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ARTICLE

Do the Environmental Approval Conditions Enable the Best Practice EIA Follow-up and Hence Strengthen the EIA System? An Indian Case Study Analysis

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ABSTRACT

The environmental approval for a project is generally granted with a set of terms and conditions to the project proponent. The environmental clearance (EC) letters for 33 infrastructure projects were examined for the relevance, adequacy, and enforceability of the EC conditions. Using the basic tenets of the EIA process, it is found that the long list of irrelevant, inadequate, and unenforceable conditions is greenwash and unsuited for best practice EIA follow-up, hence meeting the EIA objectives. The conditions should be directed at measuring the environmental performance of the project to catalyze achieving sustainability targets. The conditions for stringent supervision and frequent inspection of the site activities in the construction phase could help ensure the implementation of the proposed mitigation measures for infrastructure projects. A comprehensive environmental impact assessment framework may use the principles of the ABC analysis to prioritize the properly specified EC conditions, resource allocation, and stakeholder engagement for the best practice EIA follow-up and hence strengthen the EIA system.

1. Introduction

The government of India, like several developing countries, is giving a major thrust to infrastructural development in the country to catalyze rapid economic growth and employment opportunities. To facilitate the investments, there is a move to fast track the procedures including the environmental impact assessment (EIA) process, a well-accepted and widely practiced tool for the development decision-making process from the environmental, social, and health perspectives [1]. The pre-project decision for the approval of a proposed project in an EIA regime culminates in a set of terms and conditions for the project proponent. Given the potential conflict areas between the project proponent, public interest, and the health of the environment, environmental approval conditions are gener-

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ally imposed [2-6]. It implies a thorough review of the EIA report [6-8], especially the significant environmental impacts, appropriateness of the mitigation measures, mechanisms spelled out to implement these measures in terms of administrative framework, adequate resource allocation, monitoring, and follow-up as well as follow-through. The terms and conditions are essentially prescribed to establish the basic rules for the project proponent and to a) rectify minor deficiencies in the EIA report, b) monitor the impacts- physical, ecological as well as social to ascertain that these are within the permissible/acceptable levels, and c) verify that the project proponent fulfills the commitments made in the environmental management program (EMPg) and public hearing including those related to social upliftment and environmental enhancement [9]. At the same time, to ensure that the rules are followed for effective actions in practice, there is a need for a clear commitment from regulators as well as self-regulation by the project proponent in terms of internalizing the actions in the form of the environmental management system and response to the public pressure [10]. The stipulations made by the decision-making authority while granting environmental approvals, *i.e.* the terms and conditions of approval are referred to as environmental clearance (EC) conditions in India. A large number of conditions [6] are added in the EC letters, possibly to cover up deficiencies/lacunae in the terms of reference prescribed for conducting EIAs and the review of the EIA reports. The EC conditions form the basis for the EIA follow-up of the projects that are granted EC in India but the way these are prescribed is one of the weak links in the EIA process [6]. The Indian regulation [11,12] has provisions for establishing an environment cell and allocation of adequate resources to implement the EMPg by the project proponent. While the EIA follow-up, the fourth stage of the EIA process [13], is a vital component of the EIA [14], and considerable literature is available on it, the key to the EIA follow-up in India continues to be the EC conditions, enforcement of which is problematic [15-18]. A long list of irrelevant and ineffective conditions represent greenwashing, misguiding the affected people and other stakeholders by creating a belief that the government is concerned with the environmental protection [19]. Among others, ambiguous conditions were considered to be a major barrier to the effective implementation of EIA follow-up [17].

