

POLICY *Brief*

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Making Cumulative Impact Assessment a reality

An assessment of Cumulative Impact Assessment in EIA process in India and the strategy forward

Cumulative Impact Assessment is an integral part of the Environment Impact Assessment (EIA) process in India. However, it is more in theory rather so as to foresee impacts on the resources from all the past, present, and reasonably foreseeable future activities. Being a decision making tool, the predicted impacts are likely to be used by the government enforcement agency to take strict actions in timely manner, so as to avoid any adverse impacts on environment. The actual scenario is however different, as in most of the times, the enforcement agency remains ignorant towards imposing it as a necessary condition and initiating any action against the violators as well. Rather the projects are granted EC without any discussion on cumulative impact assessment. It seems that, protecting environment is not a priority in this current era of ease of doing business.

Introduction

Cumulative Impact Assessment is a mandatory requirement for all projects which require prior environmental clearance under the Environment Impact Assessment (EIA) Notification 2006 issued under the Environment (Protection) Act, 1986. Specifically, the EIA Notification requires project proponents to consider the cumulative impacts of existing as well as planned activities while carrying out impact assessment studies. It requires details with to factors which could lead to environmental effects or have the potential for cumulative impacts with other existing or planned activities¹. [National Environment Policy 2006](#) had also

¹ Para 9 of Form I of Appendix I of EIA Notification 2006

committed to encourage regulatory authorities, Central and State, to institutionalize Regional and Cumulative Environmental Impact Assessments (R/CEIAs) to ensure that environmental concerns are identified and addressed at the planning stage itself².

The National Green Tribunal in *Vimal Bhai & Ors vs. MoEF & Ors*³ dealt at length with the issue of Cumulative Impact Assessment. It stated that a conventional project and site-specific approach to EIA has its limitations when it comes to assessing potential cumulative effects on environmental resources because the impact of a particular project on an environmental resource may be considered insignificant when assessed in isolation, but may be significant when evaluated in the context of the combined effect of all past, present, and reasonably foreseeable future activities that may have or have had an impact on the resources in question. The Court held that "Cumulative effects generally refer to impacts that are additive or interactive (synergistic) in nature and result from multiple activities over time, including the project being assessed. Cumulative effects:

- i. are caused by the aggregate of past, present, and future actions;
- ii. are the total effect, including both direct and indirect effects, on a given resource, ecosystem, and human community of all actions taken, no matter who has taken the actions;
- iii. need to be analysed in terms of the specific resource, ecosystem, and human community being affected;
- iv. cannot be practically analysed beyond a reasonable boundary; the list of environmental effects must focus on those that are meaningful;
- v. rarely correspond to political or administrative boundaries;
- vi. may result from the accumulation of similar effects or the synergistic interaction of different effects;
- vii. may last for many years beyond the life of the project that caused the effects; and
- viii. Should be assessed in terms of the capacity of the affected resource, ecosystem, and/or human community to accommodate additional effects.

In *Ossie Fernandes Vs Ministry of Environment and Forest*⁴, the National Green Tribunal considered in detail the potential cumulative impact of series of thermal power plants being proposed in the Tamil Nadu coast. The Hon'ble Tribunal emphasized on the need for cumulative impact despite the fact that the project before the tribunal was the first project under consideration for environmental clearance. The Tribunal observed and held as follows:

It is always desirable that a cumulative impact study is conducted in variably in all the cases where more than one project of similar nature or different nature are involved. The cumulative effect of any discharge from the

² Refer substantive reforms under Regulatory Reform committed in National Environment Policy 2006

³ Appeal No. 5 of 2011

⁴ Appeal No 12 of 2012, National Green Tribunal

industry/project would definitely have an adverse effect on the carrying capacity of environment and ecology. Though, in the case on hand, it is stated that this is the first project cleared in the area, it is admitted that there are few similar projects on the way within the radius of 10 kms from the project in question. All the more, it is essential to have cumulative effect study of the projects to avoid any danger to human life and the marine life equally"

According to the sector specific EIA Guidance manual, prepared by Ministry of Environment, Forest and Climate Change and II&FS⁵, cumulative impact consists of an impact that is designed as a result of the combination of the project evaluated in the EIA together with other projects in the same vicinity causing related impacts. These impacts occur when the incremental impact of the project is combined with the cumulative effect of other past, present and reasonably foreseeable future projects.

