TRAVERSING THE COMPLEX REALM OF CLIMATE FINANCE
CONVERSATIONS IN
DEVELOPMENT STUDIES (CIDS)

Volume 3: Issue II

TRAVERSING THE COMPLEX REALM OF CLIMATE FINANCE

ABOUT CIDS

CIDS (Conversations in Development Studies) is a peer-reviewed, quarterly research journal publication produced by the research team of Centre for New Economics Studies, Jindal School of Liberal Arts and Humanities, O.P. Jindal Global University. This student-led editorial journal features solicited research commentaries (between 2500-3000 words) from scholars currently working in the cross-sectional aspects of development studies. Each published CIDS Issue seeks to offer a comprehensive analysis on a specific theme identified within development scholarship.

The editorial team's vision is to let CIDS organically evolve as a space for cultivating creative ideas for research scholars (within and outside the University) to broaden the development discourse through conceptual engagement and methodological experimentation on contemporary issues. Any research commentary submission features: a) brief review of the literature on a research problem; b) the argument made by the author with details on the method used; c) documenting the findings and relevance of them in the larger scope of the literature; and (in some instances) d) present a brief policy action plan for agencies of the state (to address the issue highlighted in the commentary). There are no pre-identified limitations or restrictions to methodological frameworks used by solicited scholars (i.e., those writing the commentary). However, the research method incorporated in any accepted submission must be explained along with its relevance in context to the study undertaken.
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ABOUT THIS ISSUE

TRAVERSING THE COMPLEX REALM OF CLIMATE FINANCE

Climate Financing is the state, national or multinational funding that aims to facilitate climate change mitigation and adaptation measures. The Kyoto Protocol Convention, and the Paris Agreement call for financial help to those who are less privileged from developed countries who have more financial capital. The need for Climate Finance is linked to the enormous investments needed to reduce emissions.

In this edition of the Conversations in Development Studies Journal, we try to explore the need for considerable financial capital to adapt to the adverse effects and reduce the threat of climate change. We focus on Climate Finance as articulating the needs and financial flow of different geographical regions and designing a more robust monitoring and guiding parametric framework that is done at a national, sectoral, or local level.

Talking specifically about India, it sources its needs for Climate Finance through multiple international and national sources. Both the state and the central government contribute to Climate Finance, through “direct project funding” supporting the private sector players. It is imperative to understand that Climate Finance does not necessarily imply a budgetary allocation, it could also mean subsidies, tax assistance, or convenient loan structures, which imply direct support to environmentally sustainable projects. While the private players are and could be a substantial source of funds, the maximum climate financing in India happens through public sources. Despite the fact that the private players have the funds, they need government support which can help them channelise the high risks.

It is imperative to also draw our attention to an emerging source of Climate Finance, which is through FDIs, particularly through green bonds. These bonds are debt instruments that are focused on climate challenges. The incentive for investors is tax incentives on such bonds, which are provided with the aim of increase the funding towards environmentally sustainable projects. These bonds carry a great potential while being attractive to the investor community. India should develop them further for increased FDI through this route.
In all these conversations, what should not be lost is the recognition of marginalized communities. One of the primary concerns include the employment of the population in the industries which heavily contribute to environmental damage. The government would have to ensure that they do not leave behind these while still being progressive. In this respect, India could draw inspiration from countries like the UK which is one of the most developed countries in terms of climate financing. The UK government is making a green jobs task force to create employment for 2 million by 2030. When we consider these effects on developing countries like India, more focused efforts would be needed due to the high population levels and greater dependency on carbon fuels.

This brings us back to the point of establishing proper mechanisms for the implementation and regulation of Climate Finance. India would have to draft the labor laws accompanying Climate Finance and its strategy for support to the marginalised communities. There needs to be significant improvement in terms of monitoring and regulation of Climate Finance. The ability of a country to attract investments significantly depends on regulations that are present. Once the regulations are made strict, one can expect to see more allocation coming from the private sector.

We see that countries all over the world are increasing energy access, enhancing energy quality, increasing power reliability, and lowering pollution while protecting people and property from climate change-related impacts. It is very necessary to point out the role that the World Bank Group plays in financing low carbon, sustainable and resilient development in developing countries.