There is a general understanding in Hong Kong that the permit conditions effectively bind project proponents to implement the agreed mitigation measures to prevent environmental issues [20]. The conditions prescribed to project proponents in 801 documents to perform *ex-ante* and *ex-post* monitoring of potential impacts described in the EIA reports were characterized [21] and it was concluded that post-project monitoring remained a challenge. The relationship between mitigation measures identified in the environmental statement and actual conditions and obligations detailed in the development control decisions was studied [22] by categorizing mitigation measures, planning conditions, and obligations under environmental aspects, *viz*. landscape, air and climate, noise, water, ecology, soil and geology, socio-economic, cultural heritage, and transport. It was reported that more than half the mitigation measures proposed in the environmental statements were not covered in the conditions in the planning permission and a large number of extra conditions, not derived from the proposed mitigation measures, were included. Given the above, a genuine concern may arise that implementation of the proposed mitigation measures may be at the discretion of project proponents or there may be a lack of commitment on their part to put such measures in place. From the studies of the conditions imposed for a road-building project in an extremely diverse and fragile environment receiving intense rainfall and having steep slopes covered with tropical rainforest, it was concluded [23] that a thorough review of EIA studies and detailed terms and conditions for the project proponent are necessary for a successful EIA follow-up. The competence, commitment, and autonomy of the competent authority determine appropriate conditions for the EC, and the institutional framework determines the effectiveness of the EIA follow-up [10,24] including compliance with the EC conditions by project proponents. Thus, the need for appointing competent members on the expert appraisal committees in a transparent manner to review the EIA reports was underlined [8].

2. Need and Objective of the Study

The aspects related to environmental terms and conditions has received little attention in the literature than the other aspects of the EIA process as evident from the scanty literature available on the relevance and adequacy of the terms and conditions prescribed to project proponents while conveying decision about the environmental approval and lack of empirical studies reported.

Given the above, the importance of the EIA follow-up in achieving the objectives of the EIA, and the role of environmental terms and conditions prescribed to project proponents in facilitating the EIA follow-up and hence strengthening the EIA system in India, this empirical study was undertaken to examine: a) the relevance of the EC conditions, b) the adequacy of the EC conditions, c) the enforceability of the EC conditions, d) whether the EC conditions facilitate the EIA follow-up adhering to the

best practice principles [25,26], and e) whether the EC conditions help achieve the objectives of the EIA [13,27]. Based on the findings and gaps, a way forward is recommended to enhance the efficacy and utility of the EC conditions in strengthening the EIA follow-up and hence the EIA system further.

3. Methodology

The study is based on i) review of the literature related to terms and conditions for environmental approvals prescribed to project proponents from the leading international journals dwelling upon EIA-related aspects, ii) examination of the EIA-related documents available in the publicly accessible database [28] and the EC letters issued for the greenfield infrastructure projects in the period 2017-2021, *viz*. highways, airports, industrial parks, and thermal power that involve large chunks of land and have a high potential of physical, social as well as ecological impacts, iii) online open-ended questions asked to randomly selected accredited EIA consultants to seek their opinion for the objectives of the study a, b, and c, *viz*. relevance, adequacy and enforceability of the EC conditions respectively, iv) views of the randomly selected experts having extensive experience of the EIA system in India who are directly associated with the EIA review process at the federal level and also with the mandatory accreditation process for EIA consultants [29] to substantiate the findings for the objectives of the study a, b, and c and v) qualitative analysis of the above, applying the basic tenets of the EIA follow-up [10,24-26] and objectives of the EIA [13,27], findings from similar other studies found in the literature, and viewpoints of the randomly selected EIA consultants as well as experts to examine the study objectives d and e, given that findings of the objectives a, b, and c have a direct bearing on these.

4. Findings and Discussion

In India, based upon the recommendations of the expert appraisal committee, the Ministry of Environment and Forests and Climate Change (MOEF & CC) decides on the grant of EC for category A projects and the respective State Environmental Impact Assessment Authority (SEIAA) for category B projects. The focus of the EIA report preparation in India was observed [6] to primarily seek EC for the proposed project and after receiving the EC, the approval conditions are invariably buried. The EIA framework [11,12] mandates compliance with the EC conditions by the project proponent and reporting the same on a periodical basis. But the compliance reports are generally used as tick-box by the busy regulator unless there is a public outcry or media coverage on the adverse impacts or gross negligence by the project proponent, leading to public interest litigations with the National Green Tribunal or the Supreme Court of India.

