Public Participation in Monitoring and Enforcement of Environmental Regulations in India: Learning From Existing Models and Experiences

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Contents

Abbreviations

ASHA	Accredited Social Health Activists
ANMs	Auxiliary Nurse Midwives
CBE	Communities for Better Environment
CBM	Community-based Monitoring
CAG	Comptroller and Auditor General of India
EPA	Environment Protection Act 1986
EIA	Environmental Impact Assessment
EJ	Environmental Justice
IA	Implementing Agencies
IAS	Indian Administrative Service
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act 2005
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MIS	Management Information System
MoEF	Ministry of Environment, Forest and Climate Change
MoRD	Ministry of Rural Development
NRHM	National Rural Health Mission
PRI	Panchayati Raj Institutions
RTE	Right to Education Act 2009
SMC	School Management Committees
SA	Social Audit
SAU	Social Audit Unit
SPCB	State Pollution Control Board
VHC	Village Health Committee
VSA	Village Social Auditor

Introduction

Public participation is a critical yet one of the most overlooked aspect of India's environmental regulatory system. Over the years, the environmental regulations, which are meant to safeguard the environment and the relationships between ecologies and human communities, have been designed or amended to promote economic growth via unbridled industrialization or infrastructural developments. Naturally, in this aggressively paced growth-oriented agenda, progressive, democratic provisions such as public participation or consultation process do not find adequate space, and are viewed as a burden on our economic development. This view has had immense social and environmental costs such as loss of critical biodiversity and species, increased toxic exposure of workers and neighbourhoods, and livelihood loss and spatial displacement of thousands of vulnerable communities. With these imminent threats to ecosystems and communities, steadily increasing due to the effects of climate change, it is now important for communities to participate and drive the environmental decision-making processes to prioritize environmental concerns in the country's development plans and projects. Illustrating the value of people's participation in improving the effectiveness of environmental regulation, this note outlines the current regulatory practices and highlights the gaps that could be addressed through community intervention. It extensively draws from existing models and experiences of community-based systems for monitoring and enforcement functions of government and regulators and builds on the same to identify a clear role for affected communities in environmental monitoring.

This note contains five sections. The first section discusses the existing systems of environmental monitoring and enforcement in India and the available (or lack thereof) spaces for public participation in them. The second section lays out different conceptual models of environmental monitoring schemes and analyzes the range of roles that community and regulators could play along with the pros and cons. The third section outlines the practical benefits that the overall governance system stands to gain by improving public participation in environmental governance in India. It is followed by the fourth section which highlights the lessons and experiences from the institutionalized models of community-based monitoring (CBM) in the planning and implementation of legislations that guarantee rights to employment, health, and education in India. The last section briefly discusses international examples of community environmental monitoring schemes. The note concludes by outlining some critical aspects of public participation which should inform the efforts of democratizing our environmental regulatory systems in India. This note draws from scholarly and organizational literature on conceptual theories on public participation and successful participatory models which have led to better social, economic, and environmental outcomes. It tries to build on the discourses of democratizing governance by advocating for an active role of affected communities in environmental enforcement and monitoring regulations in India.

SECTION 1

Present system of environmental monitoring and enforcement in India

Since the 1990s, India has been pursuing economic policies steered to accelerate growth through industrialization, privatization, and globalization. In 2014, the government of India launched its flagship program to pursue regulatory reforms designed to ensure more business-friendly environment in India[1], and since then this rationale of "ease of doing business" has dominated most of our policy actions. Easier construction permit norms, shorter time period to get clearance or approvals, poor impact assessment studies, and regulatory enforcement are justified to promote projects such as industries, infrastructure, and mining. Pursuing these large-scale investments is deteriorating India's ecological health. India was recently ranked 177 out of 180 countries in the Yale–Columbia Environmental Performance Index. As per studies, seven out of 10 cities with the worst air pollution on earth are in India, while 275 out of 445 rivers in India have been officially declared polluted. These documented figures are just tip of the iceberg. We are witnessing rising instances of massive land-transformations leading to the loss of common resources and ecologically sensitive habitats, and exposure of vulnerable communities to toxic contamination of land, air, and water, and their restricted access to common natural resources. This deliberate push for newer and bigger projects in the name of economic growth is only intensifying the pressure on our dilapidated ecosystem, which is already reeling under the impacts from unregulated operational projects.

In India, the industrial, energy, and infrastructural projects are legally mandated to seek environmental approvals under a range of central and state level laws such as the Environment Protection Act 1986 (EPA); Air (Prevention and Control of Pollution) Act 1981; Water (Prevention and Control of Pollution) Act 1981; and the Forest Conservation Act 1980. This web of environmental regulations intends to ensure that negative environmental and social impacts of land use change, infrastructure development, and industrialization are mitigated and kept in check. Unfortunately, official monitoring and enforcement under these regulations is poor. As a result, noncompliance with environment laws is extremely high in the absence of proactive institutional reaction, leaving large numbers of people vulnerable to the everyday effects of pollution, loss of access to community resources, and loss of property and livelihoods.

[1]https://www.makeinindia.com/eodb#:~:text=INDIA%20%E2%80%93%20EASE%20OF%20DOING%20BUSINESS,to%20do%20business%20in%20India.

Since 2009, Comptroller and Auditor General of India (CAG) and various research organizations have highlighted the pervasiveness of noncompliance with environmental regulations by centrally approved projects[2]. This disturbing trend is further corroborated by the mounting number of cases on noncompliance being litigated in the courts. For example, the National Green Tribunal imposed penalties of over INR 873 crores as fines for environmental violations in Q1 2019—an amount that is close to the total fines imposed during the prior year.

Empirical research carried out in the last six years by the CPR–Namati Environmental Justice (EJ) Program has documented 260 instances where noncompliance with environmental regulations by projects led to significant blowbacks in the form of environmental, economic, and social impacts, directly affecting close to 500,000 people across four states. These are conservative figures of communities living in or close to the impact areas, and these do not include the upstream or downstream impacts or indirect effects of these violations.