This edition of the Journal explores Climate Finance and South Asian Projects of fossil fuel transition in India. As the US President Biden gets to implement his optimistic national and international climate agenda, it's about time that South Asia takes advantage of the current global wave of momentum. Thus, to meet the goals of the Paris Agreement and to achieve sustainable growth, South Asian countries must decarbonize their energy systems by 2050, primarily through rapid increases in renewable energy use.

We must realise that climate change needs financial resources and solid investment both in reducing emissions, promoting adaptation to the impacts already happening, and building resilience. A testimony to this is the New Climate Economy Report, published in 2018 which reported that bold climate action could cause a direct economic benefit of US$26 trillion by 2030 relative to business as usual.
Financial decisions will decide whether we build or ruin wealth, as well as future pathways to prosperity. It is becoming increasingly clear that the planet cannot continue to exhaust all of its fossil fuel reserves if we are to achieve climate change developmental goals. An innovative and sustainable financial system is progressively being created that will provide financing for private sector projects and developments, which would intensify the efficacy of government climate policies.

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Team CIDS had the opportunity to interview Mr. Siddhanth Prasad who is an Assistant Professor at the Jindal School of Environment and Sustainability, with an interest in sustainable development, environmental law and policy, and wildlife conservation. He obtained his LLM from Cambridge University after having received his first law degree from the University of Edinburgh in association with NUS Singapore. There, he graduated with a First-Class Honours degree and received alongside it the Scots Law Society Prize for the Most Distinguished Student in Scots Law and the Hasties Stable Prize for the Most Outstanding Performance of a Legal Argument. He has practiced law across England, Singapore, Sri Lanka, India, and Scotland. He has also been associated with the Green Climate Fund. Through the interview, the team explored policy amendments, barriers, and monitoring, reporting, and verification (MRV) adoption at national, state, and local levels in terms of Climate Finance in India.

The team also had the privilege of interviewing Dr. Sreshta Banerjee, head at the International Forum For Environment, Sustainability, and Technology (iFOREST). She is currently heading the Just Transition (climate justice), and natural resource management programmes at iFOREST. She is a public policy professional with over ten years of experience working in India and US-based environment and public policy think tanks, and holds a PhD in Environmental and Energy Policy from the University of Delaware. She has worked on issues of environmental governance, minerals and forest resource management, District Mineral Foundation (DMF), sustainable industrialization, inclusive urbanization, environmental justice, and strengthening participatory governance.
Exploring Climate Finance

Climate Finance is a concept that was recently introduced to the world, but most of us were unaware of the nuances related to it. There are several related aspects associated at every level from accessing the fund to distribution, till implementation. Also, the policy-related issues and what approach India should have to make Climate Finance a success in sustainable growth.

Climate Financing is at its nascent stage and individuals have a very rudimentary understanding of it. What, according to you, is the definition of Climate Finance?

Siddhanth Prasad: Simply put, Climate Finance is the provision of capital towards activities that explicitly seek to further a climate goal, such as mitigation of or adaptation to climate change. Such capital can be sourced publicly or privately and can be packaged in different ways, including in the form of concessional loans, climate bonds, and grants. If I were to give you money to switch from a diesel to an electric car, that too could be considered Climate Finance, albeit at a very small scale.

Climate Finance is a very new concept in India and to access Climate Finance, India would need some policy amendments and adaptations. What would those amendments and adaptations be for India, which it requires in the future to access and distribute Climate Finance for sustainable development?

Siddhanth Prasad: Climate Finance comes in many different shapes and sizes, and, consequently, there will be different policies for every situation. For instance, if India wants to acquire funds from multilateral environment funds such as the Green Climate Fund or the World Bank, then the policy adaptations in this situation would be very different.

Now, how do we access international financing from multilateral environmental funds? These institutions require a sound regulatory framework, they need an assurance that the funds they are going to send across will be managed appropriately. The first step is to have the right legal framework, have proper contracts in place, and make sure that India has the legal expertise needed to manage contracts and transactions. The second step will be presence of Environmental and Social Safeguards (ESGs). In India, a lot of attention needs to be paid for developing the safeguards and understanding the importance of them. India also needs to invest in people, in companies, and in ideas that can access funding; institutions such as the World Bank lend only when a country
can demonstrate that it has a properly developed concept that has a positive environmental outcome.

