduced another notification stating that only coal with less than 34 % ash content should be used in all TPPs above 100 MW beyond 500 km of coal mine or if they are in urban areas, ESAs and critically polluted areas.

Experts say this was in line with India's committed position on climate change; that is to control carbon emissions from domestic coal use without necessarily reducing coal consumption. This regulation was also written into India's 2015 INDCs as "Coal beneficiation has been made mandatory." These notifications, however, have mostly remained unimplemented given the larger unaddressed problems in the coal sector. The governance failure of washeries has caused the wasteful use of India's coal reserves, loss of foreign exchange and huge environmental and social impacts.

A U-turn from clean coal

Having come to power criticising the UPA's system of coal block allocations, the Modi government recognised that the coal sector needed to be straightened up. The Central Bureau of Investigation continued to track companies named in the coal scam and in some instances found coal miners (also this) allegedly diverting raw coal in the name of washeries.

In June 2016, the coal ministry had a detailed presentation and meeting to decide on a way to regulate coal rejects or middling. The meeting's objectives were narrowed down to articulate a clear policy on how "the quantity of washery rejects generated by a washery" should be monitored. The minutes of the meeting state that "apprehensions" were voiced during the meeting that bidders who get coal blocks under a new system of coal auctions "might sell coal under garb of washery rejects." The government was concerned that leakages would defeat the purpose of making coal accessible to power producers below the market price to keep coal power cheap.

At the same time, more initiatives were devised for the washeries sector. Media reports state that in 2017, Coal India's Vision 2030 argued for the need to increase coal washing capacity through Public Private Partnerships. To bring them online, environment approvals for washeries were made easier through generalised Terms Of Reference for EIAs in 2018. Between December 2019 and January 2020, at least six coal washeries were listed for environmental approvals for capacity enhancement, validity extensions and new projects. Pollution Control Boards (PCB) allow washeries to function even though their operations are highly polluting and they guzzle water.

As recently as January 2020, the NITI Aayog stated in a report that all new coal plants need to use super critical technology and washed coal. But after all this acknowledgement of the importance of coal washeries, the government surprisingly issued new notification in May 2020 without seeking any public inputs. On May 21, the environment ministry undid the January 2014 notification that required TPPs to use of coal that has less than 34% ash content.

The ministry's new regulation allows TPPs to now use low-grade Indian coal that produces more fly ash. The regulation, however, states that TPPs will have to comply with emission norms, fly ash utilisation norms and use transportation with safeguards or means that are less polluting. This sudden, unplanned environmental policy on coal threatens all the planned and in-process investments in washeries like CIL's plans for expansion.

The ministry's justification for allowing the use of high-ash coal are two-fold. The economic debacle caused by the COVID lockdown is its first pretext. In its interest to generate new private investments in coal, the government would like to liberate the coal mining and thermal power sectors from the costs of washing and transporting washed coal. But experts state that the cost of washed coal does not add even 10% to the cost of electricity.

The ministry also states that coal washeries cause pollution. However, this problem is not unique to washeries alone and applies to the entire supply chain that supports India's economy. In the latest notification, the government makes coal washeries the only culprit of the problems that plague coal use and shifts the burden of managing pollution from the use of coal to TPPs.

The new notification states "(I) The extent of ash content in mined coal remains the same. With washeries, the ash content gets divided at two places (washeries and the power plant), whereas if unwashed coal is used in power plant, the ash content is handled at only one place viz. the power plant". According to the government, TPPs are now well equipped to manage fly ash and emission norms through better technology. However, these claims that pollution even from low grade coal use can be managed by making it the responsibility of TPPs is not tenable. According to IEA's 2020 report, TPPs with their stressed finances, low water and fuel supply, cannot bear even the existing environmental costs.

Impact of dirty coal

The government's explanations undermine the huge environmental challenge of coal use in India. Private TPPs are particularly hard to regulate because of their contradictory objectives of provisioning of electricity, a politically sensitive subject, and making profits. The new notification pushes the burden of pollution reduction to TPPs when they have shown no intention to comply with existing environmental laws so far. Between the government's permissiveness on coal use and TPPs impunity to flout pollution norms, coal washeries were the only bridge to address coal efficiency and air, land and water pollution by coal power.

Fly ash is the worst form of waste generated by dirty coal in TPPs. It is produced and collected in towering, open landfills called ash ponds. The breaching of these landfills lead to large scale disasters. They inundate large areas with toxic materials that can render farmlands and water bodies polluted on a large scale. Besides the creation of poisonous landfills in the ground, the burning of poor quality coal increases carbon emissions and air pollution, a danger to public health. There is enough evidence to show that fly ash management by TPPs has failed and the environment ministry has dragged its feet on implementing the emission standards. Despite these large-scale violations of environmental laws by TPPs, there are few and piece-meal responses from judicial agencies to these issues that affect millions of people and their environments in India's coal bearing states.

The states of Jharkhand, Chhattisgarh and Odisha that have large agglomerations of coal mines and power plants will become more unliveable by the burning of bad coal. While more deaths and disease by air pollution are a distinct possibility, the spread of unmanaged fly ash will turn these rice growing regions into wastelands.

The land provided to TPPs through acquisition, sale or lease includes the space needed to construct fly ash ponds. Over the years the lands approved for TPPs have reduced due to land conflicts and the fly ash management measures put down on paper. As a result, ash will continue to be indiscriminately dumped.

These coal and pollution management policies that fail by design is an attack on the right to food, work and life of people in the coal regions. India's entire coal network is ultimately set up to meet the expectations of a growing consumeristic society addicted to cheap power. It was a welcome surprise to hear a chief minister of a mining dependent state finally speak up against a national extractive economy that keeps mineral rich states poor with very low and often unpaid royalties.

Conclusion

While economic reforms at this crucial time should have focused on reducing coal and extractive minerals in the power sector and in the economy altogether, the government has shown that it continues to support mining and coal use. This points to the salience of the extractive

industry in India's political economy.

The BJP rode into power at the Centre on the back of the coalgate scam, but since then its has been able to do little to govern the coal sector better. While its big declarations on renewables received accolades from the international climate community, domestically the government's support for coal continues despite all the socio-economic and environmental rationale against it. The much hyped coal auctions of 50 new coal blocks are due "soon".

Indians are resigned to the use of coal for some more years because it is enmeshed in the country's political economy of development. But in this context, the new notification's permission to use low grade coal in power generation is dangerous and discriminatory. By denying – and refusing to remedy – the governance problems of coal use and allowing rogue coal power plants to bypass washeries, the environment ministry has put on the line the lives of the poorest people residing in the country's coal enclaves.

Kanchi Kohli and Manju Menon are with the Centre for Policy Research.

Critical Legal Appraisal of The Baghjan Oil Explosion

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Madhubanti Sadhya, CEERA, NLSIU

Nausheen Khan, LL.B. 2nd Yr., Campus Law Centre, University of Delhi

Baghjan is a village located in Tinsukia District of Assam, in the midst of large reserves of natural gas found in the Brahmaputra Basin. It is the site of one of an oil field set up by Oil India Limited (Oil) comprising of 17 oil wells and 5 gas wells, situated very close to the eco-sensitive zone of the Dibru-Saikhowa National Park. At around 10:30 A.M. a gas well at the oilfield started spewing natural gas uncontrollably. After two weeks of continuous release of toxic substances, a fire erupted on 9th June, causing the death of two employees of the OIL. On 19th June, the Pollution Control Board of Assam issued a closure notice to OIL for its operations including the drilling operations at Baghjan oil field and to take expedient steps to extinguish the raging fire.[1]

A second explosion occurred on 22th July, injuring 3 foreign experts employed by OIL to mitigate the harm being caused by the continuous fire and leakage [2]. According to a news report, OIL has suspended two employees for alleged negligence of duty at the site, and has issued a show-cause notice to John Energy Pvt. Ltd, the outsourced private operator of the well. [3]

A slew of petitions by various environmental activists, NGOs and students have since been filed at the High Court, Supreme Court and the NGT for the same. The NGT hasinvoked S. 14 and 15 of the NGT Act, 2010 [4] to adjudicate the matter, being satisfied that the cases involve substantial questions relating to environment.

Till date, there have been three NGT orders, which will be examined in detail in this article. The following chart shows the timeline of events, giving a chronological view of the developments in the case up till now:

TIMELINE:	
27th May, 2020	• Around 10:30 A.M. on 27 May, 2020 a blowout occurred at the Baghjan Oil field of OIL India Limited in Tinsukia District, Assam. • The released toxins included propane, methane, propylene and other gases causing damage to environment, life, property and livelihoods.
9th June, 2020	• Inflammable natural gas caught fire on 9th June, claiming the lives of two fire fighters and leaving behind huge volumes of residue as gas condensate which is toxic for land and vegetation and is also carcinogenic in humans. • Two petitions [5] regarding the blowout and the subsequent explosions were jointly taken up for hearing at Principal Bench of NGT at New Delhi. The first petition was filed by Mr. Bonani Kakkar, an environmentalist who alleged failure of the authorities including OIL and others in preventing the incident. The second petition was filed by Wild Life and Environment Conservation Organization which is an NGO working for community awareness in Assam. The allegations, which are common to both the petitions, include extensive damage to wildlife, vegetation, human life and property and widespread human displacement and loss of livelihood due to the negligence of OIL. The petitions also invoked the polluter pays principle and the precautionary principle of environment allow, and also the public trust doctrine.
24th June, 2020	• In the order [6] given by the NGT on 24 June, 2020, an Expert Committee was constituted by it to conduct an investigation, gather facts and fix liability with Justice B.P. Katakey, former Judge of the Guahati High Court as Chairman and 7 other members (including representatives from CPCB, CSIR, Guwahati University, State Biodiversity Board, ONGCL, State PCB and the District Magistrate, Tinsukia District). The Committee was given30 days' time to submit a preliminary report. • The NGT in the same order instructed OIL to deposit Rs. 25Crores with the District Magistrate at Tinsukia, as an interimamount to meet the cost of remediation of damage toenvironment, biodiversity, human life, wildlife and public health. [7]
2nd July, 2020	• A petition filed by OIL challenging proceedings at NGT on the ground of lack of jurisdiction was dismissed. However, the order dated 24 June was partially modified removing the requirement of deposit of Rs. 25 Crores, noting that OIL hadal ready set apart more than that amount and being a public sect or undertaking there will be no difficulty in promptly making available whatever amount is required for discharge of its liability. [8]
22th July, 2020	• Another explosion occurred at the site of the leakage, resultingin injury to three experts engaged by OIL to douse the fire.
24th July, 2020	• The Committee filed its preliminary report based on consultation with various experts, government bodies, and the stake holders including the affected community and activists.
29th July, 2020	• The preliminary report submitted by the Committee came up for consideration at the NGT. However, it was deferred to 6 August to allow time to OIL to file objections to the report. • The report, discussed in detail below, came up for consideration and was accepted by the NGT in its totality, allowing for adjustment of amount of interim compensation with the amount already disbursed by OIL.
6th August, 2020	• The objections filed by OIL to the report were rejected. The next date of hearing is fixed for3 November, before which the Committee will submit its final report.

Impact on Flora and Fauna : The petitions [9] being heard at the NGT allege that the released gas is a mix of propane, methane, propylene and other gases, which will affect the bamboo groves, tea gardens, banana trees and betel nut trees. According to the order of the NGT dated 24 June [10], the harmful condensate from the blowout has reached the Dibru-Saikhowa National Park which has "over 40 mammals 500species of birds, 104 fish species, 105 butterfly species and 680 types of plants, including a wide variety of rare orchids... harb ours the tiger, elephant, wild buffalo, leopard, hoo lock gibbon, capped langur, slow loris, Gangetic dolphin, besides critically endangered bird species such as the Bengal Florican, White Winged Duck, Greater Adjutant stork, White rumped vulture, slender billed vulture as well as the rare and endemic Black-breasted parrot bill." The blowout has also caused a film of oil to formon the surface of the Dibru river which flows into the Maguri-Motapung wetland which is a Bird and Biodiversity area of high significance. Both, the Maguri-Motapung wetlandand the Dibro-Saikhowa National Park are part of the larger Dibru-Saikhowa BiosphereReserve (DSBR) which hosts "vulnerable species like Swamp Francolin, Marsh Babbler, Greater Adjutant and Pallas's Fish-eagle, Red-headed Vulture and White-bellied Heron, and over 80 species of fish." Additionally, river Dibru remains contaminated, causing threat to the Gangetic Dolphin that resides in the Brahmaputra river system, of which it is a tributary.