The Standard Terms of Reference [TOR] for EIA / EMP report for projects / activities requiring environment clearance under EIA Notification, 2006, formulated by the MoEFCC in 2015 defined Cumulative Impact as an impact that is created as a result of the combination of the project evaluated in the EIA together with other projects in the same vicinity causing related impacts. These impacts occur when the incremental impact of the project is combined with the cumulative effects of other past, present and reasonably foreseeable future projects⁶.

Enforcement Gap

An independent analysis had been carried out to assess the implementation status of cumulative impact assessment study in India. A total of 25 different types of activities have been selected from across the India, with a focus on air pollution.

Table 1: List of Activities

Sl No	Project Name	Location	Project Proponent
1	2X660 MW Coal based Super Thermal Power	Khurja village, Bulandshahar, UP	THDC India Limited
2	4x270 MW Manugudu TPP	ManuguruMandal, Khammamdist, Telengana	Telengana State Power Generation Corporation Limited
3	1320 MW TPP	Chausa, Buxar, Bihar	SJVN Thermal Pvt Ltd
4	3X660 MW Thermal Power Plant	Neyveli Uttar Pradesh Power Ltd.	Kanpur, Uttar Pradesh
5	40 MW Expansion of Durgapur Captive Power Project – III	NTPC- SAIL Power Company Pvt. Ltd.	Burdwan, West Bengal

⁵ <http://www.moef.nic.in/essential-links/eia-specific-manuals>

⁶ <http://www.moef.gov.in/sites/default/files/final%20Booklet.pdf>

Sl No	Project Name	Location	Project Proponent	4
6	Expansion of Sri Damodaram Sanjeevaiah Thermal Power Station (1600 MW)	Andhra Pradesh Power Development Company Ltd. (APPDCL)	Nellore, Andhra Pradesh	
7	Silica Sand Mine	C.V.Mahadik	Sindhudurg, Maharashtra	
8	Expansion of Limestone Opencast Mining from 2 MTPA to 5 MTPA	Lafarge Umiam Mining Pvt. Ltd.	East Khasi Hills, Meghalaya	
9	Iron Ore and Laterite Mine	E. V. Ranga Reddy	YSR District, Andhra Pradesh	
10	New Sethia Open Cast Coal Mine (OCP)	Chindwaradist, MP	Western Coalfields Limited	
11	Krishnashila OCP expansion	Dudhi, Sonbhadradist, UP	Northern Coalfields Limited	
12	Cluster 10 (Ranigunj Coalfields)	Eastern Coalfields Limited	Faridpur, West Bengal	
13	New Majri UG to OC Mine (Expansion - 0.8 to 1.2 MTPA)	Western Coalfields Ltd.	Chandrapur, Maharashtra	
14	Kistaram Opencast Project	The Singareni Collieries Company Ltd.	Khammam, Telangana	
15	Iron Ore Mines	M Jayapal Reddy	Dantewada, Chattisgarh	
16	Expansion of sponge iron from 195 TPD to 395 TPD	Raghunathpur, Puruliya Dist, West Bengal	Bravo Sponge Iron Pvt. Ltd	
17	Expansion of TMT bars rolling mill by setting up of 360 TPD induction furnaces	Talwara, Fatehgarh Sahib dist, Punjab	Fortune Metals Ltd	
18	Expansion of coke oven plant from 1.6 MTPA to 2.2 MTPA	Sutahata, East Medinipurdist, West Bengal	TATA STEEL LTD HOOGHLY METCOKE DIVISION HALDIA	
19	Cement Plant - 500 TPD Clinker & 500 TPD grinding	Sonapur, Kamrupdist, Assam	KR Associates	
20	0.14 MTPA Greenfield Cement Grinding Unit	Durgawati, Kaimur, Bihar	Himalaya Height Cement Pvt Ltd	
21	Capacity expansion of Asbestos Fibre Cement Sheet manufacturing	Coimbatore South, Tamilnadu	EVEREST INDUSTRIES LIMITED	
22	Greenfield Cement Plant	My Home Industries Limited	Guntur, Andhra Pradesh	
23	Cement Grinding Unit (4 MTPA) within 3X660 MW TPP	Prayagraj Power Generation Co. Ltd.	Allahabad, Uttar Pradesh	

Sl No	Project Name	Location	Project Proponent
	premises		
24	Melamine Formaldehyde Moulding Powder (500 MTPM)	Pristine Melamine LLP	Kheda, Gujarat
25	RBSSN Ferrous Industries Private Limited (RBSSNFIPL)	Ajay Saraf	Bellary, Karnataka

KEY FINDINGS

A detailed analysis of the Scoping, Appraisal and the Environmental Clearance letter revealed that in almost every project (100%) ignored the cumulative impact assessment. In spite of the instructions at TOR stage for conducting CIA, mostly in terms of air quality assessment including emission from all sources of pollution, 22 out of 25 projects did not even conduct the cumulative impact assessment as part of the EIA study and predicted impacts based only on stack emissions. The non-point sources of pollution like transportation of minerals and other materials and emission from vehicular movement including linked projects were ignored.