In almost 30% of the instances, the project-affected communities had to live with the impacts for more than five years, and in some cases more than 10 years, before the responsible regulatory agency took partial remedial action. These impacts range from an entire fishing village being displaced from their traditional livelihood due to toxic waste from chemical companies contaminating the local river; to an entire village — including women, elderly, and school children — having to breathe toxic fugitive emissions from a nearby mineral processing plant every single day; to a farming community being unable to cultivate their land for 10 long years as the mining project in the neighbourhood continued to illegally discharge waste water into their land, rendering it unfit for cultivation. Clearly, such environmental violations not only transform natural resources but also impact the economic resources of the people and projects in the long run.

The Indian Constitution under article 51A(g) advocates for citizens to play a critical role in the protection and improvement of the natural environment. India is also a signatory to the Rio Declaration (1992), whose principle 10[3] talks about the requirement to facilitate meaningful public participation in the environmental decision-making process. In spite of these constitutional and international law mandates, people are practically absent in environmental decision-making in India. Public participation in the current regulatory systems has been relegated to a tokenistic process; for example, Environmental Impact Assessment (EIA) Notification 1991 under EPA provides a legal platform for the public to participate in EIA processes. This legal provision mandates public consultation in the form of public hearings and written submissions by the project-affected communities before any project is granted environmental approval by the regulator. However, shoddy implementation and wilful disregard of protocols in organizing these public consultation processes have been a common practice. Such execution failures, discouraging free and fair

[2]CAG report, showed that percentage of noncompliance by sampled projects to general condition of environmental clearances, went as high as 56%. Source: https://cag.gov.in/sites/default/files/audit_report_files/Union_Government_Report_39_of_2016_PA.pdf
In an independent study conducted by Kalpavriksh, an environmental group, research found instances of noncompliance in sampled projects was upwards of 90% of the mandated legal conditions. Source: http://iced.cag.gov.in/wp-content/uploads/Calling-the-Bluff-final-PDF.pdf

[3]"Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided." Source: https://www.cbd.int/doc/ref/rio-declaration.shtml

participation of people, have been the grounds of various legal disputes and have also resulted in the suspension of many EIA processes[4].

In other environmental legislations that require projects to seek environmental approvals or pollution licenses, there is limited or no space for communities to participate. Once a projects gets approval, the regulatory system does not allow people to participate in its regulation, leaving the communities to live with the impacts of the projects. Interestingly, the current post-approval regulatory systems only engages project proponents and regulators as the two legitimate actors to ensure compliance by projects. Such a limited scope of engagement has in fact led to a wider enforcement gap and has bred corruption and collusion between companies and regulators[5]. These regulations completely ignore the potential role of project-affected communities in the enforcement and undermine the value of their proximity and experience with the projects. The government agencies rather than carving a meaningful role for affected communities in the regulatory framework, are trying to push them away. In the past, to address the problem of enforcement and resource gap, the regulators have heavily promoted the practice of self-regulation, where projects install automatic pollution measuring devices that relay information to regulators, or have imposed heavy fines or financial disincentives using "polluter' pays" principle. Their efforts still focus on situating the solutions between the two actors (regulators and projects) whose nexus has been actually a part of the problem. For example, the Ministry of Environment, Forest and Climate Change (MoEF) in order to address the issue of noncompliance as per EIA Notification 2006, recently proposed the idea of third-party monitoring, however, it categorically identified third party as the government institutions of national repute and failed to recognize communities as a stakeholder. In another related clause, while entrusting the power to report on noncompliance, it only considered the regulatory agency or any government agency or the project proponents for the same. These changes fail to take into account the numerous instances where communities have led the efforts in environmental protection by bringing noncompliance to the notice of regulators through timely reporting with evidence. While this is just one legislation, the overall regulatory framework by design keeps the communities out, who incidentally suffer the most when regulatory actions fail to enforce the rule of law.

Nevertheless, the affected communities have continued to play a critical role in bringing up these instances of noncompliances to the notice of regulators using administrative routes or litigation. The EJ Program working in four states has demonstrated and documented how in over 170 instances of noncompliance, legally empowered communities took the lead in collaborating with the regulators to effectively address issues of environmental noncompliance by operating projects and strengthened the monitoring efforts in the process. There is overwhelming evidence on how systematic community engagement will improve project monitoring efforts and will also enhance the accountability and transparency of regulatory systems as a whole. These instances compel us to see communities as a legitimate actor in environmental regulation. They deserve a rightful legal space to exercise their agency in environmental decision-making processes at various levels. There is a need to revise the present system and implement a new form of environmental monitoring which allows the engagement of affected communities.

[4]Mohan, M. P. R., & Pabreja, P. (2016, December 10). Public hearings in environmental clearance process.. *Economic & Political Weekly, 50*, 68–75

[5]https://www.downtoearth.org.in/coverage/environment/a-system-in-shambles-16636; https://www.thehindu.com/news/national/Political-meddling-proves-toxic-for-pollution-control-boards/article12016818.ece; https://www.thehansindia.com/posts/index/Andhra-Pradesh/2018-07-19/ACB-unearths-15-cr-from-engineer-in-PollutionControl-Board/399337

SECTION 2

Models for environmental monitoring schemes

In order to design a suitable environmental monitoring system for our context, we must first understand the variety of models that are in practice and their benefits and pitfalls. Based on secondary literature, these are the following models where communities could play different roles in the environmental monitoring efforts:

1. **Externally driven, professionally executed monitoring:** These schemes do not involve local people. Many existing monitoring schemes, particularly those organized by government agencies or projects and schemes funded by international organizations fall in this category.

2. **Externally driven monitoring with local data collectors:** The scheme involves local stakeholders only in data collection as a paid or voluntary activity. The design, analysis and interpretation of monitoring results are undertaken by professional researchers—generally far from the site. In developed countries, volunteers are from the locality who help in monitoring parameters such as water and air quality, vegetation, weather, populations of birds, etc. A strong organizational infrastructure provides them professional support and feedback.

3. **Collaborative monitoring with external data interpretation:** This category involves local people in data collection and management-oriented decision-making but the design of the scheme and data analysis are undertaken by external scientists. Local people could be paid or volunteers. Since analysis of data is not carried out by locals, it lacks local perspective.