Impact on Human Life : The blowout and the subsequent explosions have led to the accumulation of large volumes of toxic gas condensate which is harmful for land and vegetation. It is also a known carcinogenic substance. Apart from the health impacts, the incident has stripped thousands in the area of their livelihood, especially those engaged in agriculture, fishing and animal rearing. 1610 families were displaced as per the data presented in the order of the NGT dated 2 July, 2020 [11]. More than 9000people have been evacuated from the nearby villages and accommodated in 12 relief camps. The substances released are known to have adverse long-term impact on land and groundwater, and pose a serious human health and environmental health risk in the long term.

Proceedings At The NGT:

The petitions [12] being heard at the NGT raise several grounds for liability.
The underlying idea behind all the allegations is the tort principle of Negligence.
The various grounds are listed below:

- The OIL has violated the Precautionary Principle and is liable to pay compensation under the Polluter Pays principle under Section 20 of the NGT Act2010. [13]
- It is also in violation of the Public Trust Doctrine as OIL, being a public sector undertaking, had a duty to take due precaution/care. [14]
- There was no mitigation plan despite the recommendation of the Standing Committee of the National Board for Wildlife which had asked OIL to provide a legal undertaking about the environmental safeguards in place, specifying the nature and extent of their liabilities in case of accident harming the wetland in question.[15]
- There had been no comprehensive impact assessment regarding continuation of operation of OIL fields in the vicinity of the biodiversity-rich Dibru-Saikhowa National Park. The post-blowout comprehensive study conducted by the Wild life Institute of India on 11 June, 2020 held the OIL responsible for the incident.[16]
- Negligence and lapses on the part of OIL have resulted in irreparable damage to the community and the natural environment and wildlife in the eco-sensitivezone. It has caused loss of property, life, wildlife, livelihood, vegetation soil quality and has severe known long term human-health and environmental impacts.[17]
- The laws violated include the Environment Protection Act, 1986; Forest conservation Act, 1980; Water (Prevention and Control of Pollution) Act 1974; Air (Prevention and Control of Pollution) Act 1981; Biological Diversity Act 1992;TheManufacture, Storage and Import of Hazardous Chemical Rules, 1989;Environmental Impact Assessment Rules, 2006.

In the first order dated 24th June, 2020 [18], the NGT accepted the matter as falling with in its jurisdiction as it involves substantial questions relating to the environment, under Sections 14 and 15 of the NGT Act, 2010. In the same order, an expert Committee was constituted to look into the various aspects of the incident, its impaction the environment, human life, property and livelihood, and to determine liability and OIL was instructed to deposit an amount of Rs. 25 crores with the District Magistrate atTinsukia.

However, on application for modification of this order, the NGT on 2 July [19] removed this requirement, noting that amount exceeding Rs. 25 crore had already been set aside by OIL for restoration, relief and rehabilitation work.

On 6 August [20], the 406-page preliminary report of the Committee came up for consideration at the NGT. The findings and interim recommendations of the report were accepted by the NGT, allowing for adjustment of the stipulated amount ofinterim compensation to be adjusted with the amount already disbursed to the victims by OIL. The findings and recommendations of the Committee are summarised briefly below:

Cause of Accident : The accident was caused by failure to follow proper safety procedure for removal of blowout presented without having a confirmed and tested secondary safety barrier. Further, there was a lack of coordination between the planning and execution of operation, deviating from the Standard Operating Procedure. There was also lack of proper supervision by those responsible.

Impact : The incident has caused "extensive damage to both the publicly owned resources including the Maguri-Motapung wetland, DSNP, the eco sensitive zone including the water bodies, air, wildlife and the natural resources surrounding it. Additionally, it has caused irreparable physical harm and damage to privately owned property of the survivors in the affected villages." The report also relies on tests and evaluations carried out by Wildlife Institute of India, which state that high levels of carcinogenic Polycyclic Aromatic Hydrocarbons (PAH) pollutants were released into the ecosystem and would remain in the system for a long time. The PAH pollutants that were found in the ecosystem surrounding the Site of incident would eventually percolate into the ground and even contaminate ground water.[21]

Lack of compliance with environment safeguards : The report lists out various statutory requirements which were not fulfilled by OIL prior to commencement of operations at Baghjan, as well as during its operation till date. OIL did not have the Consent to Establish and Consent to Operate both under the Section 25 & 26 of the Water (Prevention & Control of Pollution) Act, 1974, under Section 21 of the Air(Prevention & Control of Pollution) Act and the Rules framed thereunder, when it first started its drilling operations in 2006, on the day of the blowout and the subsequent explosion on 9th June, 2020. On the day of the blowout and on the days of the explosions, OIL also did not have the authorization under Rule 6 of the Hazardous and Other Waste (Management, Handling and Transboundary Movement) Rules, 2016.Itputs a clear liability upon OIL for the accident, going by the principle of absolute liability which was laid down in M.C. Mehta vs. Union of India [22] and the Bhopal Gasleak case [23]

OIL had contravened the provisions Environment (Protection) Act, 1986 and the Environment Impact Assessment (EIA) Notification, 2006 under which it is mandatory to obtain Environmental Clearance for any offshore drilling projects before commencement of activities on 20.11.2006. The Committee found no record of any biodiversity impact assessment, even after the commencement of operations, in clear violation of order dated 07.09.2017 in I.A. No. 3934 in W.P. (C) No. 202of 1995 [24] of the Supreme Court that mandated biodiversity impact assessment and clearance under the Biological Diversity Act, 2002 for drilling in proximity to the Dibru–Saikhowa National Park.

Further, the lack of Consent to Establish and Consent to Operate to carry out drilling and testing of hydrocarbons at Baghjan is in clear violation of the conditions stipulated in the Environmental Clearance which was recently granted to OIL on 11 May, 2020.

Interim Recommendations: The report suggested some immediate preventive measures such as isolation of hydro carbon bearing zone, proper cement slurry design, placement of secondary safety barrier, placement of cement plug preparation of contingency plan, etc. It also highlighted that there is a great difference in the operation of Gas wells as compared to oil wells, stating the need for a separate Standard Operating Procedure for gas wells.

For providing interim compensation, the Committee categories the affected families into three categories with different amounts fixed for each:

- Those whose houses have been completely gutted by the fire thereby causing grave injury to life and health, loss of livelihood, cultivable land, livestock, damage to standing crops and horticulture, fisheries etc. Families falling under this category will be paid Rs. 25 Lacs interim compensation.
- Those whose houses have been severely damaged thereby causing grave in jury to life and health, loss of livelihood, cultivable land, livestock, damage to standing crops and horticulture, fisheries etc. Those falling under this category will be paid Rs. 10 Lacs interim compensation.

- Those whose houses have been moderately/partially damaged or whose standing crops and horticulture have been partially damaged thereby causing injury to life and health, loss of livelihood, cultivable land, livestock, damaged to fisheries etc. Those falling under this category will be given 2.5 Lacs interim compensation.

Additionally, as an immediate relief measure, Rs. 30,000 will be paid to those families which were displaced as a result of the initial blowout on 27 May, 2020; and Rs. 25,0000 will be paid to those families which were displaced in the wake of the explosion of 9June, 2020.[25]

Liability : The Committee did not give any findings as to who is liable for the incident, although an indication was made toward OIL and the third-party contractor John Energy Pvt. Ltd. The Committee will set up a multi disciplinary team including community members and experts on environment which will formulate a restoration plan for the Maguri-Motapung wetland and ascertain the damages and the compensation. It has stated that the principle of polluter pays will be followed while fixing liability for restoration of the ecosystem. The final liability will be fixed in the final report which will be submitted in November.

OIL raised certain objections to the findings of the report, which were all rejected by the NGT in its order dated 6 August, 2020 [27]. Some objections which were raised include -the observations of the Committee are based on review of secondary data and no site visit was undertaken, the Report of the Wildlife Institute of India (WWI),which is relied upon and cited by the Expert Committee report, is based on post blowout incident and thus not reliable, the fault is of the contractor and not of the OIL, etc. The objections, interestingly, also state that EC was not required at the time operations of OIL commenced as the project value was less than Rs. 50 crores.

Another preliminary objection was raised as to the jurisdiction of the NGT to deal with the matter while the Gauhati High Court was already looking into it. OIL also challenged the need for the Expert committee constituted on 24 June, 2020 stating that inquiries by the central and the state governments were underway and that OIL itself had taken remedial measures such as hiring foreign experts to mitigate the situation, providing rehabilitation in camps, providing compensation to the victims, etc. The NGT rejected the arguments of OIL in these challenges, stating that the jurisdiction of the NGT under sections 14 and 15 of the NGT Act read with section 20required the collection of facts independently for the purpose of adjudication and thus the Expert Committee was not unnecessary, as other inquiries are not substitutes for the inquiry needed by the NGT to exercise its sui generis jurisdiction. The NGT cited the Bhopal Gas Peedith Mahila Udyog Sanga than case [28] and the Meghalaya Miningcase [29] in support of this statement. Further, it stated that the jurisdiction of the High Courts may extend to other matters, while that of the NGT is mandated to operate within statutory limitations and that actions undertaken by OIL may be in discharge of its duties toward the victims and it does not affect the exercise of the NGT's jurisdiction over the matter.[30]

The NGT has accepted all the recommendations of the Committee report and ordered that the amount calculated and quantified by the District Magistrate as per the categorizations in the report shall be made available by the OIL within two weeks of letter of the District Magistrate informing them of the same. It has directed the Committee to file its final report by the next date of hearing which is fixed for 3 November, 2020.

Breach of Constitutional Mandate

The OIL, being a public sector undertaking of the Government of India was operating in violation of Article48A of the Constitution of India [31] which puts an obligation upon the state to protect and improve the environment, and safeguard wildlife in India. Additionally, the company was also in violation of Article 51A which makes it a fundamental duty of all the citizens of India to protect and improve the natural environment, by failing to take necessary precaution in operating its wells. The OIL has also caused irreversible harm to the environment which violates the right to clean environment which forms part of right to life under Article 21 of the Constitution of India. Even though these constitutional breaches do not fall within the adjudicative capacity of the NGT as it can only deal with civil cases under the seven laws mentioned in S. 14 and Schedule 1 of the NGT Act, 2010, they are the most fundamental arguments against OIL's conduct and deserve mention in any discussion on breach of environmental law by a company undertaking hazardous activities. More so in light of the fact that OIL is a public sector undertaking falling under the meaning of state asper Article 12 of the Constitution of India.

Liability for Chemical Accidents

Paragraph 6 of the order of the NGT dated 2nd July, 2020 mentions that the liability of the OIL will have to be measured under the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.

Rule 4 of The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989puts a general responsibility on the occupier during any industrial activity. It puts an obligation upon the occupier carrying out an industrial activity to identify major accident hazards and take steps to prevent them and limit their impact on human life and the environment. It also requires the occupier to disburse information, give training and adequate equipment to ensure the safety of the persons working on the site of the potential accident. Further, Rule 13 mandates the preparation of an on-siteemergency plan by the occupier detailing the procedure to deal with major accident son the site of the industrial activity.