On the national front, one of the big things that have been spoken about recently is the creation of a Developmental Financial Institution (DFI): a publicly funded institution that can invest money into the national financial projects, in the manner that private institutions like banks, commercial lenders simply aren’t able to do because of their business model. The idea of such an institution is a particularly good one, but India already has FDIs that cater mostly to all the industrial sections. The whole idea of having a financial development institution is that it has the safety and security of the Reserve Bank, and also put in place proper management procedures.

The last thing India needs to think about is the role of the private sector. How can you encourage the private sector to start investing in climate, more specifically in the climate initiatives that we want? One thing that needs to happen is regulations that force private companies to disclose the type of assets and projects they are investing in. When there is a level of transparency, it is easy to track $1 billion going towards renewable energy on the one side and another billion going towards fossil fuels. It is futile thinking about investing in climate unless there is a stark disinvesting from fossil fuels and all types of greenhouse-gas-emitting industries. So, regulations to urge private investors to disclose the type of investments they are making and to give them incentives to start investing in projects that are much more eco-friendly would be necessary.

**Given that we have spoken about private players, how could we approach the corporate houses for investments in Climate Finance?**

**Siddhanth Prasad:** India needs to play their game. If India goes to a private equity firm or a large bank and asks them to invest in climate projects, it isn’t going to work because these organizations are not philanthropic and a very small chunk of their equity goes into such projects. India needs to have a business case for them. It also needs to remind them to account for the negative externalities and risks associated with financing projects that are unsustainable and especially those that are linked to fossil-fuels. A failure to account for such risks may make unsustainable investments seem a lot more profitable than they really are.

The private sector is already investing in projects like transport, *i.e.*, hybrid cars, trains, metros, etc. But that’s not the only case where we need financing: there is a need for financing in research and development, and the biggest one of them all is adaptation, which has to be incentivized through, for example, de-risking. This is where the private and public sector needs to come together. The Green Climate Fund, for instance, has the Private Sector Facility, which works with private sector organizations to leverage capital and de-risk investments and
thereby encouraging private investment into areas which have traditionally been underfunded by the private sector.

**India is gradually pushing for climate financing assistance from corporate houses and ally nations in the form of funds and loans. So, what kind of approach do we need to adopt to achieve this goal without hampering our relations with these bodies?**

**Siddhanth Prasad:** The Paris Agreement states that the developed nations need to provide funds for adaptation and mitigation. Thus, there is already a legal obligation that has been cast upon the developed nations to financially assist countries like India, as per the UNFCCC. So, the question is not whether they should provide assistance, but how we can get what we are entitled to. Unfortunately, enforcing such obligations legally is difficult because of the way these norms are structured. The only option that remains, therefore, is to try and ‘enforce’ them politically. COP 26, scheduled for later this year, is going to be about this. With respect to corporate houses, we have already addressed that and we have spoken incentivising Climate Finance projects to make them seem attractive and less risky, thus giving a push to corporate houses.

**What barriers will India face in accessing Climate Finance and what approach should we adopt to neutralize these barriers?**

**Siddhanth Prasad:** There are definitely some political barriers. If, for instance, someone like Trump were at the forefront, that would have been the biggest political barrier we might have faced in the past five years in Climate Finance. But with Biden coming in, we can move back to what we were doing.

India needs to improve its infrastructure, not only its physical infrastructure but also the legal, environmental and social infrastructure that have been mentioned, to have good projects coming into the pipeline.

The GCF works through so called ‘accredited entities’. In essence, any entity in India can apply for funding through the GCF so long as it has been put up for accreditation by the Indian government and so long as it has demonstrated basic legal, fiduciary, social, and environmental standards. For example, you and I could set up a private entity and ask the government to put us up for accreditation. Once we satisfy the GCF that we meet their standards, we would be eligible to receive finance from them! The government should encourage a greater number of entities to seek such accreditation. These are some of the main barriers. Beyond these barriers, there are other, more common barriers such as inadequate implementation of projects, corruption, mismanagement, lack of public consultations, etc.
In January, the Indian government came out and stated that they are expecting about 55 billion dollars in investment in coal in the next 10 years. India has also stated that this will help it to fulfil the goals that are stated under the SDGs, would organizations like GCF consider investment into clean coal as Climate Finance?