4. **Collaborative monitoring with local data analysis:** In this scheme, locals are involved in data collection, interpretation or analysis, and management decision-making, and external scientists may provide advice and training. The collected data remains in the area being monitored to enhance local ownership of the scheme and results. However, copies of data could be sent for an in-depth analysis. This model has been used by volunteer wardens in nature reserves in developed countries and in community-based monitoring in protected areas or community managed areas in developing countries like the Philippines.

5. **Autonomous local monitoring:** Whole monitoring process from design to data collection, analysis, and use of data for management decisions is carried out autonomously by local stakeholders, for example, in developed countries, natural resource monitoring among indigenous groups in New Zealand and the Canadian Arctic. In many developing countries

customary systems of natural resource management rely on locally evolved monitoring systems, for example, Laotian freshwater fisheries, Indonesian *sasi* system, and Pacific reef tenure (Danielsen et al., 2009)[6].

Both local communities and experts play a critical role in these monitoring schemes. The decisions taken only by the technical experts have the tendency to lead to legal challenges and/or political opposition which can impose more time and costs to the process. We must also remember that involving local communities may have some downside as well, especially in terms of more time and costs required to train them or to get a consensus amongst a large diverse group, leading to delays in strategic decisions around pollution control efforts. These inherent challenges are important to be considered while weighing or designing the roles of each actor in any model[7].

We may choose any model that has been described above, but for each model there are some fundamental questions that must be addressed, these include aspects regarding costs, expertise, powers, and scale of the scheme. (adapted from Daielsten et al., 2009).

- **Cost to locals or experts:** One must figure out the cost of involving locals or experts in the scheme, it must include costs both in terms of monetary resources and time and a plan to support the efforts sustainably.
- **Local and external expertise:** Every monitoring scheme would require some technical skills. Based on the scope of expertise that is required for the monitoring exercise, one can identify relevant external experts and design capacity building sessions for the local communities to build the required expertise for the exercise.
- **Accuracy and precision:** For a data driven monitoring exercise, it is necessary to establish benchmarks for accuracy and precision along with methods to address inherent bias of data collectors, which could influence the data. Such technical issues could be dealt with via trainings and capacity building sessions.
- **Usage of data for broader purposes:** It is ideal if the data collected has well-established usage beyond just monitoring, for example, it could also be used to inform policy action at all levels. This will enhance the value of the data collected.
- **Decision-making process:** A framework for the whos and hows of a decision that will be taken once the data collection is concluded, is important. This should be informed by the capacities that are available and required to take decisions.
- **Additional gains:** The process must also clearly figure out the additional gains for the regulators and the community. The community wants enhanced participation in resource governance. And the regulators want better compliance, no/little added constraint on resources, and better environmental decision-making.

[6]Danielsen, F., Burgess, N., Balmford, A., Donald, P., Funder, M., Jones, J., . . . Yonten, D. (2009). Local participation in natural resource monitoring: A characterization of approaches. *Conservation Biology*, *23*(1), 31–42. Retrieved from http://www.jstor.org/stable/29738689

[7]Wills, I. (2001). Community participation in pollution control. *Agenda: A Journal of Policy Analysis and Reform*, *8*(3), 209–222. Retrieved from http://www.jstor.org/stable/43199166

SECTION 3

Need for community participation in environmental monitoring in India

In the last few years, people and collectives affected by the project approvals and pollution licenses and land use change proposals have demanded greater participation in the decision-making process for better outcomes. Letting the community to participate in environmental monitoring efforts is being viewed as one of the means to build accountability of environmental institutions and to achieve environmental justice and environmental sustainability. In fact, community participation is seen as a measure that could result in tangible benefits for our current governance systems in multiple ways[8]. For example, in India, lack of regular post-approval project monitoring is often attributed to the workforce deficiency and inadequate infrastructure at the regulatory level. The CAG in its audit report in 2016, cited that regulatory bodies did not have adequate staff. State pollution control boards had a staff deficit between 50% to 70%. The regional office of MoEF only had 15 scientists to monitor more than 15,000 centrally approved projects, spread across the length and breadth of the country[9]. There is a huge gap between the rate at which new projects are being approved and the efforts that bolster the regulatory infrastructure to manage these projects. To bridge this resource gap, local community participation in project monitoring could be a sustainable way to strengthen monitoring efforts leading to better environmental compliances. Involvement of local community can be seen as an economical option as compared to involving expensive technical experts. They could, as a third party, alter the collusion and corruption that this two-party arrangement, between regulators and project proponents, is riddled with. It will bring the needed transparency in the system which could in turn lead to better compliance and efficient enforcement.

In 2000, a Planning Commission report had also emphasized on how local communities could be ideal stakeholders in strengthening the monitoring efforts of the regulatory bodies. While commenting on the State Pollution Control Boards' (SPCB) functioning, which precluded local community participation, it suggested that *"the pollution control could be better administered and monitored, if local community action groups are created/sensitized to take up vigilant community*

[8]http://www.fao.org/3/X5669E/x5669e06.htm
https://en.wikipedia.org/wiki/Community-based_monitoring

[9]https://cag.gov.in/sites/default/files/audit_report_files/Union_Government_Report_39_of_2016_PA.pdf

action against pollution." The commission also recommended that this action could be organized and funded by SPCBs where groups of community members can monitor and collects samples generated by polluting industries. The report further stated that *"this would effectively prevent polluters-authorities nexus."*

Local communities can easily and regularly monitor the project due to their proximity and better understanding of the site. The proximity to the site will also allow communities to collect real-time evidence and report on emergency situations or accidents, for example, if a project releases toxins into the nearby river during the rainy season, timely evidence collection of this violation is of critical importance. But for a regulator, sitting miles away from the project, it is practically impossible to be aware of such a violation in order to initiate timely action. Such practical constraints make local communities a natural ally for the regulatory bodies to bolster the monitoring efforts. Activating monitoring groups of local communities near project sites is a resource efficient measure compared to building a large body of technical experts to ensure full coverage of projects spread across the country.