These rules were laid down to prevent and mitigate harm caused by chemical accidents from industrial activities. According to a news report [32] which has analyses the need to fix liabilities, the OIL had ignored both requirements stated above. Such carelessness amounts to gross negligence and OIL is clearly liable under the relevant rules which were formulated under the Environment Protection Act, 1986.

Conclusion

Several questions remain unanswered while we await the final report of the Expert Committee. However, the fact of immeasurable and irreversible damage to the natural environment, flora and fauna, to human life, property and livelihood is undeniable. What remains to be seen is the extent of the damage, immediate as well as long-termand who is finally made accountable for compensating the loss. The fact that the drilling project by OIL falls under category A of the EIA Rules, 2006puts an obligation to conduct public hearing prior to obtaining environmental clearance. However, that was not done in this case and has been justified by OIL on the basis of the value of the project initially being less than Rs. 50 crores. However, later when the Supreme Court ordered biodiversity impact assessment, the same was also not done. In Lafarge Umiam Mining Case (2011) [33] , the Supreme Court had highlighted the need for sustainable development and had clarified that environmental clearance must be based on the Doctrine of Proportionality, the legislative policy which governs the activity (The Environment Protection Act in the present instance, along with the Water Act and the Air Act, and the Principles of Natural Justice). [34] These requirements have been largely ignored in subsequent years, leading to accidents such as the one at Baghjan where environmental clearance was granted to OIL for drilling in the area despite risk to the environment due to close proximity to DSBR, without proper impact assessment.

Further, the Public Trust Doctrine which was recognize by the Supreme Court of India in M.C. Mehta vs. Kamal Nath [35] states that natural resources such as rivers, forests, etc being gifts of nature, are held by the Government in trusteeship for the commonest of the public. OIL is a public sector undertaking (PSU) which falls under the meaning of "state" under Article 12 of the Constitution of India. Applying the Public Trust Doctrine to a PSU should ideally result in a stricter standard of liability than for private companies due to the fact that the state has a higher responsibility as a trustee of these community resources. Any breach will not only violate environmental law, but will also violate public trust which essentially puts a stricter duty of care on PSUs to avoid harm to the environment.

Being a chemical accident arising out of negligence and a history of violation of legal requirements, the incident is a prime example of environmental tort where the principle of Absolute Liability is the rule. Therefore, in all probability, the liability will be fixed upon OIL as it is the owner of the operations at Baghjan. The OIL can also be held liable under the Public Liability Insurance Act, 1991 as it was one of the conditions laid down in the environmental clearance granted to it by the MoEFCC. It can also be made to pay exemplary damages in keeping with the spirit of environment protection by invoking the precautionary principle, polluter pays principle and sustainable development principle, in addition to the public trust doctrine as it has caused widespread and irreversible damage to community resources such as the Dibru river, the Dibru-Saikhowal National Park, the agricultural land, the water and air quality andlivelihood resources including fisheries and forest resources.

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ABOUT CEERA: The Centre for Environmental Law Education, Research and Advocacy (CEERA), established in 1997 is a research centre that focuses on research and policy advocacy in the eld of environmental law. Building an environmental law database, e ectively networking among all stakeholders, undertaking training and capacity development exercises, providing consultancy services and building an environmental law community are CEERA's main objectives. It enjoys the support of the Ministry of Environment Forest and Climate Change, other Ministries, international organizations, the Bar and the Bench in India.

Public Hearing Exemption for Hydrocarbon Exploration Makes a Bad Law Worse

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The environment ministry's decision to reduce regulations of oil and gas exploration exposes how it views its own processes of environmental due diligence as a nuisance.

By Nityanand Jayaraman

An offshore platform at Sakhalin-I. Credit: rosneft.run

In a procedural windfall for companies like the Oil and Natural Gas Corporation (ONGC) and Vedanta Ltd, the Union environment ministry has exempted hydrocarbon exploration activities from the rigours of the Environmental Impact Assessment (EIA) and public consultation through public hearings.

The order, dated 16 January, 2020, amends the EIA Notification, 2006. It was issued in response to a request for exemption from public hearing by companies, including Vedanta Ltd, whose proposal to explore for hydrocarbons in the Cauvery delta has been met with severe public opposition. The intensity of the protests prompted even large regional political parties like the Dravida Munnetra Kazhagam (DMK) to include a promise in their election manifestoes to end further expansion of hydrocarbon activities in the delta.

In March and April 2019, Vedanta had submitted an application for environmental clearance to carry out exploratory activities covering 4,187 sq. km across the UTs of Pondicherry and Karaikal, and Nagapattinam, Villupuram and Cuddalore districts in the Cauvery delta. Additionally, ONGC has also applied for permission for hydrocarbon exploration in Nagapattinam and Cuddalore.

The proposed exploration involves drilling 274 exploratory wells by Vedanta and 40 by ONGC, and the use of environmentally dangerous techniques like seismic testing and fracking.

What the amendment means?

Under the unamended EIA Notification, 2006, any project to explore for hydrocarbon reserves was listed under Category A requiring an EIA report, public hearing and clearance from the Union MoEFCC. A previous article by this author on The Wire had outlined the limitations of the regulatory framework even when such projects required EIA reports and public hearings.

So, the current exemption makes a bad situation worse. It delists oil and gas exploration activities even if they use techniques like seismic testing and hydraulic fracturing(a.k.a. fracking) from having to assess environmental impacts, incorporate environmental safeguards and surviving the test of public comments on the project and the EIA report. Environmental clearance for such projects will be given by the state environmental impact assessment authority. At first glance, this may look like much-desired decentralisation. But believe it or not, the state has an even worse track record of enforcing compliance than the centre. In Tamil Nadu, for instance, not one of the hydrocarbon production wells operated by ONGC has a valid 'consent to operate' from the Tamil Nadu Pollution Control Board.

Oil and gas exploration has been categorised as B2 activity – a category reserved for small-scale projects where the "spatial extent of potential impacts and potential impacts on human health and natural and man-made resources" is low.

In an office memorandum dated December 24, 2013, the Union environment ministry lists a host of such small-scale activities, including brick earth or ordinary earth mining projects covering lease areas of 5 to 25 ha and river-sand mining projects over less than 25 ha. Sand or brick earth mining projects covering larger lease areas were required to prepare an EIA report and incorporate the recommendations of an environmental management plan (EMP) derived from the EIA report.

Earth-mining over a lease area greater than 62.5 acres is rightly seen as being damaging enough to require an EIA and EMP. If that logic were to be applied, there is no justification to exempt a project covering an exploration area of thousands of square kilometres, the drilling of borewells hundreds of kilometres deep and the use of environmentally hazardous techniques like seismic testing and fracking.

The ministry's decision to shift oil and gas exploration to the B2 category has nothing to do with the anticipated impacts. Instead, it exposes how the ministry views its own processes of environmental due diligence as a nuisance, and prioritises corporate interest over the health of communities and the environment.

The impact of seismic testing and fracking are described in greater detail here.

Bypassing CRZ requirements

Companies like Vedanta fear nothing more than the local communities where their activities are to be located. The amendment is in response to their fear of the public during public hearings. EIA reports are usually drab documents with cut-pasted content and data of questionable integrity, and the Expert Appraisal Committees at the state and centre are manageable rubber-stamps that seldom call out such fraud. It is only when such reports are subjected to public scrutiny that the true facts are revealed.

By allowing exploration projects to get an Environmental Clearance without EIA and public hearing, the amendment may have left onshore projects totally off the hook. However, offshore exploration projects will still have to get a CRZ clearance from the centre after carrying out an EIA. No public hearing would be required, though. This does not mean that the public does not have any means of influencing the process. People can obtain copies of the EIA and communicate their concerns to the state Coastal Zone Management Authority and the environment ministry.

The offshore wells proposed by ONGC and Vedanta in the Cauvery basin mostly fall in nearshore and territorial waters (i.e. up to 12 nautical miles). Most Indian fisheries, particularly the labour-intensive artisanal fisheries, rely on these waters. The Coastal Regulation Zone rules require projects to be appraised based on Coastal Zone Management Plans that include maps demarcating the fishing grounds used by local fishers.

For the 10 years that this requirement has been in force, the Government of Tamil Nadu and other maritime states have not complied with this rule. Given the invasive and disruptive nature of seismic testing and fracking, the exemption from public hearing robs local fishers of the only legal opportunity to highlight potential conflicts that the proposed projects may have with their livelihood and safety.

According to the Environment Protection Act 1986, under which the EIA notification was issued, any amendment to the notification has to be effected only after publishing the proposed amendment and serving a 30-day notice seeking public comments. The environment ministry has "dispensed with the requirement of notice ... in public interest." Indeed, a number of olde amendments to the EIA Notification and the CRZ notification have been made without providing an opportunity for the public to comment.

The fact that this amendment has been made at the behest of corporate interests who sought exemption from EIA and public hearing only makes this lapse even more grave. The amendment exercise stands exposed as a collusive move between industry and regulator.

Nityanand Jayaraman is a Chennai-based writer and social activist.

Section 6- Attack on Public Accountability

Revisiting Environmental Impact Assessment Laws in India vis-a-vis Draft Environmental Impact Assessment Notification 2020

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Ashwarya R.S. Chauhan[9] and Geetanjoy Sahu[10]

Abstract

The proposed Draft Environmental Impact Assessment (EIA) Notification March 2020 is the biggest overhaul of the environmental clearance process since the first EIA Notification in 1994. While controversial, Draft EIA Notification 2020 is a testament to India's need for a reformed EIA legal regime. Following a historical analysis method, review of case laws and legal provisions between 1994-2020, we trace the domestic and global factors such as environmental reckoning, economic reforms, human rights movements and judicial intervention, which introduced and shaped EIA's legal journey in India. We eventually examine the proposed Draft EIA Notification 2020 to unpack the provisions to lay bare the concerns and suggest ways to strengthen India's environmental clearance process.

Key Words: EIA, Amendments, Law, Impact, Notification, Courts

Revisiting Environmental Impact Assessment Laws in India vis-a-vis Draft Environmental Impact Assessment Notification 2020

Background

The recently proposed Draft Environmental Impact Assessment (EIA) Notification March 2020 (hereafter, Draft EIA) is by far the biggest overhaul of the environmental clearance process since the passage of the first EIA Notification in the year 1994 (MoEF&CC 2020). The deadline for public comments on the Draft EIA was extended till August 2020, following an unprecedented public outrage and interventions by three High Courts and the Supreme Court of India. The Courts barred the Ministry of Environment, Forests & Climate Change (hereafter MoEF&CC) from publishing the Notification until the Draft is made available in India's 22 languages (Kukreti, 2020). During this period, the Draft EIA was vigorously opposed by environmental groups, students, political leaders, retired judges, bureaucrats, and grassroots organisations who see it as an executive attempt to thwart the process of environmental impact assessment in favour of industries. While environmental groups worried that the Draft EIA gives exclusive power to the central government, many others rendered it a 'regressive law' (Mukherjee, 2020). The rest lamented the Draft EIA a violation of India's international obligations. Meanwhile, opposition political leaders did not shy away from calling its intent and process callous and undemocratic too (Financial Express, 2020).

The Draft EIA presents us with an opportunity to overcome the lacunae in India's EIA legal regime that has so far been raised before by the key stakeholders and sporadically resolved by judicial intervention. In this connection, it is worth revisiting EIA laws' evolution, process, and experience since its inception in 1994 till 2020. This study is pursued to understand the intent and spirit of the EIA laws but will also unravel the political economy behind the Draft EIA in 2020. During the writing of this paper, the deadline for public comments on the Draft was over. As a result, this paper does not promise any future course of action that the MoEF&CC might take on the Draft. Instead, it seeks to provide a comprehensive analysis of the Draft vis-a-vis the historical development and critical issues around EIA laws in India.

The paper is divided into six sections, including this background section. Section II lays out the historical setting of EIA Laws in India, followed by a reflection on its performance and emerging themes over the last 26 years in Section III. Subsequently, the need and contribution of the Indian judiciary and NGT to the EIA discourse are discussed in Section IV.

