The Indian Himalayan Region needs its own EIA

The Teesta dam breach in Sikkim in early October and the recent floods and landslides in Himachal Pradesh are a stark reminder of the havoc our development model is wreaking on our environment and ecology especially in the mountains. It is imperative to assess the worthiness of any significant human endeavour in terms of its impact on the environment.

The basis of the EIA

Environment Impact Assessment (EIA) is one such process defined by the United Nations Environment Programme (UNEP) as a tool to identify the environmental, social, and economic impacts of a project before it is implemented. This tool compares various alternatives for the proposed project, predicts and analyses all possible environmental repercussions in various scenarios. The EIA also helps decide appropriate mitigation strategies.

The EIA process would need comprehensive, reliable data and would deliver results only if it is designed to seek the most appropriate, relevant and reliable information regarding the project. Hence, the base line data on the basis of which future likely impacts are being predicted are very crucial.

In India, a precursor to the EIA began in 1976-77 when the Planning Commission directed the Department of Science and Technology to assess the river valley projects from the environmental point of view. It was later extended for all those projects that required approval from the Public Investment Board. Environment clearance then was just an administrative decision of the central government. On January 27, 1994, the Union Ministry of Environment, Forests and Climate Change under the Environment (Protection) Act 1986 (EPA), promulgated the first EIA notification making Environmental Clearance (EC) mandatory for setting up some specified new projects and also for expansion or modernisation of some specific activities. The notification of 1994 saw 12 amendments in 11 years before it was replaced by the EIA 2006 notification.

The hallmark of the 2006 notification was the decentralisation of the process of EC. State governments were also given powers to issue EC in certain cases. The 2006 notification has also been amended, in the name of fine-tuning the process several times. The Union Ministry of Environment, Forests and Climate Change floated a draft EIA in 2020 for public comments which created quite a furore as it was perceived to be pro industry and compromising the ecological concerns.

Used diligently, the EIA could be the most

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potent regulatory tool in the arsenal of environmental governance to further the vision of sustainable development in the country.

The EIA 2006 notification lays down the procedure as well as institutional set-up to give environmental clearance for the projects that need such clearance as per this notification. Only projects enumerated in the schedule attached to the notification require prior EC. An EIA is not required for many projects as they do not fall within the ambit of this notification.

This notification has categorised projects under various heads such as mining, extraction of natural resources and power generation, and physical infrastructure. Unfortunately, the threshold limits beyond which EIA is warranted for all these projects is the same across the country.

Despite all levels of government being acutely aware of the special needs of the Indian Himalayan Region (IHR), the region's vulnerabilities and fragility have not been considered separately. While some industries mentioned in the schedule to the notification cannot be set up in the IHR States due to the industrial policies of the respective States, other industries and projects have to meet the same threshold in the rest of the country. Even the draft 2020 notification which was floated for public discussion does not treat the IHR differently than the rest of the country and is not cognisant of the special developmental needs of IHR.

Flaws in the graded approach

The Indian regulatory system uses a graded approach, a differentiated risk management approach depending on whether a project is coming up within a protected forest, a reserved forest, a national park, or a critical tiger habitat. The stringency of environmental conditions proposed in the terms of references at the scoping stage of the EIA process is proportionate to the value and sensitivity of the habitat being impacted by the project.

One unfortunate miss from this graded approach for differentiated risk management has been the IHR. Despite its special needs and as an area of immense ecological importance to the entire country (it serves as a water tower and the provider of ecosystem services), this region is treated like any other part of the country.

While categorising projects it is important that the impacts of all such projects and activities are seen in the IHR in the context of this region's fragility and vulnerability vis-à-vis ecology and environment. We have enough systemic understanding that the Himalayas are inherently vulnerable to extreme weather conditions such as

heavy rains, flash floods, and landslides and are seismically active. Climate change has added another layer of vulnerability to this ecosystem. Despite this understanding of the fragility and vulnerability of the Himalayas, there is no mention of a different set of environmental standards needed if the project is located in the IHR.

The increasing frequency with which the Himalayan States are witnessing devastation every year after extreme weather conditions shows that the region is already paying a heavy price for this indifference.

The needs of these mountains could be addressed at all four stages of the EIA – screening, scoping, public consultation, and appraisal – if the yardstick for projects and activities requiring EC in mountainous regions is made commensurate with the ecological needs of this region.

General conditions mandated for all projects at the end of the notification could also have had a clause about the IHR or mountains above a certain altitude, or with some specified characteristics that could increase the liability of the project proponent.

What ails the EIA

There is no regulator at the national level, as suggested by the Supreme Court of India in 2011 in *Lafarge Umiam Mining (P) Ltd.; T.N. Godavarman Thirumulpad vs Union of India* to carry out an independent, objective and transparent appraisal and approval of the projects for ECs and to monitor the implementation of the conditions laid down in the EC. The EIA process now reacts to development proposals rather than anticipate them. Due to the fact that they are financed by the project proponent, there is a veering in favour of the project. The process now does not adequately consider cumulative impacts as far as impacts caused by several projects in the area are concerned but does to some extent cover the project's subcomponents or ancillary developments.