Community participation can also enhance the quality of monitoring efforts, which by far is strictly expert-driven and has failed miserably to address the concerns of affected people. Information and incentives can be missing/distorted in several ways when polluting entities and the regulator have no direct contact with pollution sufferers. Pollution sufferers communicate the risks with features such as involuntary exposure, uncontrollability, nonobservability, future threats, potential of leading to fatal accidents and unequal distribution of costs and benefits. Many researchers have pointed out "that expert cultures, and the organizational routines and commercial and political pressures to which experts are often subject, can cause them to ignore or misjudge risks which turn out to be important to society ex post."[10]

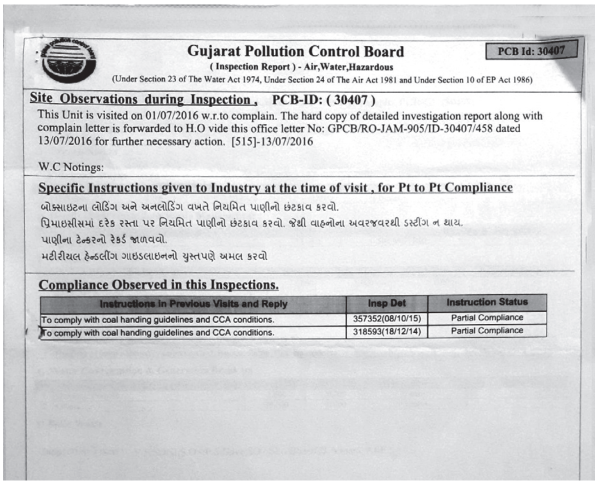
Experts focus on those risks that are measurable and in which markets have an interest. Nonmonetized and nonquantifiable attributes of pollution don't get much attention, for example, public health costs from involuntary exposure to toxic emissions of children, elderly, or women living next to a pet coke plant. Social impacts of hazardous situations often get missed out due to emphasis on technical aspects of risk assessment, for example, communities facing displacement from traditional livelihoods owing to contamination of cultivable land or river, causing distress migration. Partial evaluation of risks or impacts directly limits the scope and extent of remedial actions or safeguards which could meaningfully address the impacts on environment and communities. Since qualitative attributes of pollution are perceived differently by different individuals and groups, arriving at pollution control measures in such instances would require negotiation and a political process.[11]

Using the legal empowerment approach, the EJ program worked with the affected community members to create a space for greater participation in the regulatory process on their official complaints of noncompliance by polluting units. In cases where regulators allowed affected communities to be involved in official site inspection visits, they were able to bring out important evidences and social aspects of pollution impacts to the knowledge of the officials. This information enriched the monitoring report with stronger evidence and also informed the efforts to design better remedial actions to mitigate the impacts from noncompliance. Below are

[10]Wills, I. (2001). Community participation in pollution control. *Agenda: A Journal of Policy Analysis and Reform*, *8*(3), 209–222. Retrieved from http://www.jstor.org/stable/43199166

[11]Wills, 2001

two site inspection reports on the same complaint of noncompliance by the same company. The first inspection report is from the community's first complaint in 2016, where the officials only mentioned the name of law being violated, while in the second inspection report which took place in the presence of community members the officials listed detailed findings and the nature of the noncompliance committed by the company. Naturally after the second inspection report, the company, under direction, took remedial action after three long years.



Gujarat Pollution Control Board

(Inspection Report) - Air,Water,Hazardous

(Under Section 23 of The Water Act 1974, Under Section 24 of The Air Act 1981 and Under Section 10 of EP Act 1986)

PCB Id: 30407

Site Observations during Inspection , PCB-ID: (30407)

This Unit is visited on 01/07/2016 w.r.to complain. The hard copy of detailed investigation report along with complain letter is forwarded to H.O vide this office letter No: GPCB/RO-JAM-905/ID-30407/458 dated 13/07/2016 for further necessary action. [515]-13/07/2016

W.C Notings:

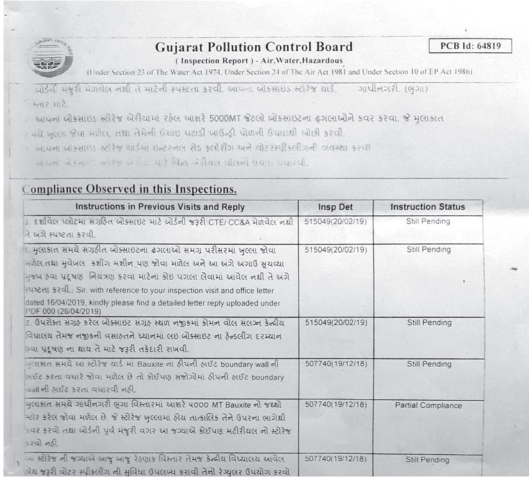
Specific Instructions given to Industry at the time of visit , for Pt to Pt Compliance

બોક્સાઇટના લોડિંગ અને અનલોડિંગ વખતે નિયમિત પાણીનો છંટકાવ કરવો.
પ્રિમાઇસીસમાં દરેક રસ્તા પર નિયમિત પાણીનો છંટકાવ કરવો. જેથી વાહનોના અવરજવરથી ડસ્ટીંગ ન થાય.
પાણીના ટેન્કરનો રેકર્ડ જાળવવો.
મટીરીયલ હેન્ડલીંગ ગાઇડલાઇનનો ચુસ્તપણે અમલ કરવો

Compliance Observed in this Inspections.

Instructions in Previous Visits and Reply	Insp Det	Instruction Status
To comply with coal handing guidelines and CCA conditions.	357352(08/10/15)	Partial Compliance
To comply with coal handing guidelines and CCA conditions.	318593(18/12/14)	Partial Compliance

Site inspection report undertaken in 2016 without community participation



Gujarat Pollution Control Board

(Inspection Report) - Air,Water,Hazardous

(Under Section 23 of The Water Act 1974, Under Section 24 of The Air Act 1981 and Under Section 10 of EP Act 1986)

PCB Id: 64819

બોર્ડની મંજુરી મેળવેલ નથી તે માટેની સ્પષ્ટતા કરવી. આપના બોકસાઇડ સ્ટોરેજ યાર્ડ, ગાંધીનગરી. (ભુગા)
સ્તાર માટે.
આપના બોકસાઇડ સ્ટોરેજ એરીયામાં રહેલ આશરે 5000MT જેટલો બોકસાઇટના ઢગલાઓને કવર કરવા. જે મુલાકાત સમયે ખુલ્લા જોવા મળેલ. તથા તેમની ઉંચાઇ ઘટાડી બાઉન્ડ્રી પોળની ઉંચાઇથી ઓછી કરવી.
3. આપના બોકસાઇડ સ્ટોરેજ યાર્ડમાં ઇન્ટરનલ રોડ ફ્લોરીંગ અને વોટરસ્પ્રીંકલીંગની વ્યવસ્થા કરવી

Compliance Observed in this Inspections.