[9] Aishwarya R.S. Chauhan is an independent legal researcher. Email id: ashwaryarsc@gmail.com
[10] Geetanjoy Sahu is an Associate Professor at the Tata Institute of Social Sciences, Mumbai. Email id: geetanjoy@tiss.edu

The paper then presents a detailed analysis of specific provisions, the qualms and qualities of the Draft EIA in Section V. Finally, a way forward to strengthen the EIA law is presented in Section VI. The discussion in this paper is primarily based on secondary sources, including a review of Indian environmental legislations, EIA Notifications, Draft Notification 2020, office memoranda by MoEF&CC, judicial precedents by Indian Courts and the NGT, and secondary literature on the environmental clearance process in India.

The Journey of EIA in India

The concept of 'The Environmental Impact Assessment' is derived from 'Environmental Impact Statement' under section 102(2) of the National Environmental Policy Act (NEPA), 1969 of the USA (Wood, 1994). The World Bank defines it as "an instrument to identify and assess the potential environmental impacts of a proposed project, evaluate alternatives, and design appropriate mitigation, management, and monitoring measures" (The World Bank, 1999). In India, during the late 1970s, the environmental impact assessment found its way into river valley projects (Valappil & Ors, 1994) initially by the Central Water Commission and later the behest of the Planning Commission (Badami & Ramana, 2008). It was a culmination of growing environmental awareness at the domestic and international front, which began with the Stockholm Conference in 1972 (Divan and Rosencranz, 2002) and was translated into economic policy trends by the Organisation for Economic Cooperation and Development (OECD) in 1974 (OECC, 2000).

During the 1970s, India witnessed a series of social and environmental movements that reached the Courts of land. Thus Judicial activism fuelled by civil society movements provided fertile ground for the evolution of environmental principles and jurisprudence in India (Divan, 1988). By the early 1980s, India's transformed environmental regulatory landscape included a Constitutional mandate to protect the environment and sector-specific remedies such as Wildlife Protection Act, 1972; Water (Pollution and Prevention) Control Act, 1974 and Air (Pollution and Prevention) Control Act, 1981.

Finally, the tipping point arrived with Bhopal Gas Tragedy in 1984 and Oleum Gas Leak in Delhi in 1985, which endowed India with umbrella legislation of the Environment Protection Act, 1986 (Sahu, 2008). As far as EIA was concerned, big development projects' social and environmental impact as directed by administrative guidelines issued by the Department of Environment (DoE) in the first half of the decade and later by the Ministry of Environment and Forest established in 1985. To regulate projects' impact, the Ministry published sector-wise booklets, which presented project proponents with an option to seek public consultation if they believed their projects were to impact the environment and livelihood of such people (Benham and Brew, 1996).

Meanwhile, India's burgeoning economy, from a GDP of 3.3% in the fourth five-year plan at the beginning of 1969 to a growth rate of 6.01 % by 1990, increased on the bedrock of thousands of mega developmental undertakings such as Large Dams (CWC, 2019). In the 1990s, the economic ambitions grew, so did the scale and form of development projects and concern of their environmental impact (Tomar, 2008). While the international community formally adopted the EIA in the Rio Declaration in 1992, which outlined EIA under Principle 17, the legal vacuum of impact assessment enabled development projects to proceed aggressively in India. In the process, massive displacements were forced upon rural India, thereby undermining their livelihood and local environment by such projects (Bretton Woods Project, 2015). The social and environmental movements challenged infrastructure projects without EIA before courts which attracted enormous international attention (Rice and Bruce, 2019). For instance, people's protest of Sardar Sarovar Dam on Narmada River in Central India was sustained throughout the early 1990s and was mired in litigations by the middle of the decade. The mounting international pressure led to an independent 'Morse Commission' investigating the allegations and an eventual withdrawal from the project by the World Bank. Finally, the Environment Impact Assessment process was given statutory recognition as the EIA Notification of 1994 published under Section 3(1) of the Environment Protection Act, 1986.

Promise and Performance of EIA Notification Between 1994-2020: An Overview

What began as a bare minimum administrative oversight for projects before 1994, the environmental impact assessment experienced a new avatar under the EIA Notification, 1994. Firstly, the EIA 1994 shifted the primary responsibility of the conduct of EIA to the project proponent, which was earlier performed by the Government of India (Benham and Brew, 1996). Secondly, it switched from the 'administrative discretionary' to the 'mandatory' model, which now drew its strength from a legal statute (Leelakrishnan, 1992).

The Notification was a simple list of 29 projects which required an EIA report before the decision on Environmental Clearance for the projects was made (MoEF, 1994). It further got ammunition with a mandatory Public Hearing in the environmental clearance process from 10th April 1997 onwards. Although not without compromise, the public hearing in India only featured at the stage of EIA review as opposed to the EIA in developed countries, which mandated public consent in screening and scoping (Wood, 2003).

Between 1994 and 2006, the MoEF amended 13 times the original EIA Notification. Most amendments provided relaxation based on exemption on defense projects, lease area, investment limits or project expansion. Amidst criticism, by the mid-2000s, World Bank revamped its Environmental Capacity Building Technical Assistance Program nationally, the Govindarajan Committee Report on Reforming Investment Approval and Implementation Procedures 2002 recommended re-engineering the environmental regulatory processes in India (Govindarajan, 2002). The outcome was the EIA Notification, 2006, which effectively replaced the original notification of 1994. The EIA 2006 was designed to overcome the primary roadblock of delay in clearance of projects during the EIA process identified by the Govindarajan Committee (Menon, 2005). Several exemptions were introduced in the environmental clearance process through the EIA 2006. Under clause 7(i), the EIA process was categorised into four stages of Screening, Scoping, Public Consultation, and Appraisal. Under clause 2, projects were classified into Category A and Category B based on impact rather than capacity or investment, which determined the approving authority at the Centre or the State level. It further decentralised the clearance power and process by creating State Level Impact Assessment Authorities. Category B projects were further divided into Category B1 and B2. Additionally, a public consultation was deemed unnecessary for category B2 projects and in certain situations, it could be foregone entirely as per clause 7(1) 1. No Objection Certificate (NOC) from the Pollution Control Board, mandatory for Environmental Clearance (hereafter EC) in 1994, was discontinued under the EIA Notification 2006.

Evidently, during the period between September 2006 and August 2008, the rejection rate of project proposals was 1.2 percent, and time spent on each project by EAC was 12 minutes (Menon and Kohli, 2009). Nonetheless, the Finance Ministry, still dissatisfied with the progress of EC for industrial and infrastructure projects, proposed yet another overhaul via draft amendment 2009 (Ministry of Finance, 2008). The 2009 amendment introduced a stream of problematic provisions such as outsourcing of public hearing by the State or Central Pollution Control Authority, an increase of threshold limit for EIA for construction and area development projects, an exemption to expansion and modernisation of projects based on self-certification and a distinction between activities as Coal and Non-Coal Mining. Following a massive public and civil society uproar and recommendation by Mauskar Committee formed by the Ministry to look into public comments, these proposed changes didn't make it to the final amendment (Turaga, 2016; Mauskar, 2009). Regardless, three years into the EIA 2006, the Notification stood very much altered in 2009. Never mind the political regime at the Centre, dilution of EIA law continued. For example, the exemption of Mineral Prospecting from EIA was introduced in 2011, the scope of EIA for building township projects curtailed in 2014, and linear projects were exempted from a public hearing in 2015.

The EIA 2006 grappled with relatively the same issues as did Notification 1994, only now amplified in the light of dilutions introduced in various stages of the EIA process. In 2015 the success of the decentralised system was unequally distributed, and only the States with high enforcement experienced pollution abatement (Lovo, 2015). So far, the EIA Notification 2006 has been amended 51 times and clarified 348 times (Ray, 2020). Be it the quality of EIA report, the conduct of a public hearing, the inadequacies in the EIA process and implementation have been pervasive (B. K. Sharma V UoI A.I.R. 2005 (Guj.) 203). In these circumstances, Indian courts got flooded with litigations challenging the illegalities, ridden clearances, inadequate or managed public hearings, forceful land acquisition, complicit authorities, and issues of compensation and rehabilitation of people directly affected by projects. Inevitably, the Indian judiciary and National Green Tribunal (hereafter, NGT) came to occupy a significant space to bridge development, environment, and people's rights (Rajagopal, 2005). The following section discusses the role of the Indian judiciary and NGT vis-a-vis EIA notification.

Role of the Judiciary and NGT in EIA Litigation

Several studies have pointed out that in India that while the executive and the legislature conventionally played their part in environmental governance, the courts in India have contributed significantly towards the evolution and strengthening of the environmental governance process (Divan & Rosencranz, 2002). However, the role of the courts in the early days of EIA, especially the Indian Supreme Court vis-a-vis environmental litigation challenging mega-infrastructure and massive investment projects involving public-private partnerships, was found to be inconsistent and defensive.

For example, in the Tehri Bandh Virodhi Sangarsh Samiti Versus Union of India case, the Supreme Court held that "the case brought forth an intricate question relating to science and engineering and the court does not possess the requisite expertise to deal with it" (AIR 1992 Supp (1) SC 644). Similarly, in the Narmada Bachao Andolan Versus Union of India case, the Supreme Court observed that a conditional environmental clearance given in 1987 was challenged only in 1994 and stated that the pleas relating to the height of the dam and the extent of submergence, environmental studies and clearance, hydrology, seismicity and other issues, except implementation of relief and rehabilitation, cannot be permitted to be raised at this belated stage (AIR 2000 (7), SCALE p. 34) Likewise, a host of environmental litigations challenging the environmental clearance given to the power plant in Dahanu, Konkan railway, Commonwealth Games and Akshardham temple on Yamuna River, and Navi Mumbai and Mopa airport in Goa faced similar fate before the Supreme Court of India. Invariably, the Supreme Court has had justified its defensive approach vis-a-vis infrastructure projects citing the larger interest of the society, inadequate technical-scientific expertise, or limitation to the court's purview on a policy matter (Bhushan, 2004; Upadhyay 2001; Sahu, 2014).

The flurry of environmental litigation and the Supreme Court led to a specialised environmental court- the National Green Tribunal. Over the last decade, the NGT has been the critical adjudicating authority in addressing diverse and complex environmental issues. While there are multiple challenges for the NGT to sustain and perform the assigned duties (Nandi, 2017), its role vis-a-vis environmental impact assessment-related litigation is largely progressive. One of the landmark cases decided by NGT in 2015 was the quantum of environmental compensation to be paid by the polluter (S P Muthuraman Versus Union of India (2015 OA No. 37/2015, NGT). Interestingly this case also exposed the previous executive attempt by the MoEF&CC to give ex-post-facto leeway to the projects via its office memoranda dated 16th November 2010 and 12thDecember 2012. The NGT examined the provisions of Constitutional Law and Administrative Law to rule that these memoranda were not only in conflict with the parent EIA Notification, 2006 but were also contrary to the Environment Protection Act and served no purpose of filling the gaps in the original Notification. Similarly, in yet another case, the MoEF had issued a circular which allowed defaulting industries to obtain fresh notices which had not been applied earlier for the ECs in addition to granting ex-post-facto- public hearing. This circular was challenged in Rohit Prajapati Versus Union of India Application No. 66 (THC) of 2015, wherein, the NGT held that 'the process of obtaining EC by the industrial units was a farce, stage-managed, wrong and impermissible under the law and incurable in any manner. The Supreme Court recently upheld the judgment in Alembic Pharmaceuticals Versus Rohit Prajapati (Civil Appeal No. 1526 of 2016). Likewise, the NGT struck down the amendment to the EIA notification for building and construction projects in the Society for Protection of Environment & Biodiversity Versus Union of India and Others Original Application No. 677 of 2016.