The EC letters given to the project proponents are observed to contain highlights of the project features and environmental settings, and prescription of a host of conditions, numbering 50-100, broadly categorized as specific conditions and general conditions. The *specific conditions* typically consist of generic aspects like land acquisition as per the applicable regulations, good practice measures such as barricading the construction site, dust suppression, soil management, and runoff management in the construction phase of the project and air pollution and noise control measures, wastewater and solid waste treatment and disposal, drainage system, rainwater harvesting, energy conservation, on-site disaster management plan dovetailed with the off-site disaster management plan, *etc*. in the operation phase. The *general conditions* typically consist of aspects like giving publicity to the EC letter, setting up a separate environmental management cell equipped with a full-fledged laboratory facility, earmarking funds for pollution control, compliance with the environmental pollution control regulations and other applicable regulations, periodic reporting for compliance with the stipulated conditions in addition to other standard conditions. Some conditions overlap in these categories. Given that construction is involved in most development projects, most of the specific conditions are found to be almost similar for every project, irrespective of the type and size of the project, project sector, or location. Even for the operation phase of a project, the conditions are observed to be generic and similar across infrastructure projects of different sectors investigated in the study.

Objective a: the relevance of the EC conditions

Given that an airport operator does not have any say on the type of the aircraft landing at the airport or the flight timings, the condition: "during airport operations period, noise should be controlled to ensure that it does not exceed the prescribed standards'' is ambiguous and irrelevant. Likewise, when the project details mention that the land will be purchased from the government, the condition: "land acquisition shall be in accordance with the applicable regulation" is irrelevant. The specific conditions like 'adequate' measures for speed regulation, 'adequate' monitoring, the greenbelt of 'adequate' density for plantations, *etc*. and the general condition that the air quality-related information shall be displayed on the main gate of the project are ambiguous due to the lack of clarity about the placement of the air quality monitoring stations

and main gate of a highway project. Further, conditions like installing air pollution control devices, rooftop rainwater harvesting systems, managing water requirements for construction, *etc*. given for industrial park projects are irrelevant because these conditions apply to individual projects in the park. The terms "greenbelt" and "greening", used interchangeably, do not convey the intention. There is ambiguity in the conditions for creating a greenbelt in 33% of the area for airport projects and selecting landscape plantation species to avoid bird nesting and to serve as pollution and noise control measures, rendering these conditions irrelevant. The condition of zero liquid discharge from industrial parks prescribed for the developer of the park, generally a real estate developer or government agency having a mandate to develop infrastructure, is irrelevant. These agencies have the expertise and their role is generally limited to water supply, maintaining drainage systems and roads in the industrial park in which industries are set up over time, and it is for the individual industrial projects to treat the wastewater generated by them and recycle the treated wastewater. The conditions related to compliance with the applicable laws of the land are redundant, given that these have to be mandatorily complied with if the project has to be implemented and operated.

Objective b: the adequacy of the EC conditions

Unlike other projects, the pre-project land use/land cover for airport projects is not highlighted in the EC letters for the core or buffer zone and no conditions are prescribed for felling of trees for the developmental activities, monitoring of flora and fauna, greening, and social upliftment. For each of the airport projects, the EC letters mention that the designated eco-sensitive areas (ESA), *viz*. forests, national parks, wildlife sanctuaries, tiger reserves, intertidal areas, or Western ghats were beyond the buffer zone within a 10 km radius of the project location. But the EIA reports reveal that forest land acquisition was proposed in six projects, seven Schedule-I species [30] including migratory species were reportedly recorded in the buffer of one project, and chopping off one million m^3 of a nearby hill obstructing the flight approach path was proposed for another project. The concerned EC letters, however, did not specify any conditions to address these aspects, revealing inadequacies of the conditions.

The daily requirement for the construction water is highlighted for some projects and construction water is permitted to be supplied by private tankers but there is no mention of the sources of water and the duration of construction. In all probabilities, the sources may be the existing ones being exploited by the local inhabitants. In the absence of any conditions for monitoring, the effect on the existing users and the water sources will not be reported. The conditions that there would be zero liquid discharge from the project, the wastewater and sewage would be treated in common effluent treatment plants and sewage treatment plants respectively and the treated sewage would be recycled/used for gardening, humidification, and air conditioning for industrial park projects ignore monsoon and winter seasons when the demand for the water for such activities gets reduced substantially. Moreover, media reports are not uncommon about the partial treatment given in the common effluent treatment plants, nonconformance with the discharge standards, and also discharge of the wastewater without any treatment in the monsoons. For all the industrial park projects, employment potential is highlighted but no monitoring mechanism is prescribed to ascertain actual job creation. The condition for disaster management (offsite emergency response) plan for industrial park projects is not found. The inadequacy of prescribing suitable conditions is thus exposed.