Instructions in Previous Visits and Reply	Insp Det	Instruction Status
3. દર્શાવેલ પ્લોટમાં સંગ્રહિત બોક્સાઇટ માટે બોર્ડની જરૂરી CTE/ CC&A મેળવેલ નથી તે અંગે સ્પષ્ટતા કરવી.	515049(20/02/19)	Still Pending
1. મુલાકાત સમયે સંગ્રહીત બોક્સાઇટના ઢગલાઓ સમગ્ર પરીસરમાં ખુલ્લા જોવા મળેલ.તથા મુવેબલ ક્રશીંગ મશીન પણ જોવા મળેલ અને આ અંગે અગાઉ સૂચવ્યા મુજબ હવા પ્રદૂષણ નિયંત્રણ કરવા માટેના કોઇ પગલા લેવામાં આવેલ નથી તે અંગે સ્પષ્ટતા કરવી.: Sir, with reference to your inspection visit and office letter dated 16/04/2019, kindly please find a detailed letter reply uploaded under PDF 000 (26/04/2019)	515049(20/02/19)	Still Pending
2. ઉપરોક્ત સંગ્રહ કરેલ બોક્સાઇટ સંગ્રહ સ્થળ નજીકમાં કોમન વોલ સંલગ્ન કેન્દ્રીય વિધાલય તેમજ નજીકની વસાહતને ધ્યાનમાં લઇ બોક્સાઇટ ના હેન્ડલીંગ દરમ્યાન હવા પ્રદૂષણ ના થાય તે માટે જરૂરી તકેદારી રાખવી.	515049(20/02/19)	Still Pending
મુલાકાત સમયે આ સ્ટોરેજ યાર્ડ માં Bauxite ના ઢીપની હાઈટ boundary wall ની હાઈટ કરતા વધારે જોવા મળેલ છે તો કોઈપણ સંજોગોમાં ઢીપની હાઈટ boundary wall ની હાઈટ કરતા વધારવી નહી.	507740(19/12/18)	Still Pending
મુલાકાત સમયે ગાંધીનગરી ભુગા વિસ્તારમાં આશરે ૫૦૦૦ MT Bauxite નો જથ્થો સ્ટોર કરેલ જોવા મળેલ છે. જે સ્ટોરેજ ખુલ્લામાં હોય તાત્કાલિક તેને ઉપરના ભાગેથી કવર કરવો તથા બોર્ડની પૂર્વ મંજુરી વગર આ જગ્યાએ કોઈપણ મટીરીયલ નો સ્ટોરેજ કરવો નહી.	507740(19/12/18)	Partial Compliance
આ સ્ટોરેજ ની જગ્યાએ આજુ બાજુ રેહણાક વિસ્તાર તેમજ કેન્દ્રીય વિધ્યાલય આવેલ હોય જરૂરી વોટર સ્પ્રીંકલીંગ ની સુવિધા ઉપલબ્ધ કરાવી તેનો રેગ્યુલર ઉપયોગ કરવો	507740(19/12/18)	Still Pending

Site inspection report in 2019 with community participation

Lastly, to test the view that community-collected data is unreliable as compared to the data compiled by technical teams, Storey et al. (2016)[12] compared the data collected by community groups and regional councils in nine stream sites across New Zealand over a period of 18 months for a common set of water quality parameters. The researchers found that community-analyzed results were close to the regional council results on temperature, electrical conductivity, visual water clarity, and E. Coli. For dissolved oxygen, nitrate, and pH-level the results were not close. Most community groups that had developed relations with regional councils, became more interested in decision-making. The researchers inferred that with "adequate professional support" CBM can generate reliable data and increase the community's ability to engage in decision-making processes.

[12]Storey, R., Wright-Stow, A., Kin, E., Davies-Colley, R., & Stott, R. (2016). Volunteer stream monitoring: Do the data quality and monitoring experience support increased community involvement in freshwater decision-making? *Ecology and Society*, *21*(4). Retrieved from http://www.jstor.org/stable/26270014

SECTION 4

Lessons from India's experience with community-based monitoring for social accountability

Social accountability is defined as *"an approach towards building accountability that relies on civic engagement, i.e. in which it is ordinary citizens and/or civil society organizations who participate directly or indirectly in exacting accountability."* Community participation in social accountability is the public oversight by the affected/beneficiary community members to track or ascertain changes or impacts on them from public welfare programs or activities. Communities access public information, perform public audits, and develop a collaborative space for both officials and communities to work together towards improving the implementation of the welfare program. The popularity of community participation in seeking government accountability through these efforts is also based on the sense of public ownership of the asset or resources, the recurring nature of the program (e.g., school meals) or the relative visibility of corruption (e.g., materials vs. wage expenditures) under Mahatma Gandhi National Rural Employment Guarantee Act 2005 [MGNREGA].

Regular and ongoing community participation towards seeking accountability is CBM. In these exercises, people collate data on local needs, demands, concerns, and suggestions on methods to deal with changes impacting them and give this feedback to the implementing agency of the program or project for improvements. CBM has been seen as a tool for decentralized governance with direct involvement of all community members in policy decisions or actions. CBM infuses governance with various efficiencies, they bring *technical efficiency* in terms of overcoming information asymmetry, identifying community needs and concerns, and shaping the policies or strategies which are responsive to them. These models help bring synergy between various kinds of knowledge (local and technical) rooted in the lived experience of the communities, for an effective policy design. They are also cost-effective, because the monitoring efforts are undertaken by the community themselves and render *productive efficiency* in terms of resource-expenses. CBM is an inclusive process where every member of the community is encouraged to participate. It enhances the base for decision-making process, which is not restricted to only the power holders in the system, enabling *allocative efficiency* to the policies. And lastly, it promotes accountability through transparency. It highlights the gaps or leakages at the implementation level, evoking accountability from the lowest through the highest level of the administrative body involved in the program implementation.