The EIA Notification 2006 was amended on 9th December 2016 to streamline the building and construction sector permissions allegedly for affordable housing to weaker sections in urban areas under the scheme Housing for All by 2022. However, the amendment was challenged, calling out its regressive nature in the way of environmental conservation. Quashing the EIA Amendment, 2016, the NGT held in December 2017 that the principle of non-regression, which essentially means any change in the law must not regress from environmental commitments already made (Prieur and Mainguy, 2012). In another case involving the construction of Aranmula Airport in Kerala, the NGT held that the EC based on the EIA report by an incompetent agency was invalid (Sreeranganathan K.P Versus Union of India and Others, 28th May 2014, NGT).

Overall, while entertaining EIA litigation, the NGT-a quasi-judicial body, unlike conventional courts, has tapped into its reach, flexibility in the procedure and pro-environment vision in the NGT Act, 2010, to award procedural and substantial relief from time to time. Over the last decade, EIA litigations before the NGT and appeals from its decision before the Supreme Court have created an active sphere of environmental scrutiny of such projects at the detriment of project proponents and investors. Evidently, opposition to the infrastructure projects which spurted out of land disputes and faulty EIA procedures have led to massively stalled investments in India (Rights Resources initiative and Bharti Institute of Policy, 2016). A recent report by Land Conflict Watch peg the investment embroiled in land conflicts at Rs. 13.7 trillion, amounting to about 7.2 percent of the revised estimate of India's GDP for 2018-19 (Land Conflict Watch, 2020). It is no secret that India's industrial sector has been voicing its grievance over delayed regulatory clearance and public protest as the two key roadblocks in the way of target growth (PMI and KPMG, 2019). The sentiment reverberates with the Union Cabinet which has looked forward to changing the Environmental clearance process and land acquisition for a long (Economic Times, 2017; 2020). The result is an overhaul in the EIA process introduced as the Draft EIA 2020.

Draft EIA Notification 2020: A Critical Assessment

This section delves deep into the nuances of Draft EIA 2020 under seven sub-themes. The first six sub-themes unpack the Draft EIA provisions critically and the Draft's merits are discussed under the seventh sub-theme.

Environmental Clearance Procedure

The preamble of the Draft EIA 2020 introduces the need for and intention behind the new EIA law, of which many are the judicial directions by various Courts and Green Tribunal. One such mention in the direction of NGT to the MoEF is to strengthen the monitoring of compliance of conditions in prior environmental clearance (Sandeep Mittal Versus MoEF, OA No. 837/201). Prior environmental clearance was first introduced in the EIA 2006 Notification. Under the EIA 2006 Notification, the project proponents were asked to get a Prior-EC from the Central or State Authority based on the category of projects which were determined under the 'Screening' process. Closest to the definition of Prior EC can be found under Section 7(i) of EIA Notification 2006 under 'Stage-I Screening"...as this stage will entail scrutiny of the application for Prior EC for determining whether or not the project or activity requires further environmental studies for the preparation of an Environmental Impact Assessment (EIA) for its appraisal prior to the grant of environmental clearance depending upon the nature and location specificity of the project.' Accordingly, under clause 2 and clause 4, Category A and Category B1 unequivocally required EIA report for the EC from the Central and State Authority respectively, whereas Category B2 did not. The Draft EIA 2020 retains the requirement for category A intact as per Notification 2006 but changes the rules for category B1 projects. Clause 10(2) & (3) firstly classifies the category B1 projects into (1) projects that need to be placed before the appraisal committee and (2) projects which do not need to be placed before the appraisal committee, respectively.

Next, for both these sub-categories of category B1 projects, the EIA Report is replaced entirely by preparing the Environmental Management Plan (EMP) under Clause 3(25) as per Appendix XI. The difference however, is that in the sub-category-1 Under B1, the projects will be placed before the State Level Expert Appraisal Committee under clause 10(2) (ii) which will evaluate the EMP before acceptance or rejection of Prior EC. In case of sub-category 2 under B1, there shall only be 'verification of completeness of the application' before acceptance or rejection of Prior EC by the State Environment Impact Assessment Authority under clause 10(3) (ii). The projects that need to be placed before the appraisal committee are determined as per the Draft Schedule. The issue within this new structure is twofold: The Schedule attached to the Draft lists only 6 cases under 5 activities out of a total of 43 items to be placed before the Expert Appraisal Committee. The rest of almost the 41 activities of B1 category projects will be only scrutinised on their paperwork. Secondly, the Environmental Management Plan for all the projects under the B1 category does not even come close to environmental impact scrutiny. Appendix XI which provides generic proforma for EMP under its heading 3 asks for only the statement on anticipated environmental impact and mitigation measures without seeking any support from scientific, empirical, or doctrinal findings whatsoever. Therefore, the overall effect of the whole new process of Prior EC under Draft 2020 precincts any actual standard EIA to merely category A projects. The above provision combined with re-categorisation of projects into category B which initially belonged in Category A, facilitates easy evasion of scrutiny (Yadav & Garg, 2020).

Public Consultation Process

Globally, the concept of free, prior, and informed consent (FPIC) of people, especially the indigenous communities affected by infrastructure and other projects, is gaining momentum in the decision-making process (Duchelle et al, 2019). Meanwhile in India, the proposed Draft EIA seeks to take away the constitutional and statutory rights of vulnerable people by limiting their participation in the EIA process. Under the Draft EIA, while the elements of public consultation-a combination of the public hearing and written response from stakeholders are sorely diminished. For example, a public hearing is eliminated for all projects below the expansion of 50 percent of projects. Further, under clause 14 (2), the decision for the need for the public hearing for some defence projects rests with Regulatory Authority. In contrast, for other defence projects, it is eliminated (clause 14 (1) C). The clause lists as many as seven categories of projects exempted from public consultation, which excludes the written response mechanism for concerned stakeholders and public hearings. These categories, among others, are ambiguously phrased as 'projects of strategic consideration'. Public hearig is also exempted for 'all categories of B2 projects', and 'all offshore projects beyond India's territorial water limit'. Interestingly, projects within the territorial water limit of 12 Nautical Miles in the sea is also considered under projects of strategic consideration for non-application of CRZ to evade stricter liability in case of oil spill as upheld by the NGT in Samir Mehta V UoI, OA No. 24 of 2011.

Clause 14 (7) reduces the erstwhile time for public hearings from 45 to 40 days. It allows for outsourcing the same to another public agency not subordinate to itself within another 40 days. Ironically, as discussed under Section III above, this was attempted and dropped earlier from the draft amendment in 2009 due to public outrage. Sub Clause 8 anticipates and boasts to remedy the situation wherein public hearing is impossible due to the local condition. The agency can now report such a situation to the regulatory authority, which in response could decide to call off the public hearing altogether. Such a situation now can be reported by the agency to the regulatory authority which in response could decide to call off the public hearing altogether. The above clause is deeply troublesome. Firstly, it does not clarify what kind of public agency would be fit to conduct a public hearing when the regulatory authority itself could not in the first place. Secondly, there is a lack of clarity on which such a situation be determined. Thirdly, the provision undermines people's right to free and fair public hearing.

One can easily foresee the unpleasant reality of this provision unfolding on the ground in the future with the help of Mahesh Chandulai Versus Union of India (Appeal No. 22/2011). In this case, the villagers challenged the EC against Jindal Saw Limited's project expansion based on the similar assertion that the public hearing was not held in a neutral venue to permit free, fair and open participation. Instead, it took place inside the plant's premises. The NGT relied on the meeting video evidence and rejected the claim of villagers in this case. Under the proposed Draft EIA, once the public consultation is finished and published, local people are only given 20 days to furnish their responses after the advertisement of a completed public hearing is published. This is a severe issue with India's rural population, who has little or no access to information or legal apparatus to register protest, all within the stipulated time of just over two weeks.

Non-Compliance and Violation of Environmental Laws

In the Hindustan Copper Limited Versus Union of India W.P. (C) No. 2364 of 2014, the High Court of Jharkhand held that the consideration for the proposal for environment Clearance must be examined on its merits, independent of any proposed action for alleged violation of the environmental laws. Citing the above direction of the High Court of Jharkhand, the Draft EIA 2020 introduces the process of regularisation after a violation is reported or identified by the regulatory and monitoring authorities under clause 22(i). It also offers a legal remedy in the form of administrative action of rejection or regularisation by way of damage assessment, remediation, and implementation which essentially translates to ex-post-facto clearance.

Under Draft EIA, the cognizance of the violation is reduced to suo moto action by the project proponent and discovery and reporting by government authorities which could be appraisal committee or regulatory authority. The Draft EIA is silent on the locus standi of a victim of pollution, aggrieved person or a concerned citizen, or civil society in a clear departure from the precedents laid down by the Supreme Court since the 1970s. The Draft does not mention the phrase- 'NGO' or civil society even once. Next, the cases of violation will be appraised by the Expert Appraisal Committee, the same authority which granted the Environmental Clearance. In many instances, environmental clearances were found to be granted without application of mind (Mrs. Marie Christine Perdriau Versus Goa Coastal Zone Authority Appeal No.18 of 2014, Shri Sandeep Desai & Others Versus State of Goa & Ors. Application No. 47/2012; Sri. C. Murugan, Proprietor Versus the Member Secretary, Appeal No. 225 of 2014 and corporate lobby (Ramesh, 2015). Therefore, the provision to entrust the same committee to adjudicate independently is a tricky proposition. The above provision is against the principle of separation of power which ideally mandates appraisal committee as a quasi-judicial authority (Lakshamanan, 2005) and violates the principle of locus standi. Under clause 22(2) the committee is then entrusted to decide whether the project should be allowed to continue or not.

Clause 22 further under sub-clause 5 mandates that if the project proponent is found guilty of the allegations, the project proponent shall undertake the ecological damage assessment. Next, the project proponent would do so himself with the help of an environment laboratory approved by the Government. Such relaxation to industries can potentially discredit all other valid scientific and pro-bono research which have served well in the past for the aggrieved litigants (Goa Foundation V. Murmugoa Planning and Development Authority Appl No. 37(THC)/2013, Himanshu R. Barot V State of Gujarat Ors. Original Application No.109/(THC)/2013, The Forward Foundation V. State of Karnataka OA No. 222 OF 2014).

Further under clauses 22(6) & (7) as per the findings of the ministry appointed committee report, not a penalty but a remediation plan and natural & community augmentation plan will be ascertained. The penalty will be based on the cognizance rather than the gravity of offense. In case of industries themselves reporting the violation of the environmental conditions, it is stated to be 1.5 times penalty for the assessed damage and in case of violation of conditions reported by the regulatory authority, the penalty will be 2 times the damage. The thought behind it is probably to promote due diligence and self-regulation by incentivising the suo moto reporting of violation. However, it is ludicrous that an individual or entity engrossed in and benefitting by grievous violation is entrusted to an admission of guilt, merely for meagre concession in financial liability, which may or may not even is levied by the EAC. The superficiality of the above section is exposed by the very next provision, which provides fine of non-compliance of payment. The fine is kept at Rs. 2000 per day in case of Category B2 project and Rs. 4000 per day in case of Category B1 and Rs. 10000 for Category A projects in suo moto cognizance (Clause 22(8). Eventually, a bank guarantee of the equivalent amount is to be furnished by the defaulting project proponent, which will be released to them after successful implementation of the remediation plan within three years (Clause 22 (10). It appears that industries are almost given a free hand to violate and are trusted to come clean on their ow if they get noticed by authorities. Based on the decision of EAC, the project proponents are authorised to obtain the damage assessment from an institute accredited by the Government. Further, the evaluation is only for a remediation plan. There is no mention of a penalty to be paid by the industry for defying the law or to compensate the aggrieved person/community. And finally, that amount based on cognisance and not the degree of violation is to be deposited in the form of a retrievable bank guarantee. And, all this while, the industry gets to continue with its activity. The above clause is a clear departure from the environmental jurisprudence developed through various judgments of the NGT. For example, in both the Manual F. Rodrigues Versus the State of Goa Application No. 21(THC)/2013, and the Krishan Lal Gera V. State of Haryana, Appeal No. 22 Of 2015, the NGT not only emphasised the financial dent to the violating industry but also compensated victims of pollution.

