

The Role of Public Participation in Shaping Environmental Impact Assessments (EIA) in India: A Review

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ABSTRACT

Public participation plays a vital role in environmental governance, especially in the context of Environmental Impact Assessment (EIA). In India, the development of public involvement in EIA processes has been shaped by a combination of legal frameworks, institutional structures, and socio-political factors. This review critically assesses the current state of public participation within the Indian EIA system, exploring its historical evolution and assessing its practical application. While legal provisions under the Environment (Protection) Act of 1986 and the EIA Notification of 2006 formally acknowledge the importance of public hearings, the reality often falls short of genuine engagement. Issues such as poor access to information, limited public awareness, procedural inefficiencies, and a lack of capacity among stakeholders have hindered effective participation. Additionally, vulnerable communities are often marginalized, and recent proposals to amend EIA regulations suggest a weakening of public oversight. International comparisons highlight the need for reform to bring India's participatory processes in line with global best practices. Key recommendations include improving transparency, enhancing stakeholder capacity, ensuring timely access to relevant data, and promoting accountability to restore public trust and participation. The review concludes that public involvement should not just be a formality but a critical component that enhances the quality, fairness, and sustainability of environmental decision-making. Therefore, building an inclusive, informed, and responsive participatory framework is essential for advancing environmental justice in India

INTRODUCTION

Environmental Impact Assessment (EIA) is a critical tool in environmental management, designed to assess the potential environmental consequences of development projects. Over time, the importance of including public participation in this process has gained significant recognition. Public involvement in environmental decision-making not only promotes transparency but also empowers local communities, leading to more informed decisions that align with the objectives of social, environmental, and economic sustainability. The concept of public participation in environmental governance has its roots in the 1960s and 1970s, spurred by increasing environmental awareness and grassroots movements advocating for inclusive decision-making. Public participation in environmental matters can be defined as the active involvement of stakeholders—particularly those directly affected by the decisions—in the planning, formulation, and implementation of policies or projects. Brager and Specht (1973) describe participation as "the means by which people, who are not elected or appointed officials of agencies and governments, influence decisions about programs and policies that affect their lives." The goal is not only to inform the public but to engage them in a meaningful way, enhancing the legitimacy of decisions and fostering a sense of ownership and accountability in environmental protection.

One of the key frameworks for implementing public participation is the Environmental Impact Assessment (EIA). EIA serves to evaluate the potential impacts of proposed development projects on the environment. Its primary goal is to forecast environmental consequences early in the planning process, prevent environmental damage, and ensure that the public is consulted before final decisions are made. Although EIA's main focus is safeguarding the environment, the growing emphasis on public participation ensures that development projects reflect the concerns, needs, and aspirations of local communities and other relevant stakeholders. In India, the formal introduction of EIA marked a significant step towards incorporating environmental considerations into the nation's development agenda. The EIA process was introduced in 1988 via the Environmental Impact Assessment Notification (EIA Notification) under the Environment Protection Act, 1986. This notification made it mandatory for specific types of projects to undergo environmental clearance, which includes a thorough evaluation of their potential environmental effects. The Indian EIA framework was inspired by the United States' National Environmental Policy Act (NEPA) of 1969, one of the earliest comprehensive EIA frameworks globally. The implementation of EIA in India marked a shift from purely developmental approaches to ones that aim to balance growth with environmental protection.

Despite the formal inclusion of public participation in India's EIA framework, its execution has faced numerous challenges. Public participation, while an essential component of the EIA process, is often limited in practice. The process typically involves public hearings, where stakeholders can voice their concerns, objections, and suggestions regarding proposed projects. However, several barriers hinder the effectiveness of public participation,

including poor access to information, low levels of public awareness, bureaucratic red tape, and weak enforcement of laws at the grassroots level. The core issue revolves around the effectiveness of public participation in the EIA process. Public participation should go beyond simply informing the public; it must allow the public to actively shape project decisions and environmental outcomes. True public involvement involves a two-way dialogue where the concerns of the community are genuinely considered, and the final decisions are adapted based on public input. A growing body of literature underscores the significance of public participation in effective environmental governance. The United Nations Economic Commission for Europe's (UNECE) Aarhus Convention, adopted in 1998, is a pivotal international agreement promoting public participation in environmental decision-making. The Convention outlines three essential rights: the right of access to information, the right to participate in decision-making, and the right to access justice in environmental matters. The Aarhus Convention has served as a guiding framework for countries like India, influencing national policies and laws, including the EIA framework.