The inconsistency and inadequacy of conditions for coal-based thermal power projects are apparent from the fact that conditions are prescribed for a 'credible' third party report on the social audit, construction of ash pond for emergency storage of the ash, and housing for construction labor and reporting of the as-built environmental management plan for one project only and that too without a timeframe. The specific conditions are prescribed for one thermal power project only for long-term study for heavy metals and radioactivity in the coal to be used and reporting the findings every two years and online continuous monitoring of air quality and wastewater. Instead of imposing conditions for monitoring the borrow areas and transportation of earth, construction and building materials required for highway and other infrastructure projects, guidelines are given in some EC letters for identification of the borrow areas. Ash utilization/disposal, indeed a specific condition for coal-based thermal power projects, is prescribed for all coal-based thermal power projects. The public concern expressed in the public hearings like employment, compensation for the land to be acquired, rehabilitation and resettlement, damage to trees, air pollution and noise levels, drinking water, the health of the water bodies, passages for access to villages, access to the seafront, movement of cattle, *etc*. is not even highlighted in every EC letter, leave aside prescribing corresponding conditions for implementation and monitoring. Compensating the forest department by giving a piece of land at some location in lieu of acquiring the forest land [31] is treated as a regulatory compliance requirement, given that

no condition is imposed to ensure a timebound compensation for the ecological value sacrificed. The conditions for monitoring of the felling of plantations in the non-forest land, the progress of afforestation to compensate the trees felled or damaged in ESA, greening of the project premises and its surroundings, landscaping, the aspects related to the welfare of flora and fauna, social upliftment-related actions, employment for the local population, *etc*. are also not found for any project, revealing inadequacies of the EC conditions.

Objective c: whether the EC conditions are implementable/enforceable

Some specific conditions like: "Unauthorized development and encroachment shall be prohibited within 5 km of the airport in consultation with the local authorities" are not implementable, given that the project proponent has no jurisdiction beyond the land acquired for the project and the local self-governments are under the administrative control of the respective state governments, not the federal government. The condition for zero liquid discharge for industrial park projects is not implementable, given several studies revealing that the 'treated' wastewater from the common effluent treatment plants in several existing industrial parks does not meet the specifications for any classification of water reuse [32]. Moreover, it is not practical to enforce this condition given that several industries are located in an industrial park, employing a large number of people. There could be social unrest if many families are deprived of livelihood. Without specifying the timeframe and monitoring mechanism in the EC letters, the general condition that the issues raised in the public hearings and the commitments made therein by the project proponents shall be addressed is likely to remain on paper only. To assure that benefits arising out of projects, *viz*. improvement of socio-economic conditions, increased income and consumption levels, employment generation, skill development, and further economic growth in the region, *etc*., highlighted in the EC letters, accrue to the local population and not elude them, the EC conditions need to specify mechanisms for their measurement, monitoring, and audit to verify the implementation.

Objective d: whether the EC conditions facilitate EIA follow-up adhering to the best practice principles

The findings that most of the EC conditions are too routine, generic, ambiguous, irrelevant, redundant, or almost identical [6,15-17,33] are confirmed by this study also. This conclusion is also echoed by some experts, one of whom opined: "More than 70% of EC conditions are not of any use. The conditions are not monitorable and are made to protect the 'decision makers' rather the 'environment'." Such EC conditions do not aid implementation or effective monitoring of the mitigation measures. It may thus be surmised that irrelevant, inadequate, or unenforceable conditions cannot form the basis for EIA follow-up adhering to the best practice principles [10,24-26]. Further, in absence of strong evidence that the EC conditions are derived from the 'Environmental impact assessment and mitigation measures', 'Additional studies', and 'Environmental management program' chapters of the EIA report, the disconnect between the EC conditions and the EIA report will continue to persist. It may culminate in a lack of commitment on the part of the project proponent to implement the measures proposed in the EIA report [22], and hence ridicule the objectives of the EIA follow-up.