In the light of several NGT decisions, the ex-post-facto clearance provision is not only regressive but also undermines the jurisprudential foundation of the EIA law. The precautionary principle, one of the guiding principles in environmental matters applied by the Supreme Court and NGT in several cases is entirely undermined by the Draft EIA. In sheer contradiction, the Post facto clearance shreds every elemental integrity of precautionary principle, i.e., 'throughly assessing the possible impact of an action, shifting the onus of proof of the same to the one taking the activity and barring the activity if it poses a risk of irreversible harm, and essentially strips the EIA of its doctrinal core.

Exemptions

Clause 26 of the Draft EIA lists the exemption for the projects and activities for which any project proponents will not require permission to undertake them. For example, Clause 26 (11) exempts environmental clearance for projects involving the digging of foundation for buildings that neither categorizes buildings as residential, commercial nor outlines any limit to such construction based on the depth of digging to prevent misuse of the exemption has taken place in the past. In 2014, villagers in Uttar Pradesh filed a case that builders of certain residential apartments dug up soil up to 40 ft, which caused groundwater depletion leading to a famine-like situation. The NGT found that the builders had indeed violated the conditions of the Environmental Clearance by pollution and extracted the groundwater illegally (Mukesh Yadav Versus State of Uttar Pradesh, OA No. 133/2014, NGT).

Similarly, this clause exempts solar power projects and parks from clearancewithout rationale. Also, it exacerbates issues relating to the land acquisition of commons and farmlands in Karnataka, Tamil Nadu, and Gujarat for solar power projects and parks (Leo F. Saldahna Versus Union of India, Application No. 6/2013; Seetharaman and Chandrasekaran, 2019). A more prudent approach could be bringing them into some fold of EIA scrutiny rather than a blanket exemption.

Among other exemptions, the one that stands out under clause 26 (36) is an exemption for manufacturing, managing, and handling unit under the Ministry of Defence or strategic units for explosives. The Draft EIA does not clarify what constitutes a 'strategic unit'. In the wake of therecent Beirut disaster, concern over the responsibility of the State in handling and storage of explosive substances without legal scrutiny certainly seems legitimate and needs rethinking.

Monitoring and Compliance Mechanism

Regular and scientific monitoring is a prerequisite to assess environmental conditions, inform policy-making, and secure information for authorities and the public. At present, there are ten regional offices of the MoEF&CC to monitor the conditions laid down under both forest and environment clearances (MoEF&CC, 2016). These ten offices cover all the states and union territories in the country and perform several activities such as monitoring EC compliance, reporting, verifications and follow up. However, it is found that monitoring of forest & environmental clearance and industrial emissions is weak and reduces the effectiveness of EIA as a legal instrument to address the environmental consequences of projects (UNDP India, 2009). Moreover, many state-regulatory authorities lack inspection teams and scientists. Their evaluation of industrial environmental standards is often incompatible with norms and standards laid down during the clearance process Ramubhai Kariyabhai Patel Versus Union of India, Application No. 87/2013; Deshpande Jansamsaya Niwaran Samiti Versus the State of Maharashtra, Application No. 32 (THC)/2013).

Given the poor monitoring mechanism, one would have expected the MoEF&CC to invest more resources and build mechanisms to strengthen the post-clearance process. In contrast, Draft EIA provides for an annual compliance report under clause 20 (4). This conflicts with the recently issued direction by the NGT (The Hindu, 2020). The NGT directed the regulatory authorities to seek a quarterly report from industrial units from the existing half-yearly reporting law. The Draft EIA now proposes submission of an annual report prepared by the project proponent instead of the pollution control boards.

Further, the fines under clause 20 (5) are negligible at the rate of Rs. 500 /- for category B2, 1000/- category B1, and 2500/- day for category A projects. As per clause 20(10), monitoring of prior EC/EP compliance will be undertaken by the government institute of national repute empanelled by the MoEF&CC and the State Pollution control boards. The draft is silent on the need, role, and appointment criteria of such an institute.

Role of the Ministry of Environment, Forests & Climate Change

While the environment is a residuary subject over which the central government has exclusive right to frame laws, the other components of the environment such as water and land are subjects under the State Government's jurisdiction. However, forest comes under the concurrent list over which both Central and State Governments can frame laws. There are also multiple customary and regulations at the state level to protect local people's rights over the land, water, and forest. For example, the Chotanagpur Tenancy Act of 1908 restricts the sale and transfer of Adivasi land to non-Adivasis. The local and state regulations are critical to environmental preservation and social justice for the people as affirmed by the Supreme Court and NGT in Orissa Mining Corporation Ltd, Versus MoEF&CC 2013 SC 45; Bhagat Singh Kinnar Versus Union of India, Appeal No. 14/2011.

However, the proposed Draft EIA reinforces the exclusivity to the central government by blatantly ignoring multiple laws that determine local people's access, use, and ownership rights over natural resources. For example, expansion below 50 % of irrigation projects and expansion of all projects below 50 percent are exempted from a public hearing under the Draft EIA. This provision violates the constitutional rights guaranteed under the 5th and 6th Schedule, statutory rights under Panchayats Extension to Scheduled Areas (PESA) Act 1996 and Forest Rights Act 2006. Elimination of public hearings will directly impact forest dwellers to exercise their rights to conserve, manage and protect forests, minor forest produce, and access to biodiversity guaranteed under the FRA. It will also override Gram Sabha's power to assess such a project's adverse impact on wildlife, forest, and biodiversity and raise their objections under the Environmental Impact Processes.

Further, Draft EIA introduces Accredited Environment Impact Assessment Consultant Organisation (ACO) under clause 3(I) perhaps to overcome the credibility issue of firms dealing with the EIA process in India, which has often led to stalling of projects by judicial intervention in the past. Though a positive step towards regularisation of the EIA process, it comes with tricky subtleties. The Draft provides that ACO could be accredited by the Institution notified by the MoEF&CC from time to time. Further, the ACO, in turn, would accredit the newly introduced key positions of EIA coordinator under clause 3(24) and Functional Area Expert (FAE) under clause 3(29), whose role remains ambiguous under the Draft. Next, ACO will prepare the EIA report, and more worryingly, undertake damage assessment by the project proponent if the situation arises under violation as per clause 22(5). The Draft is silent on the criterion and process of accreditation of such ACO. Besides, the whole system seems to depend on machinery by the Ministry at the Centre and provides no delegation and monitoring by decentralised authorities.

Lastly, Draft EIA's provisions on the constitution of State Level Environment Impact Assessment Authority (SEIAA) and State Environment Appraisal Committee (SEAC) facilitate the concentration of authority in the MoEF&CC. As per earlier Notification 2006, clause 7(6) and clause 8(7) empowers the MoEF to constitute the SEIAA or Union Territories Environment Impact Assessment Authority (UTEIAA) and SEAC or UTEAC for the State and Union Territory respectively, by selecting the Chairman and members based on the nominees forwarded by the State and UT within 45 days. Further, clause 7 (7) and clause 8 (8) provides that in case the State or UT fails to forward the names within the stipulated time, the Ministry shall constitute authorities on its own without referring it to the State or the Union Territory. Further, the Draft creates a new category of expert appraisal committee- the District or Divisional level EAC to be constituted by the Ministry based on the nomination of State Authorities. And similarly, in case of failure in doing so by the State, the Ministry would constitute it without referring it to the State or District administration. Additionally, without any explanation, Clause 8(11) empowers Ministry to constitute more than one SEAC or UTEAC for administrative convenience and expeditious disposal of proposals. These provisions cumulatively undermine the plurality and constitutional ethos and people's rights and create new channels of concentration of power with the MoEF&CC at the Centre.

Merits of Draft EIA 2020

Though problematic in many aspects, Draft EIA is not entirely devoid of merits and could provide a good starting point for a reformed EIA legal regime in India. One of the many positive traits of the draft is its comprehensiveness. The Draft EIA 2020 is an elaborate draft of 83 pages, the biggest so far with detailed annexures on processes and corresponding forms. An immediate upside of the details, such as the definitions and several additional clauses, provides a ready reckoner for the authorities, including the litigants and judiciary. Enumerating the definition of 'Built-up Area' (BUP) is one such positive example. In the past, the phrase has been discussed and often used by developers in illegal construction cases in confusion with Floor Space Index to justify their extent of construction allowed in their clearances, such as in cases of Adarsh Coop Housing Society Versus UOI WP(Civil) No. 129/2018, Bombay Environmental Action Group & Another versus the State of Maharashtra through the Secretary & Others 2005 (6) Bom CR 574. In Sunil Kumar Chugh Versus Government of Maharashtra Appeal No. 66 of 2014, the NGT distinguished BUP from Floor Space Index to penalise the developer who, as held by the NGT, had deliberately created confusion between the two to mislead authorities.

Similarly, the phrase 'Construction Work' categorically excludes land levelling, following the Supreme Court's ruling in the Municipal Corporation of Greater Bombay Versus M/s Polychem Limited 1974 AIR 1779. At the same time, the details could render the scope of meaning as definite and, more often, too narrow. Likewise, the definitions of violation and non-compliance have also reduced the multifaceted nature of the issue to one that involves only a construction beyond or without permission. As against the previous EIA, the draft EIA 2020 notifications, under clause 15(5), mandate recording specific environmental conditions and safeguards in the minutes of EC by the Expert Committee. Further, in the case of concealment or submission of fake or false information, the draft EIA 2020 under Clause17(6) & (7) calls for rejection or cancellation of prior EC by EAC. It also proposes to blacklist EIA consultants and organisations involved in false reporting. This provision aligns with past judicial recommendations in the Jan Chetna and another Versus MoEF and Others, Appeal No. 22 of 2011(T), and Goa Paryavaran Savrakshan Sangharsh Samitee Versus M/s HL Nathurmal and Others Original Application No. 112/2013.

Further, as per Clause 18 (4), any shift in location after the conduct of public consultation or grant of prior EC will be deemed to be a new proposal and will be appraised de novo (from the beginning). This is a welcome step as we have witnessed this in mega infrastructure projects such as the capital city for Telangana (Pandalaneni Srimannarayana Versus Andhra Pradesh Original Application No. 171/ 2015). Also, clause 22(5) provides that in cases of illegal development, no consent to operate or occupancy certificate shall be issued by authority until EC is granted for the project. This provision is in tune with NGT rulings in Videocon Tower 'A' Co-Operative Housing Society Limited. Versus SEIA Government of Maharashtra, Appeal No.05/ 2013 and Tanaji Balasaheb Gambhire Versus the Union of India Application No.184/2015, where the state authorities granted the consent despite illegality in construction and created third party rights leading to a fait accompli situation. Next, clause 26(22) provides no EC for Waste Heat Energy Boilers in thermal power plants without auxiliary fuel. It is a welcome move as it promotes energy efficiency for the industries (Kukreti, 2019). Lastly, disclosure under Clause 12 (10) of accredited EIA Consultant Organisation along with EIA Coordinator and Functional Area Expert involved in EIA report compilation will improve public access to the credibility of the EIA consultants.

Way Forward

The Environment Impact Assessment originated from the vision for environmental and social justice but globally, its translation and evolution into legal framework owes it to economic enterprise. Expressing its commitment to international environmental agreements, India has had introduced several environmental provisions to protect the environment. However, the introduction of diverse environmental legislation including the EIA in India in 1994, and the subsequent EIA amendments have not been effective to achieve the desired environment and development goals. Regular amendments have been introduced to dilute the provisions favouring dominant stakeholder i.e., project proponent. It has rarely been strengthened to protect the interest of the project affected people and the environment. Therefore, the judiciary's role in maintaining the balance between environment and development in the EIA legal regime has been noteworthy. The legal jurisprudence developed over the years on the EIA is also a testament that projects in violation of EIA law have consistently encountered people's dissent via litigation. Given the profoundly problematic provisions of Draft EIA 2020, if adopted as it is, it is safe to say that litigations are not only to continue but rise. Therefore, a reformed EIA law is an opportunity to reverse the trend and reaffirm India's commitment to global climate justice.