CBM efforts have been employed to govern schemes for public health, education, livelihood, or management of natural resources at various levels in our country. There are many public

welfare programs where CBM have been institutionalized after years of advocacy both by communities and civil society groups. For many service delivery programs this method has brought about much needed public oversight to the planning and implementation of programs leading to better outcomes for the public at large. Below are a few popular models of CBM for social accountability in welfare programs implemented in the livelihood, health, and education sectors.

Models of CBM in public schemes

The following three models of community monitoring systems have been institutionalized by the Government of India in their respective public service delivery sectors. These examples highlight the various kinds of frameworks under which CBM could be undertaken.

- **Model 1:** Social audit (SA) for MGNREGA instituted a CBM method which is completely independent from the implementing agency. It involves beneficiaries and runs as an independent administrative unit.
- **Model 2:** School management committee (SMC) under Right to Education Act 2009 (RTE), which involves direct beneficiaries and implementing agencies in a collaborative model.
- **Model 3:** National Rural Health Mission (NRHM) community monitoring, which involves multiple institutional stakeholders in the monitoring committee at all levels from village to state.

Model 1: SA under Audit Scheme Rules 2016 of MGNREGA 2005

SA was first officially mandated in 2005, under Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS). The MGNREGA is a social security scheme which guarantees one hundred days of employment in public work-related unskilled manual work, to every rural household at the statutory minimum wage in a financial year. Under section 17 of the MGNREGA, each state is mandated to undertake SA twice a year at every village level and implementing agencies are directed to provide full cooperation including access to information to the social auditors. SA is a process through which a group of community members evaluate the implementation of the scheme (MGNREGA) on ground and share the findings with a larger base of beneficiaries and state agencies. It is an innovative measure aimed at ensuring accountability from those involved in the implementation of the scheme by the beneficiaries of the scheme. It follows a unique model as the entire process of SA is led by an independent agency, called a "social audit unit" (SAU) at every state level, which plans activities, and provides required capacity building sessions and resources to the beneficiaries to undertake SA under its aegis. The detailed operational guidelines of this process was published under MGNREGA Social Audit Scheme Rules 2011. After the success of SA in MGNREGA, currently it is being done for many other programs including Mid-day meals, Indira Awaas Yojana etc.

SA is an exhaustive process which is mandated to take place twice a year and takes upto 8–10 days to cover a single gram panchayat. It verifies official records with actual ground realities about the program's implementation and its beneficiary base. The organizational structure of the SA mechanism is independent from the implementing agency to facilitate an unbiased and transparent process. It is conducted by locally recruited village social auditors

(VSAs) (beneficiaries) who are supervised by block and district social auditors as employees of SAU. To insulate the SA process from the influence of local elites or Panchayati Raj institutions (PRIs) the VSAs never undertake the process in their own panchayats. This helps the VSAs to work freely and report findings without any biases or pressure on them. The SAU is a fixed body at state level which are mandated to organize SAs at a fixed interval in a year. While the SAU officials have fixed positions, the group of village auditors (beneficiaries) are hired on an audit to audit basis.

SAs have played an instrumental role in unearthing various forms of leakages in the implementation of the scheme, leading to consequent policy action to plug these. Some findings such as irregularities in wage payments or ghost entries in the muster roll have led to significant changes in the implementation architecture of the scheme including introduction of online wage payment and a real time management information system (MIS). SA also facilitates a transformation in the equation between communities and the implementing agencies (IA) who are usually local power holders. It provides a platform for the communities to ask questions and demand rights from the public officials and hold them responsible for their actions. Such public platforms evoke much needed accountability at all levels and give communities a better understanding of what is due to them and who is responsible to give it to them[13].

Model 2: Community monitoring through SMCs in RTE

In 2009, RTE came into being, which was the first central legislation on school education. RTE mandated education as a fundamental right for the children aged between 6-14 years. It also introduced enabling sections such as Section 21A which creates a justiciable framework for the communities, who are direct beneficiaries (parents of the children accessing RTE), to participate and actively play an important role in monitoring the implementation of this law. The Act mandates the formation of SMCs where community partners along with other official stakeholders can take part to monitor the functioning of the school and actively work towards fulfilling the objectives of RTE[14].

SMC is a multi-stakeholder body with greater representation of parents of wards studying in that particular school, students, and school administration. The committee members are elected on a rotational basis. Though it is an advisory role in certain states the state government has empowered them to take decisions and implement them for an overall development of the school, its students, and teachers under the RTE[15].

The SMC can be visualized as a basic unit of a decentralized model of governance involving direct beneficiaries (parents and students) and the implementing agency working together towards the improvement of schools. SMCs led to better accountability in the school activities with increased parental participation[16]. It is a body which is also considered to be the first avenue of grievance redressal that can be accessed by parents and children alike.

[13]https://www.epw.in/system/files/pdf/2015_50/7/Spectators_or_Participants.pdf

[14]http://ndpublisher.in/admin/issues/LCV8N1g.pdf

[15]http://dixitschoolweb.in/Circular/DTE/SMC/2016_08_01_Enhancement%20of%20Powers%20of%20School%20Management%20Committees.pdf

[16]https://www.educationdevelopmenttrust.com/EducationDevelopmentTrust/files/2d/2d97cea6-93f3-42d8-93db-f1ece9c7953b.pdf

Model 3: Community monitoring through village health committees (VHC) under NRHM

NRHM was launched on April 12, 2005 with the goal of improving the availability of and access to quality health care by people residing in rural areas including the poor, women, and children. This missions institutionalized the practice of participatory monitoring and planning systems to ensure that the program fulfils its fundamental objectives and evolves constantly to accommodate the dynamic needs and demands of the beneficiaries by keeping people at the center of this program.