**Siddhanth Prasad:** The GCF shouldn’t as a matter of principle and arguably law, be funding fossil-fuel projects. Unfortunately, however, it has in the past and therefore, there is always a chance that it may do so again unless it explicitly decides to stop funding such projects. That being said, even experts agree that traditional fuels have a role to play in the transition towards a zero-carbon future. We currently do not have the technology to go 100% renewable. In particular, there are issues around storage and transmission. The transition will also not take place unless we can ensure that the new system provides energy security. Traditional fuels have overcome these problems, and thus, can help us stay afloat whilst we develop the technology to go fully renewable. The answer to your question will, therefore, depend upon the nature of the proposal and the kind of transition that is being envisaged. Ruling it out completely would be unwise. I should add, however, that clean coal is a bit of a marketing gimmick. No coal is clean, some are just less dirty than others. Calling it clean coal obscures this fact.

If India puts pressure on the corporate house, they might put money into Climate Finance, but they might cause some kind of collateral damage. What steps does India need to take to ensure sustainable development and growth so that Climate Finance doesn’t become another “pay and pollute policy” for India?

**Siddhanth Prasad:** The answer to this question is simple: setting up environmental and social safeguards (ESG) might ameliorate the process. If there is a Climate Finance project that doesn’t want to cause collateral damage, for instance, if a dam building project doesn’t want to repeat what happened in Uttarakhand in February, these safeguards might help. In Uttarakhand’s case, the government didn’t pay attention to the environmental impact assessment done by scientists and ecologists. So, it’s crucial to have safeguards which are not box-ticking exercises but something more concrete.

In terms of national funding, if India sets up a Green Investment Bank or private sector then ESGs are going to be crucial, and India needs to implement the rules properly. For example, the new EIA is not up to the mark. It shows that the system we have in play is completely unfit, from the scoping stage which is the stage on the impact is calculated to the end when the panel sits to vet the application for clearance. There are issues all over the place, and they need to be fixed for the policies and the safeguards to be sustainable. Otherwise, you will have a short term boom then a long term blow up.
What kind of monitoring, reporting, and verification (MRV) should be adopted at national, state, and local levels in terms of Climate Finance in India?

**Siddhanth Prasad:** Most important thing is to identify what needs to be monitored. Firstly, we need to ensure that impact assessment reports are being properly conducted and that monitoring applications are being specified.

Stage two is very simple; you need to monitor them properly and ensure there is proper reporting. For the funding from the national government or some other sources of national financing, much of the monitoring is done by the government through reports and feedbacks submitted by the agency doing the work. This is a very ineffective strategy and we need to enhance the capacity of government regulations and their ability to monitor. We need to give them technical assistance, since the main issue is that the governing bodies at the state and national levels simply don't have the technical or the administrative capacity to be able to go and verify the reports or monitor the reports.

The final stage is to increase the penalties. The penalty right now for violating an environmental impact is approximately between 1 to 5 lakhs, which is an extremely small amount for big corporate houses that are setting up multi-billion-dollar projects.

The implementation of any project requires the creation of some pre-defined indicators and the achievement of these pre-defined goals. So, what indicators should be adopted to ensure the proper fulfilment of the predefined goals which India has or will have for using Climate Finance for sustainable development?

**Siddhanth Prasad:** It depends on the type of goals you're focussing on. If the goals are related to carbon emission, then you need to have indicators that measure carbon; if it is related to gender-equality, then a Gender Specialist should be using gender indicators to measure progress. Overall, it’s hard to articulate a specific set of indicators, since they just depend on what types of goals are being pursued. In all cases, however, the indicators should be reflective of the variable being measured.

After project implementation, there is some preparation and adaptation required at the local level to ensure that the projects which have been adopted are running smoothly. What preparations are to be done at a local level to ensure proper implementation?