Despite the global influence of the Aarhus Convention, India's EIA system continues to face scrutiny due to implementation challenges. While public hearings are mandatory for larger projects, many smaller projects—those located in designated industrial zones or with limited environmental impact—are exempt. This exclusion reduces opportunities for public involvement, particularly in areas where smaller projects may have cumulative environmental effects. Moreover, public participation often occurs too late in the development process, when key project decisions, such as location and design, have already been made. This leaves little room for meaningful public influence. The lack of awareness regarding EIA rights is another obstacle. Many rural and marginalized communities lack the knowledge, resources, and expertise to effectively participate in the EIA process. Additionally, when participation opportunities arise, the methods used—such as public notices on websites or in local libraries—are often inaccessible to a large portion of the affected population. The government's reliance on written comments, without fostering direct dialogue, further limits the potential for genuine public engagement.

Enforcement of laws regarding public participation remains weak, contributing to the ineffectiveness of the process. While the law mandates public consultation, the execution of these requirements is often subpar. In some cases, public hearings are held with insufficient notice or without ensuring that the information provided is accessible and understandable to the affected communities. Decision-makers often treat public participation as a mere formality, failing to take the concerns of the public seriously. This study aims to examine the role and effectiveness of public participation in the EIA process in India. It will explore the challenges hindering its implementation, assess its influence on project decisions, and suggest reforms to make the process more inclusive and effective. The study will evaluate the various methods used for public engagement in India, analyze the regulatory

framework surrounding public participation, and review case studies to identify best practices and areas for improvement. Ultimately, this research seeks to contribute to the ongoing debate about improving environmental governance in India by fostering stronger and more meaningful public participation in the EIA process.

LITERATURE REVIEW

Environmental Impact Assessment (EIA) is a fundamental component of environmental governance, and public participation is critical to enhancing the effectiveness of this process. Including local communities and other stakeholders in the decision-making process is essential for ensuring that the concerns of those directly impacted by projects are adequately addressed. Over time, scholars, policymakers, and organizations have examined the intersection of public participation and EIA, identifying both strengths and weaknesses in various contexts. This literature review brings together key studies and findings regarding public participation in EIA, particularly focusing on its application in India.

Public Participation in Environmental Decision-Making: Public participation in environmental governance is grounded in the belief that those most affected by environmental decisions should have a role in shaping them. Participation is recognized as a fundamental democratic right that empowers communities and ensures that development projects align with local needs and concerns. Public participation has been defined in numerous ways across the literature. Brager and Specht (1973) described it as "the means by which people, who are not elected or appointed officials of agencies and governments, influence decisions about programs and policies that affect their lives." Skeffington (1969) further explained that public participation is a "sharing action to formulate policies and proposals," with true participation only occurring when the public is fully involved in the planning stages. Moreover, the World Conference of Agrarian Reform and Rural Development (1979) emphasized that public participation is a human right, essential for redistributing political power in favor of marginalized communities and contributing to sustainable development.

The importance of public participation is widely acknowledged in the context of EIA. The World Health Organization (2002) argues that public involvement leads to better decision-making, more targeted resource allocation, and greater public trust in environmental governance systems. In the EIA context, public participation serves several purposes: it provides a platform for affected individuals to voice their concerns, facilitates the integration of local knowledge regarding potential environmental impacts, and increases the transparency and accountability of the process. Geneletti (1975) noted that public participation is key to ensuring that the decision-making process is open and transparent.

The EIA Process in India: An Overview: In India, the EIA process was introduced in 1988 with the Environmental Impact Assessment Notification under the Environment Protection Act, 1986. This process was modeled on the United States' National Environmental Policy Act (NEPA) of 1969, which

established one of the first formal frameworks for evaluating the environmental effects of proposed projects globally. India's EIA framework aimed to protect the environment from the negative effects of development while encouraging sustainable growth.

The EIA Notification of 1994 required certain types of development projects to undergo an EIA before receiving environmental clearance from the Ministry of Environment, Forests, and Climate Change (MoEF&CC). These included industrial, mining, and infrastructure projects with potential significant environmental impacts. Public participation was incorporated as an essential part of this process, with the notification mandating public hearings for projects undergoing detailed EIA. This allowed local communities and other stakeholders to voice their concerns and objections.

However, despite the existence of a legal framework, the EIA process in India has faced criticism for its inability to ensure meaningful public participation. Memon (2000) pointed out that public participation is often seen in India as a formality rather than a genuine attempt to influence project outcomes. Government authorities often dominate the decision-making process, and public involvement is typically limited to offering feedback during the latter stages of the EIA process, which reduces its ability to influence the project's design.

Limitations and Challenges of Public Participation in EIA in India: Several limitations have been identified in the literature regarding the public participation process in India's EIA framework. One of the major challenges is the limited scope of participation. While the EIA process mandates public hearings for projects undergoing detailed EIA, many projects are exempted from this requirement. For example, small-scale industrial projects, those located in industrial zones, and certain infrastructure developments like road expansions or Special Economic Zones (SEZs) are not required to conduct public hearings (MoEF&CC, 1994). This exclusion reduces the number of projects subjected to public scrutiny and limits opportunities for local communities to engage in the decision-making process.