The MoEF&CC's stand vis-a-vis international environmental commitments towards precautionary principle, polluters' pay principle, and judicial rulings are astute and evident throughout Draft EIA 2020. The Draft EIA thus provides for a good starting point for reformed EIA legislation in India. However, we must be cautious of its limited contribution towards reformation. Overall, it predominantly enables diluted scrutiny as against improving the EIA process. And thus, while retaining those limited positives aspects is suggested, the provisions in conflict with the enviro-social goal of EIA need rejection. It will be worthwhile to undo the root cause of chronic amendments of the EIA law in India. The EIA Notification is a sub-legislation issued under Section 3 of the Environment Protection Act, 1986, which is amendable via the Ministry of Environment and Forest executive orders. Instead, if passed by the Parliament of India, a full-fledged EIA statutory Act will reinstate much-needed scrutiny to its future amendments and people's representation to the EIA's very core.

To conclude, we suggest that firstly, the future EIA law must avoid selectively appreciating judicial rulings to the advantage of project proponents without embracing the entire range of judicial remedies favouring marginalised communities. Better compensation to victims of pollution, increasing the penalty for violation of EC conditions and laws, supporting litigation cost of the public-spirited citizens, effective monitoring and compliance mechanism should be considered to strengthen the EIA regulatory regime. Therefore, a prudent EIA reform shall consider various judicial rulings in spirit and law and, while doing so, adheres to the international environmental principle of non-regression.

Secondly, EIA reform must accept the role of separate and independent judicial authorities in the country. Instead of providing for parallel bureaucratic adjudicatory systems to deal with cases of violation by route of administrative remedies of damage assessment, remediation plan, and bank guarantee as provided in Draft EIA 2020, the State must instead strengthen the NGT with financial and administrative support. A robust NGT will fulfil the goals of environmental justice and benefit the industrial sector with efficient and speedy disposal of cases. At the same time, to address the issue of delayed ECs leading to weak economic growth, the State needs to consider investing resources and capital efficiency and modernisation of monitoring, compliance, and well-researched EIA reports.

Lastly, the State Level Impact Assessment Authorities introduced under the EIA 2006 must continue to flourish under a reformed EIA law in India. Further, in the spirit of delegation and representation, the reformed EIA must assign Non-Governmental Organisations a role in the process of EIA. The MoEF&CC must realize that equitable participation of marginalized groups on the ground by defining a clear position and acknowledging diverse stakeholders is key to the acceptance and success of EIA in the country. Overall, a multi-pronged institutional arrangement can play a crucial role in advancing the interests of the environment, development and people's rights. An early checkpoint to development projects is critical to both economic welfare and environmental justice.

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Throughout the Pandemic, Environmental Clearance Law Has Been Under the Chopping Block

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Even the global health crisis that unfolded in the past year has not deterred the current government from executing its plans for 'ease of doing business'.

Meenakshi Kapoor and Krithika A. Dinesh

2011 to 2020 – A green law is altered close to 300 times.
2020 – A brand new iteration of the law is proposed.
2020-2021 – No decision on the proposal, but the current law undergoes 33 alterations.

This, in a nutshell, is the onslaught that India's law for granting environmental permissions to projects has been subject to in the last decade, largely to facilitate the 'ease of doing business'.

A day before the world's strictest lockdown, the Ministry of Environment, Forests & Climate Change (MoEFCC) published the draft environmental impact assessment notification (EIA) 2020, a new iteration of a law that outlines the procedure and requirements for most industrial and infrastructural projects to obtain a prior environmental clearance (EC).Although the draft initially was made available for public comments for two months, after the furore its ill-timing created, the comment period was extended till August 11, 2020. The draft proposes huge dilutions in environmental safeguards.

Delineation of a procedure for projects to obtain ex-post-facto environmental clearance, provision for several categories of projects to bypass public consultation (PC), and an increase in the central oversight on the functioning of expert appraisal committees (EAC) were few of the most criticised changes proposed in the draft. Despite the restrictions on public movement and people's struggles to ensure their economic security during the 2020 lockdown, it attracted over two million comments, most asking to retract the draft.

During this time, petitions were filed in four high courts (Delhi, Karnataka, Kerala and Madras) demanding translations and more time for public comments on the draft. The Delhi high court directed MoEFCC to publish it in regional languages in June 2020. The government, however, resisted it with all its might, first through an appeal to the Supreme Court against the high court order, which failed. Then it filed a petition for review of its decision with the Delhi high court. In the previous four out of five hearings, the government sought more time.

In September 2020, the Karnataka high court issued a stay order prohibiting MoEFCC from publishing the final notification.

As for the translations, after holding out against the order on the pretext that it would cause 'interpretation issues', at the end of September 2020, the MoEFCC shared that they translated the draft law into 22 regional languages, but to date, most of these are not available publicly.

Ministry's response to public comments

One of the reasons that the MoEFCC gave for the new draft was that changes made to the notification in the last nine years needed to be compiled as a single document. However, this claim stands on thin ice as the trend of making changes to the law has not stopped. An analysis of the changes made in the last one year suggests that while a decision on the future of the 2020 draft is awaited, the 2006 notification has gone through over 30 alterations. Prior to this, as we reported in the past, it had gone through 53 amendments and over 200 office orders.

The Indian government, as reported last month, has been taking the comments received on the law pertaining to environmental clearances seriously. In September 2020, the MoEFCC asked CSIR-National Environmental Engineering Research Institute (NEERI) to analyse the comments received on the draft EIA 2020.

In October 2020, the Prime Minister's Office asked for a presentation on the comments received. While it may appear that at last, the government is paying heed to public inputs, a compilation of the amendments and orders issued by the MoEFCC between March 2020 and now suggests that public opinion is hardly a matter of concern for this government.

In the last year, the EIA Notification 2006 was changed 33 times, through 24 official orders and nine amendments, as per our analysis. All the amendments were made without opening them for public scrutiny despite the Environmental Protection Rules of India mandating so.

The haste and secrecy with which these changes in the law have been made do not align with the intention demonstrated through the ordered assessment of public comments on the draft EIA 2020. In fact, the pace of changes has increased since September/October 2020, the veryperiod when the government exhibited an interest in public comments. 26 out of 33 changes have been passed since September 2020.

Assault on EIA continues

Of the 33 changes, seven were made on the pretext of the pandemic and included an extension of terms of the central and state expert appraisal panels and authorities, extension of validity of existing environmental permissions of projects and exemptions to the pharmaceutical sector.

Besides pharmaceutics, the sectors granted relaxations include thermal power plants, manufacturing and mining of coal, minerals and ordinary earth for linear projects. All these changes were made ostensibly to facilitate the 'economic recovery' after the slump that was the compound result of demonetisation, bad implementation of GST Act and the nation-wide lockdown announced last year.

Table 1: Changes made to EIA Notification 2006 between March 23, 2020 and May 10, 2021

Total Changes made	**33**
Covid related changes -Process-related- 5 -sector-specific (Pharma)- 2	**7**
Sector-specific easing of regulations Coal use in Thermal Power Plants- 2 Mining- 2 Manufacturing- 1 Linear Projects- 1*	**6**
Tightening the grip on expert panels and state authorities	7
Corporate Environmental Responsibility	3
Exemptions from appraisal stages PC/EC exemption- 2 Post Facto Clearance- 2	**4**
Clearance and compliance process changes EIA Process- 4 Other statutory clearances- 1 Compliance/monitoring- 1	**6**

*The amendment brought in one change for mining projects too The table is based on an analysis of the orders and amendments as available on the website of the Ministry of Environment, Forests & Climate Change.

CSIR-NEERI in its report of February 2021 identified eight aspects of the draft law which were found to be fraught with problems.

They are 1) definition, 2) project categorisation, 3) preparation of EIA report, 4) public consultation, 5) validity of environmental clearance, 6) monitoring, 7) dealing with violations (post-facto approvals) and 8) exemptions granted to projects. T

The CSIR-NEERI report, as mandated, provides a glimpse of the problems in the proposed law through a quantitative analysis but a lot has been missed out. For instance, many submissions had highlighted inherent problems with the appraisal process and suggested a complete overhaul of the EIA procedure in India. These suggestions are not part of the analysis.

The ministry had 725 days to finalise a draft, and it has already wasted a large part of it in contesting translation demands. So far, the CSIR-NEERI report remains the only step MoEFCC has taken towards engaging with the rich observations and comments from the public.

Moreover, our analysis of the alterations made to the EIA 2006 reveals that almost all the changes fall in these very baskets of eight contentious aspects identified by CSIR-NEERI. Not just that, some of these changes are the same as or have gone beyond what the draft EIA 2020 proposes.

While the government is creating an impression that it cares about public opinion, it is simultaneously making discrete changes through piecemeal amendments. Below we map these changes according to the controversial aspects identified in the CSIR-NEERI report and against the changes proposed in Draft EIA law 2020.

Table 2: Key changes to EIA Notification 2006 mapped against the suggestions of the Draft EIA Notification 2020 and the contentious issues as identified in the MoEFCC review of public comments

Contentious Aspect	Amendment/Order detail	Suggestion in Draft EIA 2020
Categorisation	*-Pharmaceutical projects made B2** -Sugar distilleries for ethanol made B2 (B2 projects don't need to conduct PC and don't need an expert appraisal)	Many micro, small and medium enterprises (including pharmaceutical industry) to be B2
EIA Appraisal and Preparation of EIA Report	-States/UTs can apply for EC for mining blocks before they are allotted to companies -Show Cause Notice to consultants who don't comply with ToR, delisting on repeat offences	-
Public Participation: PC exemption	-no public participation in determination of violation *-Procedure to conduct public hearings during Covid**	Missing public participation in determination of violation and non-compliance
	-PC exemption for projects that do not complete construction/commencement within the validity period. Public notice is needed if not even 50% work is completed	Allow increase in project capacity, if without increase in area and pollution load, without PC for upto 50%
EC Validity	*-extension of validity of those ECs expiring in FY2020-21** -In case of change of a mine lessee, the new lessee can continue upto 2 years without updating the EC	Validity periods extended for all projects
Compliance monitoring	-A system to consolidate compliance monitoring of EC and other permissions eg. pollution control board consents -Allows EC condition pertaining to non-coal coal transport to be ignored.	-Frequency of compliance reports to be changed from every six months to every year.
Ex Post-facto clearance	Prescribes a process to deal with projects initiated without coastal environmental clearance	Provides procedure for those projects to obtain environmental clearance that initiated work without a prior clearance, in perpetuity
EC exemption	-extraction of earth for linear projects, -expansion of manufacturing units without increase in pollution, without increase in area -change in coal source of thermal power plants	-extraction of earth for linear projects

*Change made due to Covid. The table is based on an analysis of the orders and amendments as available on the website of the Ministry of Environment, Forests & Climate Change and the CSIR-NEERI report.

Positive changes too fall short

Even the changes that are positive (underlined in Table 2) seem to have stopped short at just the first step. For instance, delisting of EIA consultants who do not comply with the Terms of Reference doesn't address the root cause of poor EIA reports prepared by these consultants – appointment of consultants by the project proponents.

Similarly, one of the changes asks EACs to declare conflict of interest, but continues with an opaque and compromised way of appointing these members, as highlighted by the reputed environmental lawyer Ritwick Dutta. Several of these members' terms have been extended in the last year on the pretext of COVID-19.

Other environmental regulations too have come under the knife in this period. Relaxed parameters and extended deadlines to meet emission standards and fly ash utilisation goals for thermal power plants and coal auctions and mining reforms are some of these.