**Siddhanth Prasad:** There’s no doubt that we need to have an accountability mechanism to hold the project developer accountable for its obligations to the
funding agreements. For example, if the funder is NABARD which is an institution headquartered in Mumbai, NABARD will have a set of conditions that they need to comply with environmentally and socially. Further, coming to local people, it is imperative that we take care of public consultations. For example, if people say that they have to relocate and require money as compensation, are these promises being carried out? This can be done through an accountability mechanism only, that too by the funder. There is also a need to give the locals a voice, a mechanism to register the issues they have, and it is the funder’s duty to keep a check on whether these issues are being resolved and are not merely collected just to fulfill contractual obligations.

**How can loopholes be eradicated and what work should these organizations engage in so that they can reach out to the masses? What other mechanisms can be used by these organizations to publicize their work?**

**Siddhanth Prasad:** Amongst the biggest loopholes is secondary due-diligence; institutions like GCF and World Bank cannot go and check themselves so they rely on desk reviews for checks and forms- which is slightly dangerous if they are not following the proper practices of accountability. This idea of secondary diligence needs to be looked at more if we need to make monitoring more effective, and technology can be a useful tool. We also need to develop partnerships with local organizations and local NGOs that are willing to do publicity in the form of piggy-backing, which is an effective method. Social media is also an important mechanism for proper publicity.

**Why is piggy-backing not prevalent?**

**Siddhanth Prasad:** NGOs need to be aligned with certain specific goals as they require funds. Furthermore, NGOs need to fulfill requirements: NGOs only engage in social work and are bound by many financial constraints. They acquire resources from donors, and these donors typically dictate the kind of work these organizations can take up, thus making it difficult for them to engage in activities like piggy-backing.

**How can policy readiness for Climate Finance at every level sustainably enhance economic and social development?**

**Siddhanth Prasad:** A well-crafted policy factors in risks and benefits to give a balanced solution. If a nation has good policies in place that take into account all the different variables, risks, and benefits, it will be easier for it to channel resources in a sustainable manner. However, if not done properly, a provision for incentives and the creation and reshaping of policies may change a profitable activity into one that has negative repercussions. For example, the Indian
government said that in the next ten years, it wishes to scale up climate financing by forty percent. To ensure this is sustainable, it needs to consider a number of factors including, who the beneficiaries will be, where the money will be spent, and its relationship to development.

**Is there a positive impact of Climate Finance at the grassroots level? If so, how long does it take to see benefits at the grass-root level?**

**Siddhanth Prasad:** Absolutely, Climate Finance does have a positive impact at the grassroots level. If you go to GCF’s website, they have statistics on how many funds are allocated towards mitigation, how many livelihoods have been generated, what has changed, etc. However, one must take this with a pinch of salt since these are projections and not evaluated results. This doesn’t imply that these results aren’t credible; many projects have been implemented based on these results and they have also yielded desirable results. For example, various projects involve the replacement of wood fire stoves with more sustainable alternatives. Another example would be the funding of the mangroves project in the Sundarbans in India. Therefore, we shouldn’t be impatient and acknowledge the fact that these institutions are still in their learning phase and that these results will take time.
Climate Finance Projects In South Asia: The Prospects Of Fossil Fuel Transition In India

Fossil fuel transition is one of the most sought-after activities in the domain of Climate Finance projects, given its efficacy and compatibility with the goals of the Paris Agreement. In the context of the global south, fossil fuel transition is a particularly challenging task as these countries rely extensively on carbon fuels such as coal and oil which has made it difficult for them to adopt strategies that involve curbing emissions and using cleaner sources of energy. Moreover, the lack of monetary support for this transition exacerbates the situation.

Through this interview, the team explored the prospects of fossil fuel transition in India, along with the financial instruments required to establish such a structural change in the energy system of India, a country that occupies considerable space in discourse surrounding climate change in South Asia.

How would you describe fossil fuel transition? What does it entail, and why should countries like India focus on it?

Sreshta Banerjee: The basic idea of fossil fuel transition stems from the concerns of climate change. The Guardian popularized the term “climate crisis”, insinuating that it is no longer just “climate change”. The last two IPCC reports from 2018 actually warned about catastrophic impacts of climate change. We need to stay below a temperature 2 degrees or 1.5 degrees to be precise to avoid catastrophic damage. For this, it has become imperative to move away from a fossil fuel economy, since fossil fuels are major contributors to this climate crisis.