Another significant issue is the low level of public awareness about the EIA process and citizens' rights to participate. Often, the public is unaware of the details of proposed projects or the potential environmental impacts. Abdul Ghani (2004) noted that even when public hearings are held, they are often poorly attended due to a lack of awareness, apathy, and limited access to information. Public hearings are typically held in urban areas, further excluding rural communities who may be most affected by the project but lack the resources to attend these meetings (Boyle, 1998).

A further limitation is the lack of genuine influence that the public has over project decisions. Staerdahl et al. (2004) argued that public participation in India's EIA process is often "instrumental" rather than "democratic." In this context, while the public is invited to provide feedback, their concerns are often treated as secondary to technical assessments and are not incorporated into final decisions. This weakens the effectiveness of public participation, as it fails to meaningfully shape the direction or design of the project.

Additionally, Briffett et al. (2004) highlighted a flaw in the regulatory framework governing EIA in India that allows for abuses in the public participation process. The guidelines permit project proponents to bypass public hearings if they deem it to be in the “public interest.” The lack of clarity regarding what constitutes “public interest” has enabled developers to exclude the public from the process, especially in situations where public opposition could threaten project approval. This vagueness has allowed public participation to be minimized or ignored.

Best Practices and Recommendations for Improving Public Participation: Despite these challenges, there have been instances of successful public participation in the EIA process in India. Studies suggest that when public involvement is effectively implemented, it can lead to positive changes in project design. One example is the Asian Rare Earth waste repository project, where public opposition led to the redesign of the project, demonstrating how public pressure can improve the environmental outcomes of development projects (Boyle, 1998). Scholars have proposed several best practices for improving public participation in EIA. These include employing diverse participation methods such as focus groups, community meetings, and public surveys, which can engage a wider range of stakeholders. Williams (1976) emphasized the importance of early involvement, which allows stakeholders to contribute local knowledge and express concerns before project plans are finalized. Transparency and the provision of accessible, understandable information are also essential for ensuring effective public participation (McGlashan & Williams, 2003).

Furthermore, stronger regulatory enforcement has been recommended. Memon (2000) suggested that the Indian government should take a more proactive approach to ensure that public participation is not merely a procedural requirement but an integral part of decision-making. This includes providing additional resources to raise awareness about the EIA process and ensuring that public concerns are meaningfully considered during project planning and decision-making.

The literature on public participation in India’s EIA process reflects both the potential advantages and significant challenges of engaging local communities in environmental decision-making. While public participation can enhance the legitimacy of the process, ensure that local knowledge is incorporated into project planning, and improve environmental outcomes, the current system in India faces numerous limitations. These include exclusions of many projects from public hearings, low public awareness, and the lack of genuine influence over decision-making. Addressing these challenges will require regulatory reforms and a stronger commitment to making public participation a meaningful and transformative component of the EIA process

METHODOLOGY

Environmental Impact Assessment (EIA) in India & Odisha

Environmental Impact Assessment (EIA) in India was introduced in 1988 under the Environment Protection Act, 1986, as a mandatory process for evaluating the potential environmental impacts of development projects. Its

goal is to minimize adverse effects on the environment and promote sustainable development. The Ministry of Environment, Forest, and Climate Change (MoEF&CC) oversees the EIA process, with state-level bodies, such as the State Pollution Control Boards (SPCBs), playing a crucial role in project evaluations.

The EIA process in India consists of several stages: screening, scoping, the assessment itself, and public participation, which includes public hearings for community input. After addressing concerns, the project is evaluated by an Impact Assessment Agency (IAA), and the MoEF&CC grants or denies clearance based on these findings. Despite its aims, the system faces criticisms related to inadequate public participation, lack of transparency, and insufficient handling of environmental data.

Challenges and Limitations of EIA in India: Several issues hinder the effectiveness of EIA in India. Notably, many small-scale projects or those in industrial zones are exempt from public hearings, limiting public involvement. Moreover, there is a general lack of awareness among local communities about the EIA process, resulting in limited engagement. Even when participation occurs, it is often viewed as a formality, with final decisions largely controlled by government agencies. Additionally, enforcement of EIA regulations is weak, leading to a failure to address critical environmental concerns raised by the public during consultations.