Objective e: whether the EC conditions help achieve the objectives of the EIA

The EIAs done after acquiring land, either from the government or private sources- partial or the entire for most projects investigated suffer from inherent weakness as consideration for alternate locations, a basic requirement for carrying out the EIA study, is obstructed. The requirement of the comprehensive assessment of environmental and social impacts for EIA cannot be fulfilled when rehabilitation and resettlement are considered as mere regulatory compliance under land acquisition regulation and the EC conditions do not recognize the need for mitigating social impacts on the land losers and those affected by the land acquisition. Further, permitting the splitting of a national highway project into different packages, with lengths varying from 44 km to 208 km and preparation and review of separate EIAs for each of these packages fail the holistic environmental assessment for the project as a whole. For the highway projects passing through the designated ESA, a specific EC condition is specified for the preparation of the ecological/wildlife management plan and submitting it to the regional office of the MOEF & CC. Instead of making this a post-decision condition and that too without specifying a timeframe, it would better serve the objective of the EIA if such a plan is prepared upfront, integrated with the environmental management program in the EIA report, and reviewed by the expert appraisal committee before granting the EC. Likewise, the EC conditions for airport projects: "Cumulative impact assessment for the project activities shall be made for traffic densities and parking capabilities in 5 km radius. A detailed traffic decongestion plan shall be drawn up through a reputed organization", and highway projects: "Cumulative impact assessment for all the packages shall

be prepared and provided to the regional office" should be pre-decision requirements, given the importance of cumulative impact assessment in the decision-making for project approval. Also, the environmental management program for the borrow areas and transportation of earth, construction and building materials required for the highway, and other major infrastructure projects should be reviewed before granting the EC. For an elephant corridor located at a distance of 3 km from the buffer zone of 10 km radius of the project site of a highway project, even though beyond the study area, the post-decision condition of obtaining a specific recommendation from the Chief Wildlife Warden for minimum disturbance to the elephants should have been a pre-decision requirement in line with the spirit of the EIA process. The post-decision approvals/permissions from the respective agencies are generally based on their individual perceptions whereas an integrated approach is followed in the EIA process. Moreover, the documents submitted to comply with the post-decision conditions are likely to be tick-boxed by the busy regulators without serious cognizance.

The step-motherly treatment given to the ecological and social components of the environment and neglecting the need for protocols to address public concern/complaints in a specified timeframe in the EC conditions create apprehensions about the utility of the EIA in promoting sustainable development. Table 1 gives the summary of some important facets highlighted in the EC letters issued for the projects investigated in the study. It reveals inconsistencies and inadequacies in prescribing the EC conditions for the projects of a given sector and also across project sectors. The experts also echoed similar views and that the focus of the EIA review [8] and hence the EC conditions are more on compliance with the regulatory requirements rather than on meeting the objectives of the EIA.

It is implicit that over-prediction of impacts results in getting stringent conditions and these may be lighter for under-predictions even though such projects may have environmental and social consequences [34]. The generic EC conditions appearing in all the EC letters in the study affirm a lack of evidence that the EC conditions emanate from the concerned EIA reports given that the decision-making process is expected to make use of the EIA report, especially the environmental management program, significant impacts, appropriateness of the proposed mitigation measures, and limitations in the impact assessment as the important basis to stipulate the conditions for environmental approval. This conclusion is in agreement with the reported findings [2,22] that more than half of the mitigation measures proposed in the environmental statements were not covered in the prescribed approval conditions. This may result in the lack of commitment on the part of the project proponent to implement the mitigation measures proposed in the EIA report and hence fail to assist the best practice EIA follow-up and achieve the EIA objectives. Under these circumstances, the EC conditions fall short of contributing to strengthening the EIA system.

This study has limitations in that it is based on all the 33 greenfield infrastructure projects approved for highways, airports, industrial parks, and thermal power sectors only. However, the author is of the strong belief that similar findings would get reported in the study encompassing more sectors.