The ongoing work on the multi-crore Central Vista project, despite the surge in COVID-19 cases and the subsequent devastation, has hit many, especially in the urban middle class, as a clear signal of the current government's self-serving priorities. But the priorities have been out of place for a long time.

Since this government took charge, it diluted India's coastal protection law, forest conservation rules and pollution control protocols in favour of big businesses, jeopardising the country's ecology, health andlivelihoods. Even the global health crisis that unfolded in the past year has not deterred the current government from executing its plans for 'ease of doing business'.

If anything, it has only hastened the stripping of India's environmental safeguards on the pretext of 'economic recovery'. The haste couldn't be more apparent than now when the proposed draconian law still hangs on our necks as a naked sword, and the government is serving several small blows at our environmental protections, while its citizens face the biggest health tragedy in human history.

Meenakshi Kapoor is an independent researcher in environmental policy. Krithika A. Dinesh is an independent environmental lawyer.

Annexure 1

Timeline of the Changes In Environmental Laws 2019-2022

Year	Month	Act/Notification/ Bill	Changes
2019	January	Coastal Regulation Zone Notification 2019	Amended
	February	Attempt to dilute provisions under Forest Rights Act 2006 (FRA, 2006)	
	March	Indian Forest Act 1927	Draft Amendment
	April	Environment Impact Assessment Notification 2006 (EIA)	Draft Amendment
2020	March	Environment Impact Assessment Notification 2006 (EIA)	Amended
2021	August	Plastic Waste Management Rule 2016 (and a proposed draft 2021 amendment	Proposed Amendments
	October	Forest (Conservation Act 1980	Proposed Amendments
	December	Biological Diversity (Amendment) Bill, 2021	Proposed Amendments
		Wildlife (Protection) Act, 1972, Bill	Proposed Amendments
2022	April	Indian Forest Act, 1927	First Expression of Interest
		Indian Forest Act, 1927	Second Expression of Interest
	July	The Public Liability Insurance Act 1991 (PLI)	Proposed Amendments
		Environment (Protection) Act 1989 (EPA)	Proposed Amendments
		Water (Prevention and Control of Pollution) Act, 1974 (Water Act)	Proposed Amendments
		Water Air (Prevention and Control of Pollution) Act, 1981 (Air Act)	Proposed Amendments
	August	Wildlife (Protection) Act, 1972	Amended

Water (Prevention and Control of Pollution) Act 1974 (Water Act), which also initially identified the powers, functions and hierarchy of the environmental agencies, the Central Pollution Control Board (CPCB) and the State Pollution Control Board (SPCB).

The Water (Prevention and Control of Pollution) Act was egencies in 1974 to provide for the prevention and control of water pollution, and for the maintenance or restoration of water in the country. The Act was amended in 1988. The Water (Prevention and Control of Pollution) Cess Act was enacted in 1977, to provide for the levy and collection of a cess on water consumed by persons operating and carrying on certain types of industrial activities. This cess is collected with a view to augment the resources of the Central Board and the State Boards for the prevention and control of water pollution constituted under the Water (Prevention and Control of Pollution) Act, 1974. The Act was last amended in 2003 and proposed amendments were introduced in 2022.

Air (Prevention and Control of Pollution) Act 1981 (Air Act)

The Air (Prevention and Control of Pollution) Act was enacted in 1981 and amended in 1987 to provide for the prevention, control and abatement of air pollution in India.

Wild Life (Protection) Act 1972.

The Government enacted Wildlife (Protection) Act 1972 with the objective of effectively protecting the wildlife of this country and to control poaching, smuggling and illegal trade in wildlife and its derivatives. The Act was amended in January 2003 and punishment and penalty for offences under the Act have been made more stringent. The Ministry has proposed further amendments in the law by introducing more rigid measures to strengthen the Act. The objective is to provide protection to the listed endangered flora and fauna and ecologically important protected areas.

Forest (Conservation) Act 1980

The Forest (Conservation) Act, 1980 an Act of the Parliament of India to provide for the conservation of forests and for matters connected therewith or ancillary or incidental thereto. It was enacted by Parliament of India to control further deforestation of Forest Areas in India. The act came into force on 25 October 1980. It was further amended in 1988.

The FCA is the principal legislation that regulates deforestation in the country. It prohibits the felling of forests for any "non-forestry" use without prior clearance by the central government. The clearance process includes seeking consent from local forest rights-holders and from wildlife authorities. The Centre is empowered to reject such requests or allow it with legally binding conditions.

In a landmark decision in 1996 (T.N Godavarman Thirumulkpad vs. Union of India), the Supreme Court had expanded the coverage of FCA to all areas that satisfied the dictionary definition of a forest; earlier, only lands specifically notified as forests were protected by the enforcement of the FCA.

Public Liability Insurance Act 1991.

The Public Liability Insurance Act, 1991 came into force from 01.04.1991. The Public Liability Insurance Act 1991 applies to all owners associated with the production or handling of any hazardous chemicals, to provide immediate relief to victims and persons (other than workmen) affected by accidents occurring while handling hazardous substances through the insurance amount paid by the owner of the hazardous substance. Coverage insurance covers claims by community members who have suffered injury or property damage in connection with the business. Coverage insurance covers a person or company in the event of an accident at their company.

Biological Diversity Act 2002.

The Biological Diversity Act, 2002 is an Act enacted by the Parliament of India for the preservation of biological diversity in India, and provides mechanism for equitable sharing of benefits arising out of the use of traditional biological resources and knowledge. The Act was enacted to meet the obligations under the Convention on Biological Diversity (CBD).

National Green Tribunal Act 2010.

The National Green Tribunal Act, 2010 is an Act of the Parliament of India which enables the creation of a special tribunal to handle the expeditious disposal of the cases pertaining to environmental issues. It draws inspiration from India's constitutional provision of (Constitution of India/Part III) Article 21 Protection of life and personal liberty, which assures the citizens of India the right to a healthy environment.

During the summit of United Nations Conference on Environment and Development in June 1992, India vowed the participating states to provide judicial and administrative remedies to the victims of the pollutants and other environmental damage.

There lie many reasons behind the setting up of this tribunal. After India's move with carbon credits, such tribunal may play a vital role in ensuring the control of emissions and maintaining the desired levels. This is the first body of its kind that is required by its parent statute to apply the polluter pays principle and the principle of sustainable development.

India is the third country following Australia and New Zealand to have such a system. Delhi Pollution Control Committee (DPCC) works under the act of (NGT)

Environment (Protection) Act 1986 (EP Act)

Environment Protection Act, 1986 is an Act of the Parliament of India. It was enacted in May 1986 and came into force on 19 November 1986. The Act was passed by the Government of India under Article 253 of the Constitution of India, which empowers to union government to enact laws to give effect to international agreements signed by the country.

The purpose of the Act is to implement the decisions of the United Nations Conference on the Human Environment. They relate to the protection and improvement of the human environment and the prevention of hazards to human beings, other living creatures, plants and property.

The Act is an "umbrella" legislation that has provided a framework for the environmental regulation regime in India, which covers all major industrial and infrastructure activities and prohibits and regulates specific activities in coastal areas and eco-sensitive areas. The Act also provides for coordination of the activities of various central and state authorities established under other environment-related laws, such as the Water Act and the Air Act

A wide range of rules and notifications have been adopted under it: -

1. **E-Waste (Management) Rules 2016, as amended in 2018 (E-Waste Rules);** The Government of India (GoI) introduced the E-Waste Management Rules in 2016. The rules apply to businesses that are generating electronic waste items. The rules specify that businesses should make arrangements for the safe disposal of scrapped electronic items. The rules are administered by the Ministry of Environment, Forest and Climate Change.
2. **Batteries (Management & Handling) Rules 2001 (and the proposed draft Battery Waste Management Rules 2022);**

   The New rules will replace Batteries (Management and Handling) Rules, 2001. The rules cover all types of batteries, viz. Electric Vehicle batteries, portable batteries, automotive batteries and industrial batteries. The rules function based on the concept of Extended Producer Responsibility (EPR) where the producers (including importers) of batteries are responsible for collection and recycling/refurbishment of waste batteries and use of recovered materials from wastes into new batteries.
3. **Bio-Medical Waste Management Rules 2016;**

   In 2016, the Government of India decided to publish a new set of rules, Biomedical Waste Management Rules, 2016, to improve the collection, segregation, treatment, and disposal facilities of these biomedical waste produced by the hospitals and laboratories to mitigate the environmental pollution. The treatment technologies identified include incineration, microwaving, autoclaving, and chemical treatment.

4. **Plastic Waste Management Rules 2016 (and a proposed draft 2021 amendment);** Recently, the Ministry of Environment, Forest, and Climate Change vide notification dated 12th August 2021, notified the Plastic Waste Management (Amendment) Rules, 2021. The amendment basically aims to prohibit identified single-use plastic items, having low utility and high littering potentials, by the year 2022.

5. **Solid Waste Management Rules 2016;** The Union Ministry of Environment, Forests and Climate Change (MoEF&CC) recently notified the new Solid Waste Management Rules (SWM), 2016. These will replace the Municipal Solid Wastes (Management and Handling) Rules, 2000, which have been in place for the past 16 years.

   The new rules have mandated the source segregation of waste in order to channelise the waste to wealth by recovery, reuse and recycle. Waste generators would now have to now segregate waste into three streams- Biodegradables, Dry (Plastic, Paper, metal, Wood, etc.) and Domestic Hazardous waste (diapers, napkins, mosquito repellents, cleaning agents etc.) before handing it over to the collector.

6. **Construction and Demolition Waste Management Rules 2016;** The construction and demolition waste generated is about 530 million tonnes annually. The Ministry of Environment, Forest and Climate Change notified the Construction & Demolition Waste Management Rules, 2016 on 29 March 2016. The rules are an initiative to effectively tackle the issues of pollution and waste management. Applies to everyone who generates construction and demolition waste.

7. **Hazardous and Other Waste (Management and Transboundary Movement) Rules 2016, as amended in2019 (NW Rules);** Hazardous Waste Management Rules are notified to ensure safe handling, generation, processing, treatment, package, storage, transportation, use reprocessing, collection, conversion, and offering for sale, destruction and disposal of Hazardous Waste. These Rules came into effect in the year 1989 and have been amended later in the years 2000, 2003 and with final notification of the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008 in supersession of former notification. The Rules lay down corresponding duties of various authorities such as MoEF, CPCB, State/UT Govts., SPCBs/PCCs, DGFT, Port Authority and Custom Authority while State Pollution Control Boards/ Pollution Control Committees have been designated with wider responsibilities touching across almost every aspect of Hazardous wastes generation, handing and their disposal.

8. **Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 (MSIHC Rules);** These are rules for manufacture, storage and isolation of Hazardous Chemicals. These are the principal major efforts taken by the legislature to address the problem of hazardous chemicals in isolated storage. The Rules are applicable when the quantity of the hazardous chemicals is not fulfilling the given criteria.

9. **Coastal Regulation Zone Notification 2019 (and related 2021 procedure for violation of the CRZ Notification);** Under the section 3 of Environment Protection Act, 1986 of India, Coastal Regulation Zone notification was issued in February 1991 for the first time, for regulation of activities in the coastal area by the Ministry of Environment and Forests (MoEF).

10. **Environment Impact Assessment Notification 2006.** Environment Impact Assessment or EIA can be defined as the study to predict the effect of a proposed activity/project on the environment. A decision making tool, EIA compares various alternatives for a project and seeks to identify the one which represents the best combination of economic and environmental costs and benefits.

    On 27 January 1994, the Union Ministry of Environment and Forests (MEF), Government of India, under the Environmental (Protection) Act 1986, promulgated an EIA notification making Environmental Clearance (EC) mandatory for expansion or modernisation of any activity or for setting up new projects listed in Schedule 1 of the notification.