Coming to the Indian subcontinent, while our carbon footprints have been historically low, we have rapidly changing consumption patterns due to urbanization, and our per capita GDP has increased. We are trying to catch up on economic growth and industrialization, and this is the right time to incorporate structural changes to address the climate crisis, and reduce pollution.

The issue is that the world is interconnected and since climate change is a global problem, its occurrence will render India as one of the worst suffering countries. The ministry of finance has stated that the adaptation cost for India is more than billions of dollars, which complicates the situation for us. India needs to act on this in some way or the other to secure its future and that of its citizens. We have the opportunity now and this is where renewable energy particularly comes in. Renewable energy is becoming increasingly competitive in India and experts
believe that in ten years renewable energy will surpass conventional fuel sources. That is where an opportunity for transition opens up.

**What has India’s relationship with energy transition been so far?**

*Sreshta Banerjee:* India’s experience has not been very encouraging. With respect to renewable energy, India has set very ambitious targets. The conversation surrounding the adoption of renewable energy is clearly hinting at the need for a fossil fuel transition. Simultaneously, industrial sectors are also growing at a rapid rate and the current status of renewable energy is not sufficient enough to support this growth.

Moreover, fossil fuel transition has not become a policy issue on a major scale yet and its importance has still not been internalized. For example, even now there are announcements of coal block auctions, which show that the government is still keen on investing in fossil fuels. Even on the policy front, there hasn’t been a lot of support. For example, the coal mining sector has been opened to private mining industries to fastrack production, since India has a deficit in domestic coal and needs to bridge the import gap since imported coal is expensive.

But now, in the past two years, the coal sector itself has realized the economic importance of transition. Coal India Ltd. has started announcements in renewable energy investments and technology and the thought of a transition has set in.

**During his election campaign, Joe Biden proposed a $2 trillion spending plan to deal with climate change that includes promoting clean energy and climate-friendly infrastructure. Given that the United States is extremely influential and occupies an important position in global proceedings, how do you think this affects the way countries like India prioritize climate change?**

*Sreshta Banerjee:* The US elections sent some important environmental signals globally. After Joe Biden got elected, the USA reentered the Paris Agreement and the US government proposed a Green New Deal. Furthermore, Joe Biden announced that he is” one of the most pro-labor presidents”. One could speculate that this statement was made keeping in mind the motive of fossil fuel transition, since closing of mines and power plants would require helping the labour, and as the president they are obligated to be mindful of the economy and the laborers while working on climate change. Coming to India, the signals sent by Biden are pertinent and will affect how India views climate change because the United States occupies an important position in climate negotiations.
However, these signals aren’t enough because India also has to internally become more ambitious about its climate change targets. Going ahead, the Indian platform needs to discuss financial mechanisms of a fossil fuel transition since such a project would require massive amounts of money. Some of the financial resources will be generated internally, but the global community also has to support the transition. We are still at a nascent stage of policy thinking and we haven’t branched out to policy dialogue, where the engagement of the European Union and the US will be critical.

The Paris Agreement required countries to outline and communicate their post-2020 climate actions, known as their NDCs. However, according to various reports, India requires massive investments in clean energy projects to reach the ambitious Nationally Determined Contribution (NDC) targets it has set for itself. What are some financial instruments that can be employed to fund these targets and other energy transition projects?

Sreshta Banerjee: According to experts, India shouldn’t have trouble in meeting its NDC targets. However, we need to think about whether these targets are enough to address climate change. We are more ambitious about renewable energy and there aren’t many financial challenges with renewable energy adoption for the following reasons. Firstly, the government is already investing heavily in renewable energy; business sectors are also investing substantially since it is a win-win situation and makes financial sense. Therefore, India’s challenges don’t involve renewable energy, but involve fossil-fuel transition. Fossil fuels are widespread and this transition is much more complex. Additionally, huge populations of people are dependent on the coal industry for income. The coal industry is a conglomerate of coal-mining sectors, thermal power plants, and various other small industries such as the sponge iron and brick industries. How does one address an economic transition of so many people?