Table 1. Summary of the major findings from the environmental clearance letters

Project sector	*EC letters examined, no. (Approval time, months)*	*Total land requirement (Forest land), ha*	*Highlights in the EC letters, no.*						
			Public Hearing issues	Project affected population	Employment potential	Ecologically sensitive areas	Ecological concern	Land use/ Landcover	Water requirement (Sources)
Airport	9 (1-9)	233-1334 (4-632)	5	2	5	6	2	None	9 (7)
Industrial Park	7 (2-19)	10-1697 (not given)	2	None	7	4	2	2	7 (5)
Highway	13 (2-6)	59-2349 (1.5-361)	6	1	6	11	4	1	2 (1)
Thermal Power	4 (5-12)	508-926 (38-432)	2	1	None	3	1	1	4 (3)

5. Conclusions

The response of the regulator to the EIA report submitted by a project proponent is generally in the form of a set of terms and conditions in the environmental approval letter for the project. The EC conditions given to the project proponent form the basis for EIA follow-up. The case study reveals that the EC conditions prescribed for infrastructure projects are inconsistent for the projects of a given project sector, and also inadequate across project sectors. Most of the conditions are too routine, generic, ambiguous, irrelevant, redundant, almost identical [6,15-17,33], immeasurable, or unenforceable to facilitate EIA follow-up adhering to the best practice principles [10,24-26]. This study is in agreement with the reported one [19] that a long list of the EC conditions given in India, several of which are irrelevant, unenforceable, and ineffective, giving an impression that the government is very much concerned with environmental protection, appears more of greenwashing. Some experts also expressed similar views. Further, given that the EC conditions do not reflect contextual setup- geographic attributes and regional variations, the EIA follow-up may not be appropriate for the EIA culture and the social context [35] in a vast country like India and the EIA systems may not be that effective even though the EIA legislation, procedural framework, and institutional mechanism are in place.

The focus of the EC conditions appears to be more on compliance with the regulatory requirements than on meeting the objectives of the EIA [13,27]. On the lines of the environmental permits granted in Hong Kong [20], the EC conditions should effectively bind project proponents to implement the well prepared and documented mitigation measures to prevent environmental issues. In addition to highlights of the project and location-related details for land, water, solid waste, and wastewater, the EC letters for the projects could be consistently enriched with the highlights of pre-project land use/land cover, designated ESA, flora and fauna-related concern, project affected population, realistic employment potential, the concern raised in the public consultation process, *etc*. For a successful EIA follow-up, the detailed terms and conditions should be derived from the EIA report after it undergoes a thorough review [23].

6. Way forward for Robust EC Terms and Conditions to Strengthen the EIA System

Good practices in the final decision-making for EIA [36] include clear, relevant, specific, precise, comprehensive, and enforceable EC conditions, given that each project is unique [26] for its technical features and environmental settings of its location and hence the environmental impacts. Given the above, the EC letters could be made in two distinct sections, one highlighting the project details and the environmental settings of the project and the other systematically prescribing the EC terms and conditions for air quality and climate, noise, water and wastewater, hazardous and other waste, soil and geology, landscape, ecology (explicitly concerning the habitat, species, biodiversity, and migration), social (explicitly concerning the community health and safety, compensation, rehabilitation and resettlement, social justice, employment potential, and amenities), public concern, cultural heritage, environmental risks, resource conservation, and regulatory compliance along with the mechanisms and frequencies for their monitoring, audit, and reporting. Further, the terms and conditions may also be in two parts- the conditions to be complied with before the commencement of the development and those to be complied with over the project lifecycle [22]. The properly prepared EMPg [37] covered in the EIA report should be the basis to formulate most of the conditions, given that the administrative framework of the EMPg describes a) implementation of the mitigation measures, b) mechanism of revising the EMPg prepared earlier to incorporate the action points arising from the EC conditions, c) compliance monitoring mechanism for 'consent to operate' conditions to be prescribed by the state pollution control board, and d) mechanism for internal as well as external reporting for compliance with the EC conditions, applicable environmental regulations, the environmental performance of the project, *etc*. The conditions should reflect the outcome of the public consultation and also expert judgment. The adherence to the guidance document on good EIA practices including rigorous EIA appraisal/review [8] and inclusion of environmental indicators [38] for the key variables including those associated with the significant impacts could help enrich the EC conditions further and hence facilitate the best practice EIA follow-up. The crisp, specific, relevant, adequate, monitorable, and enforceable EC conditions should not only aim at compliance with the applicable regulations, the bottom-line anyway for running a business, but enable monitoring and reporting of the environmental and social performance of the project. For improved transparency, the EC conditions should be instrumental in engaging a third party for the environmental audit to report variations between the actual impacts and the predicted ones, impacts that are observed but were not predicted, the residual impacts, and actions required by the project proponent to mitigate the same and making the EC compliance reports available in the public domain.