While stipulating cumulative impact assessment at TOR stage, it was restricted to the ground level concentration (GLC) prediction for air environment only. Out of 25 projects, only 3 project proponents were directed to do cumulative impact assessment on water drainage basin and soil environment, which are likely to get impacted from project operation.

In none of the projects, the TORs are found to be project-specific. A predominantly water polluting industry is often asked to provide a prediction of impact on the ambient air quality of the region. The standard TORs issued to various projects without considering the location of the project. For example, Ib valley coal washery of MCL. The washery is located within the Belpahar block having presence of integrated Lakhanpur OCP, Lilari OCP and Belpahar OCP within 10km radius. The TOR given by EAC on 25th June, 2015 had asked to conduct a CIA study within 10km radius of the project site considering the anticipated impact of the washery in relation to the existing three mines on the environment. However, the EIA report largely focused on the impact only from the washery project. The discussion of cumulative impact was largely restricted to the socio-economic benefit of the communities from the three operational mines⁷. EC was issued by MoEFCC on 30th March, 2017 despite such ignorance of the prescribed TOR⁸.

No consideration of Eco-sensitive zone in the vicinity. For example, the silica sand mine being set up in Sindhudurg, Maharashtra is in close vicinity of the Eco-sensitive zone of Western Ghats. The silica sand mining industry is predominantly air polluting and it adversely impacts the environment of the Western Ghats. But such impacts were not considered during the setting of TORs which merely asked for a model-based air quality prediction of impacts on the air pollution which would be caused by the project in the future, in which only the stack emissions were

⁷ Accessed on 4th May, 2017 at

<http://environmentclearance.nic.in/writereaddata/EIA/29022016140QB9UQIBValleyWasheryEIAEMP.pdf>

⁸<http://environmentclearance.nic.in/writereaddata/Form-1A/EC/033120171ECIbValleyofMCL.pdf>

considered and the project proponent gave a model to determine the increase in emissions of the project. The EAC did not address such ignorance in their study and appraised the project without any recommendations.

In 100% of the projects, the prediction of impacts of the project on water environment was missing. None of the 25 projects considered for the study conducted cumulative impact assessment based on the pollution caused by existing industries in the surrounding areas. Although in 5 out of 25 TORs, the project proponents were asked to provide a list of existing projects in the area to have better assessment of cumulative impact from the existing and proposed project, none of the project proponents complied with this condition. e.g. 3X660 MW Thermal Power Plant in Kanpur, Uttar Pradesh and Greenfield Cement Plant in Guntur, Andhra Pradesh. For example in the case of Melamine Formaldehyde Moulding Powder (500 MTPM) in Kheda, Gujarat and expansion of Sri Damodaram Sanjeevaiah Thermal Power Station in Nellore, Andhra Pradesh. Also, in the case of Cluster 10 of Ranigunj Coalfields in West Bengal there has been a blatant disregard of TOR conditions. In spite of such blatant disregard of TOR conditions, no further recommendations or questions raised during the EAC meetings, rather the project got the EC in spite of such violation.

The discussion on cumulative impact assessment was mainly at the TOR issuance stage for all the projects studied. The Terms of Reference (TOR) condition mandates carrying cumulative impact assessment for all sources of emission (including transportation) on the ambient air quality of the area. However, the actual assessment of incremental concentration on ambient air was done considering the stack emission only. Infact, 22 out of 25 projects studied, did not conduct the cumulative impact assessment as part of the EIA, despite listing in TOR conditions; rather these projects predicted impact from stack emission only and did not consider the non-point sources of pollution like emission from vehicular movement.