In many cases, the EIA is done in a 'box ticking approach' manner, as a mere formality that needs to be done for EC before a project can be started. The consequences of all these limitations are amplified in the IHR as on top of the inherent limitations of the process, the EIA process is not at all cognisant of the special needs of the IHR. Policymakers would do well to explore other tools such as the strategic environmental assessment which takes into account the cumulative impact of development in an area to address the needs of the IHR as a fundamental policy.

Confronting the long-term risks of Artificial Intelligence +

isk is a dynamic and ever-evolving concept, susceptible to shifts in societal values, technological advancements, and scientific discoveries. For instance, before the digital age, sharing one's personal details openly was relatively risk-free. Yet, in the age of cyberattacks and data breaches, the same act is fraught with dangers. A vivid cinematic example of evolving perceptions of Artificial Intelligence (AI) risk is the film, *Ex Machina*.

In the story, an AI named Ava, initially viewed as a marvel of synthetic intelligence, reveals her potential to outwit and manipulate her human creators, culminating in unforeseen hazards. Such a tale exemplifies how our understanding of AI risk can drastically change as the technology's capabilities become clearer. This underscores the importance of identifying the short- and long-term risks.

The immediate risks might be more tangible, such as ensuring that an AI system does not malfunction in its day-to-day tasks. Long-term risks might grapple with broader existential questions about AI's role in society and its implications for humanity. Addressing both types of risks requires a multifaceted approach, weighing current challenges against potential future ramifications.

Over the long term

The risks that present themselves over the long term are worth looking at.

Yuval Noah Harari has expressed concerns about the amalgamation of AI and biotechnology, highlighting the potential to fundamentally alter human existence by manipulating human emotions, thoughts, and desires. In a recent statement by the Center for AI Safety, more than 350 AI professionals have voiced their concerns over the potential risks posed by AI technology.

One should be a bit worried about the intermediate and existential risks of more evolved AI systems of the future – for instance, if essential infrastructure such as water and electricity increasingly rely on AI. Any malfunction or manipulation of such AI systems could disrupt

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these pivotal services, potentially hampering societal functions and public well-being.

Similarly, although seemingly improbable, a 'runaway AI' could cause more harm – such as the manipulation of crucial systems such as water distribution or the alteration of chemical balances in water supplies, which may cause catastrophic repercussions even if such probabilities appear distant. AI sceptics fear these potential existential risks, viewing it as more than just a tool – as a possible catalyst for dire outcomes, possibly leading to extinction.

The evolution to human-level AI that is capable of outperforming human cognitive tasks will mark a pivotal shift in these risks. Such AIs might undergo rapid self-improvement, culminating in a super-intelligence that far outpaces human intellect. The potential of this super-intelligence acting on misaligned, corrupted or malicious goals presents dire scenarios.

The challenge lies in aligning AI with universally accepted human values. The rapid pace of AI advancement, spurred by market pressures, often eclipses safety considerations, raising concerns about unchecked AI development.

The world does not have a unified approach. The lack of a unified global approach to AI regulation can be detrimental to the foundational objective of AI governance – to ensure the long-term safety and ethical deployment of AI technologies. The AI Index from Stanford University reveals that legislative bodies in 127 countries passed 37 laws that included the words "artificial intelligence".

One of the most celebrated regulations out of these is the European Union's AI Act. It adopts a 'risk-based' approach, tying the severity of risk to the area of AI deployment. This makes sense when considering AI applications in critical infrastructures, which demand heightened scrutiny. However, tying risk solely to the deployment area is an oversimplified strategy. It might overlook certain risks that are not directly tied to the deployment area. Therefore, while the area-specific approach is valuable, a more holistic

view of AI risks is necessary to ensure comprehensive and effective regulation and oversight.

However, there is a conspicuous absence of collaboration and cohesive action at the international level, and so long-term risks associated with AI cannot be mitigated. If a country such as China does not enact regulations on AI while others do, it would likely gain a competitive edge in terms of AI advancements and deployments. This unregulated progress can lead to the development of AI systems that may be misaligned with global ethical standards, creating a risk of unforeseen and potentially irreversible consequences. This could result in destabilisation and conflict, undermining international peace and security.

Thus, nations engaging in rigorous AI safety protocols may be at a disadvantage, encouraging a race to the bottom where safety and ethical considerations are neglected in favour of rapid development and deployment. This uneven playing field can inadvertently encourage other nations to loosen their regulatory frameworks to maintain competitiveness, thereby further compromising global AI safety.

The dangers of military AI

Furthermore, the confluence of technology with warfare amplifies long-term risks. Addressing the perils of military AI is crucial. The international community has formed treaties such as the Treaty on the Non-Proliferation of Nuclear Weapons to manage such potent technologies, demonstrating that establishing global norms for AI in warfare is a pressing but attainable goal. Treaties such as the Chemical Weapons Convention are further examples of international accord in restricting hazardous technologies. Nations must delineate where AI deployment is unacceptable and enforce clear norms for its role in warfare. In this ever-evolving landscape of AI risks, the world must remember that our choices today will shape the world we inherit tomorrow.

The views expressed are personal