Moreover, biggest coal ventures like Coal India Ltd. are public sector undertakings that are responsible for giving pensions to retired employees; these pensions aren’t a one-time compensation. There are also employees who aren’t a part of the industry but are informally dependent on the coal economy such as truckers, drivers, transportation heads etc. These people aren't covered by Coal India or National Thermal Power Corporation; they are either subcontracted or are daily wage labourers, which makes the situation complex.

Finally, there is also the question of revenue substitution. These industries contribute 5-7% of the state revenue and it would be difficult to substitute this contribution immediately.

The main challenges of financing are the economic diversification and supporting transition of workers and local communities.
Since a lot of individuals work in industries where fossil fuels play a pivotal role, how can we ensure a smooth transition to clean energy without jeopardizing the livelihoods of these individuals?

Sreshta Banerjee: I worked on a book called “Just Transition in India”, where we focused on the state of Jharkhand and spoke about local level funds available at the district and the state level that we could tap into to finance our transition needs. One such fund source is the District Mineral Foundation that comes under the aegis of the ministry of mines. However, the collection and disbursement of these funds is largely localized, and come under the local government and district administration. DMFs were developed at the district level in the year 2015. These funds are meant to serve the purpose of uplifting the local communities that were affected by loss of livelihood and other issues due to mining. Most of the coal, iron ore and bauxite mines are located in approximately 150 backward districts. These districts, which were later renamed as aspirational districts by the NITI Aayog, are very poor in terms of human development.

Recent statistics indicate that there is approximately INR 45000 crore in the DMF funds, which is a huge amount of money that can be used to support these communities and the transition. Top coal-mining states like Jharkhand collect huge amounts of funds and a back-of-the-envelope calculation states that villages in these districts could easily obtain one crore per village every year.

Furthermore, the government introduced a coal cess or a clean energy cess that mandated the collection of INR 50 per tonne of coal production. Till 2017, the cess grew to approximately INR 400 per tonne of coal production, but unfortunately, with the implementation of GST, the GST compensation cess led to the abolition of the clean energy cess. The good news is that this cess can be brought back by the year 2022, and the money yielded from the cess could be as huge as INR 38000 crores per year.

Finally, another way to make the transition smoother is to diversify the economy and create alternate non-coal-based opportunities in sectors such as agriculture, forestry, MSMEs to support these people. Providing individuals with ample opportunities and strengthening social infrastructure could ameliorate the transition process.

What according to you are some drawbacks associated with fossil fuel transition/ implementation in a country like India?

Sreshta Banerjee: In my opinion, there are more challenges than drawbacks—the prescription of fossil fuel transition is much easier than execution, especially for a country like India. The countries in the global north such as the United States, Germany, UK, etc. have formalized sectors whereas we have a coal
industry which is primarily dependent on the informal sector for labor. Moreover, the number of people employed in the informal sector is two or three times more than those in the formal sector. If we don’t plan the transition properly, there is a possibility of people falling through the cracks. Similarly, with renewable energy transition, we need to think about the socio-economic impacts.

The renewable energy projects are coming up in states like Tamil Nadu and Rajasthan, which aren’t coal areas and will result in coal states being thrown into poverty. Even with renewable energy-based job creation, we have prosperity in one hand and poverty in the other.

We came across news articles about how the pandemic significantly reduced pollution levels. Do you think this will remain the same after industrial activities resume to pre-pandemic conditions? What is something that we can do to regulate the environmental impact of such activities?

Sreshta Banerjee: There are various studies that show that after a lull in industrial activities like in the case of this pandemic, the post-pandemic pollution levels would not only shoot up but also be significantly worse than levels in the pre-pandemic times. This is because countries are under the pressure of kick starting the economy and need to expedite the resumption of industrial activities. Fortunately, the good news is that the pandemic is also an opportunity for us to rebuild the economy, since sectors are ever-changing and never remain the same. We can think of rebuilding the economy in a way that is environmentally responsible, low-carbon, and less polluting. We should try not to rely on thermal power plants and we need to rebuild localized industries and make them less vulnerable to global shocks. COVID-19 has given us the time and opportunity to reflect on this, and as a result, rebuilding of the economy is emerging as a huge topic of research.