Making the updated and well-prepared EMPg [37] man-

datorily available in the public domain along with the executive summary of the EIA report, the EC conditions, an action plan with a timeframe to implement these conditions, and periodic action taken reports could put pressure on the project proponent to prepare a proper EMPg, update it, and report its implementation and compliance with the EC conditions at a predefined periodicity. The views expressed by an expert on the quality of EMPg: "Unless the quality of the EMPg is strengthened and the EMPg monitored, we will not do any justice to the environment" deserve due consideration to make the project proponent accountable and help improve the effectiveness of the EIA follow-up and hence strengthen the EIA system further. The communities may be genuinely involved [23,39] following up on the EC conditions for microlevel activities, depending upon the type of the activities, the culture of the population, and the societal context. Given that major environmental impacts of the infrastructure projects occur in the construction phase [9], the EC conditions need to prescribe a mechanism for close supervision during the implementation with a provision for regular inspection of the site, especially for the projects in the ecologically fragile areas like the Western ghats and the Himalayan range in India and also monitoring the effect of the project-related parameters [40] by a local level multi-institutional and multidisciplinary monitoring group, say weekly, as found effective [23]. Given the narrow focus of the project-based EIA follow-up [10] and specifying the EC conditions based on *ex-ante* assessment, an inbuilt mechanism needs to be in place to review the conditions periodically [3] in consultation with the public for the intended outcome of the conditions and whenever multiple developments get proposed in the vicinity of the project. The principles for best practice EIA follow-up [26] and the rationale for follow-up [41] could also be adopted for the design and follow-up of the EC conditions.

The outcome-based management for sustainability [42] could be adopted by adding conditions to monitor the measures for sustainability targets incorporated in the EMPg, audit, and report the outcome achievement rather than rely on the project proponent-led compliance with conditions only, given that the environmental bottom-lines often get exceeded and environmental degradation occurs despite the processes and monitoring the compliance with the conditions and the EC conditions have proved ineffective in safeguarding the environmental performance [18]. To aid follow best practice EIA follow-up and hence meet the EIA objectives and strengthen the EIA system, the concept of ABC analysis could be adopted to properly prescribe the EC conditions for a project; 'A' being critical, 'B' important, and 'C' significant but not critical conditions. The ABC analysis needs to be based on screening criteria [43] to include typology, technology, and size of the proposed project, environmental sensitivity of the project location, intensity of the ecological and social impacts assessed, the effectiveness of the proposed mitigation measures, uncertainties in the environmental impact predictions, environmental risks, public concern, potential cumulative environmental impacts in the area, *etc*. The regulators need to be associated with all the projects but the frequency of monitoring would vary for A, B, and C conditions. The ABC analysis could thus aid prioritization of the EC conditions and planning of stakeholders' involvement and resource allocation for the EIA follow-up for the improved effectiveness of compliance with EC conditions, enable the best practice EIA follow-up and hence contribute to strengthening the EIA system.

While different aspects of the EIA have received a good deal of attention in the literature, those related to terms and conditions for environmental approval for projects have not. Thus, there is a need for more research work on this aspect. This country-based empirical case study is expected to be useful to the researchers, practitioners, and regulatory authorities in taking up further work on the framework for the terms and conditions while approving a project from the environmental and social viewpoints, given that case study methods in academics are proven effective tools for learning across geographies.

Conflict of Interest

There is no conflict of interest.

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