None of the 25 projects conducted cumulative impact assessment based on the pollution caused by existing industries in the surrounding areas. In case of 5 projects out of the selected 25, the TOR required Project proponent to provide a list of existing projects in the area to have better assessment of cumulative impact from the existing and proposed project, however, none of them complied with this condition. e.g. 3X660 MW Thermal Power Plant in Kanpur, Uttar Pradesh and Greenfield Cement Plant in Guntur, Andhra Pradesh. In spite of this blatant disregard to the TOR conditions, no questions raised during the EAC meetings, rather the project got the environmental clearance in spite of such violation.

mainstreaming cumulative impact assessment

Cumulative Impact Assessment is an empty formality so far as EIA process in India is concerned. Neither the members of the SEAC/ SEIAA/EAC are aware of the basic requirement of Cumulative Impact Assessment. There is an overall tendency to limit environmental considerations to those directly linked to the production process and even ignore the different project components and interlinked components. The Ministry of Environment & Forests (MoEF) through the Circular dated 4th December

2012⁹, had mandated standardisation of TORs for identified category of projects. Under this, the Ministry had come up with sector specific EIA manuals with a view to bringing in clarity and facilitating preparation of good quality EIA reports. Two consultants namely, Administrative Staff College of India (ASCI) and IL&FS were engaged to prepare the manuals for 11 and 27 sectors respectively. The EIA Manuals prepared by ASCI has however not covered the need, process and methodology for conducting a CIA study except in case of port & coal washery project¹⁰.

Further, the manual failed to suggest method for quantifying the significance of the impact. The very questions framed to assess the significance of the impact as low, medium or high restrict the answer upto 'yes' or 'no' approach and no numerical figure has been assigned to it. This lacks any basis against which an impact can be termed as an impact of low, medium or of high significance. Such ignorance towards cumulative impact assessment is highly unappreciated and unacceptable specially when these manuals are meant to be referred by the concerned consultants of the project proponents for a good quality EIA reports.

It is important to highlight the fact that the Judiciary has taken note, in rare instances, of the lack of cumulative impact assessments with respect to different projects. The Supreme Court while dealing with the issue of Dams in the Uttarakhand¹¹ expressed concern over the lack of cumulative impact assessments. The Court observed:

We are, however, very much concerned with the mushrooming of large number of hydroelectric projects in the State of Uttarakhand and its impact on Alaknanda and Bhagirathi river basins. Various studies also indicate that in the upper-Ganga area, including Bhagirathi and Alaknanda rivers and their tributaries, there are large and small hydro power dams. The cumulative impact of those project components like dams, tunnels, blasting, power-house, muck disposal, mining, deforestation etc. on eco-system, is yet to be scientifically examined.

The Court considered the Reports of various technical bodies and specifically of IIT-Roorkee and concluded that:

The above mentioned Reports would indicate the adverse impact of the various hydroelectric power projects on the ecology and environment of Alaknanda and Bhagirathi river basins. The cumulative impact of the various projects in place and which are under construction on the river basins have not been properly examined or assessed, which requires a detailed technical and scientific study.

Despite, the significance of Cumulative Impact Assessment in the EIA process and judicial pronouncements to that effect, environmental decision making in India, at all levels continue to ignore the same. Most disturbing is the fact that in many instances, Cumulative studies have been prescribed after the project has been

⁹ F.No. J-11013/41/2006-IA.II (I),

¹⁰ <http://www.moef.nic.in/essential-links/eia-specific-manuals>

¹¹ 2014) 1 SCC 769

approved. In such instances, the MoEF has stipulated that Cumulative Studies should take place along with construction of the project¹². One of the main reasons for this is the ignorance among decision makers in the Government and Judiciary as well as among citizens and environmental groups about the pivotal role Cumulative Impact Assessment is in the EIA process. The fact is that an EIA without Cumulative Impact Assessment is not an EIA study at all. This is what the science of EIA tells us and it is also a legal requirement.

KEY ACTION AREAS

The following key actions are required to make Cumulative Impact Assessment a reality:

- The Ministry of Environment, Forest and Climate Change should come out with clear guidelines on the methodology to be followed for Cumulative Impact Assessment. This should be sector specific.
- The guidelines should be mandatory and should be part of Terms of Reference for EIA studies prescribed at scoping stage and be considered as part of the EIA Notification, 2006
- Cumulative Impact Assessment studies should be a requirement of 'prior environmental clearance' and should be available to the public for comments during the public consultation process.
- EIA consultants should be trained on how to conduct Cumulative Impact Assessments. Quality Council of India and NABET, which are responsible for accreditation of EIA consultants should delist consultants who ignore Cumulative studies.
- Members of various appraisal EIA committees (EAC, SEIAA, SEAC, DEIAA) as well as those dealing with Forest Clearances (Forest Advisory Committee/ Regional Empowered Committee) and Wildlife Clearances (State and National Board for Wildlife) should undergo detailed orientation on Cumulative Impact Assessment. In addition, decision makers at strategic levels, including the members of the Judiciary should be trained to understand the significance of Cumulative Impact Assessment as a critical tool in predicting the likely environmental consequences of a proposed project.

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¹² Forest Clearance to Lower Demwe Hydro Electric Project, Arunachal Pradesh