The success of this accountability framework of community monitoring under NRHM is directly linked to the three major actors, health care providers and managers; community members and community-based organizations or NGOs; and PRIs, and their ability to successfully own this process and collaborate with each other at all levels. The monitoring committee is formulated at every level beginning from village till the state, and in each committee, community members have a reserved percentage of representation. Each committee submits its findings and feedback to the subsequent committee for institutional action and resource planning.

The purpose of community participation in health committees is to ensure regular and systematic information flow about the community needs to guide NRHM planning process; receive timely feedback from community members on locally developed yardsticks or key indicators for health facilities including entitlements, service quality of health systems, and providers; and eventually generating more awareness amongst community members about their entitlements and feeling of a sense of ownership to improve the program. This decentralized model of governance under NRHM can be regarded as an empowering community participation model, which engages communities in the monitoring of health facilities and also empowers them to build a village health plan where communities themselves identify their health care priorities. The village health committees in this model, provide an opportunity to undertake a bottom-up planning for safeguarding community health.

Comparison of CBM models across significant parameters

All the three models discussed above have been successfully institutionalized to provide better public service delivery mechanisms albeit some gaps. These schemes are similar in bringing community's voices to the fore but they differ in the structure and the degree of community participation that each of them facilitates. For example, in SA, communities only participate in monitoring activities while in SMC and VHC, communities also have planning powers along with monitoring. These structural differences influence functionality in unique ways and lead to disparate outcomes for the community. Below are a few aspects around community participation which differentiates one scheme from another:

Parameters	SMC under RTE	SA under MGNREGA	VHC under NRHM
Model of CBM	Collaboration between beneficiaries and implementing agency; SMC members from community is selected through an election process in every 2–3 years	Community with independent authority: SAU; community members are recruited by SAU officials on an audit to audit basis	Collaborative multi-stakeholder model; community representation in the committee is on rotational basis.
Participants	Direct beneficiaries (parents, guardians and school children) and school administration	Indirect beneficiaries as VSAs are from other panchayats than the one being audited	Direct beneficiaries, PRIs, social workers, and health workers or officials
Funding	The SMC gets an amount from Department of Education for school development plan that they prepare and propose	The funding for social audits is sanctioned directly from Ministry of Rural Development (MoRD) to SAUs, and VSAs are paid honorariums on a day to day basis to conduct SAs	Each VHC gets INR 10,000 annually for organizing planning and monitoring efforts at the village level from the health departments; apart from this, the village health workers get separate funds to implement NRHM activities
Role of Community	Community members are given an active role in preparing school development plan, and regularly monitoring the school activities including teaching and represent school's concerns and demand at other local platforms such as gram sabhas or at block level meetings; They also mobilize funds or resources for school's infrastructure on ad-hoc basis	The community plays a very limited role in monitoring activities and data triangulation process at panchayat level; they undertake physical verification, information collection, and compilation and reporting of audit findings to the larger group at the panchayat level Community members play a key role in making everyone aware of their rights under the scheme	The communities[17] represent only 15-20% on the various monitoring committees, and have limited influence over the overall monitoring and decision-making process However, at village level they can play a key role in improving vulnerable community's access to health care and set a community health agenda or parameter relevant to the community needs and requirement
Powers of community	Community holds monitoring, planning and financial powers and heads the committee; they hold key positions such as president and vice president of SMC; 75% of the SMC is constituted by community members, hence they would have strong hold in the decision-making process at SMC	Community only holds the monitoring and reporting powers as auditors at the village level; the key decision-making powers regarding planning, financing, or even punitive action is retained with MoRD officials and SAU officials	Community holds monitoring and planning powers and very limited financial powers (mostly health workers manage the funds) in the VHC; they evaluate health facilities and develop local health yardsticks or key indicators

[17]The communities here exclude the representation by PRIs and local community-based organizations' health activists.

Parameters	SMC under RTE	SA under MGNREGA	VHC under NRHM
Scale	The SMCs are at the school level in every ward or panchayat	SA body is at state level, however, the participation of community in monitoring activities is only limited to panchayat level.	Monitoring committees with community participation is at all levels beginning from the village to the state level; maximum participation is at VHC level
Tools of monitoring used by community members	• Physical review and analysis of activities of the school, performance of teachers and physical infrastructure of the school • Participatory budgeting • General body meeting to discuss these findings with the larger body of parents	• Participatory budgeting • Physical and verbal data collection, survey, review, analysis, and triangulation of program's implementation • Aam sabhas to read out data records and focussed group discussions • Hold public hearings at panchayat and block level	• Participatory budgeting • Physical collection, review, and analysis of information/ data about health services offered. • Community meetings and holding aam sabhas to capture community concerns • Citizen score cards or village health report cards on health facilities • Public hearings at panchayat and block level
Institutionalisation of Community Participation in Monitoring Activities	Formation of SMC has been constituted in the RTE under Section 21A.	Section 17 mandates SA under the MGNREGA; SA is conducted as per Audit Scheme Rules, 2011	Multi-stakeholder monitoring committees were introduced under the NRHM in 2005. It is instituted as one of the five core approaches the mission proposes.
Challenges in community participation	Power dynamics between school headmaster and unlettered community members severely impairs community participation Lack of understanding amongst community members about their roles and responsibilities related to technical aspects such as monitoring of teachers' activities Lack of independent accountability measures for SMC to report on noncooperative school administration Lack of capacity building of SMC for better functioning Lack of financial compensation for parents (who are informal labour) to divert their time for SMC activities	Limited role of community members in planning and decision-making process Lack of powers with SAU to take punitive action against violators Irregular follow-up SAs at panchayat level to maintain continuity of public oversight	Limited role and power of community members in committees above village level Even at village level, Accredited social health activists (ASHA) and Auxiliary nurse midwives (ANMs) have considerably more powers in the VHC than community members Power dynamics between various stakeholders (PRIs, health departments civil society) at all levels impairs vulnerable community's participation Lack of financial compensation of community members to participate in VHC activities

SECTION 5

Examples of community participation in monitoring environment regulations

Good neighbor ordinance and bucket brigade: Communities for Better Environment (CBE) is a membership organization based in the US, which works with affected communities to promote environmental protection and justice. CBE organize communities, who use wide variety of strategies such as administrative appeal, media or legal advocacy, and legal education or leadership development to ensure that they have a bigger role in environmental decision-making process, which have direct impact on their lives. The group has been playing an important role in activating citizen's participation in regulatory efforts via multiple ways, from bringing localized instances of noncompliance by polluting industries to the notice of regulators to leading the efforts for embedding public participation in the review process of industrial projects at national level through policy action.

CBE, while working in Contra Costa County in California against the rising industrial accidents from oil refineries and other units, organized communities to push for good neighbor ordinance at the county level and establishment of CBE-run bucket brigade in collaboration with Global Community Monitor[18]. Good neighbor ordinance empowered the county to review maintenance and construction projects with an investment of over one million dollars, before they commenced work. This ordinance was aimed at improving the county's control over these decision-making processes. CBE also organized community members in the county to form bucket brigades to monitor air quality in their neighborhoods.

Bucket brigades[19] are groups of residents who live in industrial zones and are recruited to monitor air, using low cost equipment near oil refineries, chemical factories, and power plants. The brigades involve community members, environmental NGOs, and government officials. The brigades are initiated by community members and are facilitated by NGOs, and have been only partially accepted by government agencies. The initiative is similar to community policing where "it

[18]Kuhn, S. (1999). Expanding public participation is essential to environmental justice and the democratic decisionmaking process. *Ecology Law Quarterly*, *25*(4), 647–658.

[19]The concept of bucket brigades originated in 1994, after a toxic release from a refinery in the Bay area of California. After the regulatory authorities failed to contain the release of toxins, the community decided to file a lawsuit against the company. The law firm fighting for the communities funded the development of first "bucket" air sampler in 1995, so that the communities could document emissions. The case was settled after the company agreed to pay USD 80 million to over 600 residents. After this, first brigades were formed in Contra Costa County, California in 1996, to grab air samples of emissions from oil refinery. Later the bucket brigades spread to the "cancer alleys" of Louisiana. The buckets were inexpensive, easy to use and make.

seeks to place external community pressure on government officials to change agency practices, consider local issues more seriously, and collaboratively address problems."

There have been arguments that community participation has the capacity to enlarge its scope beyond just emergencies and accidents. This is a shift from "incident-oriented" to "problem-oriented" policing. The brigade assigned different roles amongst themselves. There were *sniffers*, who would alert the *samplers* if certain odors were observed. Certain households would be chosen to be trained as *sniffers* using the knowledge of wind direction and chemical release. *Samplers* would take samples and complete a data sheet. *Coordinators* would send the bags to laboratories after ensuring the sampling protocol was followed and *spinners* would share the results at different platforms. The objective of this program was to raise awareness among communities about emissions—generating evidence of toxic emissions, building campaigns around demands of reduced pollution, relocation of residents, better monitoring, holding government agencies and companies accountable, and forcing new dialogues between industry, government, and community members. The bucket brigades helped in increasing community awareness and empowerment, provided new sources of information on air emissions, pointed out gaps in existing monitoring systems, and led to increased regulatory and industry accountability. In some places, the Environmental Protection Agency (Region IX, Contra Costa County) has supported the buckets brigades through grant of money, assisted them in the development of quality control program, and brought other actors on the table to discuss environment monitoring and regulation strategy[20].

Office of Sustainability, New Jersey, Newark, USA: Newark is an industrial city in New Jersey, majorly inhabited by poor and people of color. With dire environmental impacts from incinerators and Superfund sites spread across, this city and its people had been subjected to environmental injustice for too long. Naturally, many environmental action groups emerged in this area to advocate for better policies and this led to the creation of the "office of sustainability" at the mayor's office. The office directly works with locals and NGOs to oversee environmental issues. It uses coproduction as a participatory approach for environmental oversight. It refers to sharing of information from residents to city administrators. Citizens are encouraged to report through a hotline any concern or evidence related to truck idling and other harmful activities within the city limits. It also facilitates institutional representation of community groups in Newark Environmental Commission that advises the mayor and the council on environmental matters. This model is an effective way to facilitate participatory decision-making, where community members provide information for better enforcement and also hold semi-permanent positions in the commission to influence policy and planning activities of the state[21].

[20]O'Rourke, D., & Macey, G. (2003). Community environmental policing: Assessing new strategies of public participation in environmental regulation. *Journal of Policy Analysis and Management*, *22*(3), 383–414. Retrieved from http://www.jstor.org/stable/3326033

[21]Kasymova, J., & Gaynor, T. (2014). Effective citizen participation in environmental issues: What can local governments learn? *State & Local Government Review*, *46*(2), 138–145. Retrieved from http://www.jstor.org/stable/24639168

Conclusion

As Lawrence H. Tribe, an American scholar states, outcomes of any policy decision is deeply linked with the way these decision were made[22]. Greater community engagement in environmental monitoring and decision-making will lead to better and timely assessment of risks and enhance the possibilities of meaningful remedial actions. Community participation advocates the idea of democratic governance and embodies the major values and principles outlining our environmental regulations. Environmental protection is a collective responsibility. Community participation also has the ability to realize intra-generational equity and keep future generations at the centre of environmental decisions.

In the absence of a participatory space, communities suffer the effects of environmental mismanagement and lack of accountability of institutions. With the growing acknowledgement of the relationship between society's social and economic well-being and its ecological health, there is a need to rethink and reform expert-dependent regulatory systems that deny the role of communities. It is important for policies and laws to provide space to communities so that they may contribute to and collaborate with regulatory institutions, set up to manage and mitigate environmental impacts. A good starting point to design such a meaningful participatory framework for environmental regulation would be to identify and address the existing ways of discrimination, alienation, and exclusion of communities in the current regulatory practices. There are several models and overwhelming evidence to show that communities, when provided appropriate platforms and resources, can contribute significantly in the protection of the environment, safeguard and promote sustainable livelihoods, improve the health of their families, and improve the functioning of regulatory systems in the long run.

[22]Tribe, L. (1973, June). Technology assessment and the fourth discontinuity: The limits of instrumental rationality. *Southern California Law Review*, *46*(3), 617–660.

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