EIA in Odisha: State-Level Implementation: Odisha, with its rich natural resources, faces pressure from industrial development, making EIA a crucial tool for managing its environmental impact. The State Pollution Control Board of Odisha (SPCB Odisha) is responsible for implementing the EIA process in coordination with the MoEF&CC. Despite the framework in place, Odisha faces challenges like low public awareness, lack of capacity for meaningful participation, and delays in the clearance process. The state has seen tensions between development and conservation, with industrial projects facing opposition from local communities and environmental groups.

Case Study: The POSCO Steel Plant in Odisha: A significant case illustrating the EIA process in Odisha is the proposed POSCO steel plant in Jagatsinghpur district. In 2005, POSCO proposed a \$12 billion plant, which promised economic growth but faced strong opposition due to potential environmental and social impacts. The project site was located in a biodiverse area crucial to local communities, particularly indigenous tribes, who were concerned about displacement and the destruction of forest resources.

The EIA process for the POSCO project included a public hearing in 2007 but was criticized for lack of inclusivity, particularly regarding tribal communities. Many argued that the EIA did not adequately address long-term environmental impacts such as deforestation, water depletion, and damage to the mangrove ecosystem. The project's clearance was controversial, granted despite protests and questions about the legitimacy of the process. Environmental groups, especially those representing indigenous communities, contended that the EIA failed to address key concerns.

The POSCO project faced prolonged protests, legal battles, and delays. In 2017, the Odisha government canceled the project, largely due to continued

opposition and failure to address community concerns. This case highlights how public participation, transparency, and environmental justice can be undermined in large industrial projects. The EIA process, while a vital tool for assessing environmental impacts, is only effective when public participation is meaningful, transparent, and addresses community concerns.

The EIA process in India and Odisha, while designed to balance development with environmental protection, continues to struggle with implementation issues such as inadequate public engagement, poor access to information, and weak enforcement of regulations. The POSCO steel plant case exemplifies how public participation can be undermined, and underscores the importance of early, inclusive, and transparent community engagement. To be truly effective, the EIA process requires comprehensive reforms that ensure genuine public involvement, address local environmental and social concerns, and enhance the transparency of decision-making.

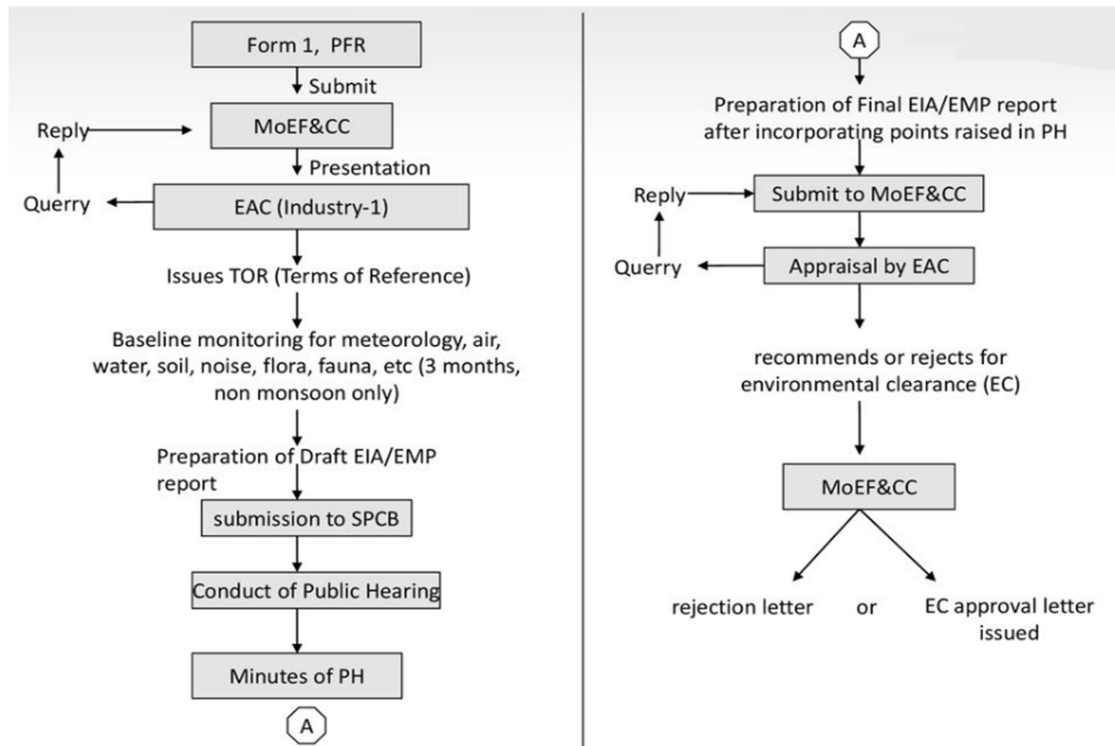


Figure 1. EIA Projects Process for a Category

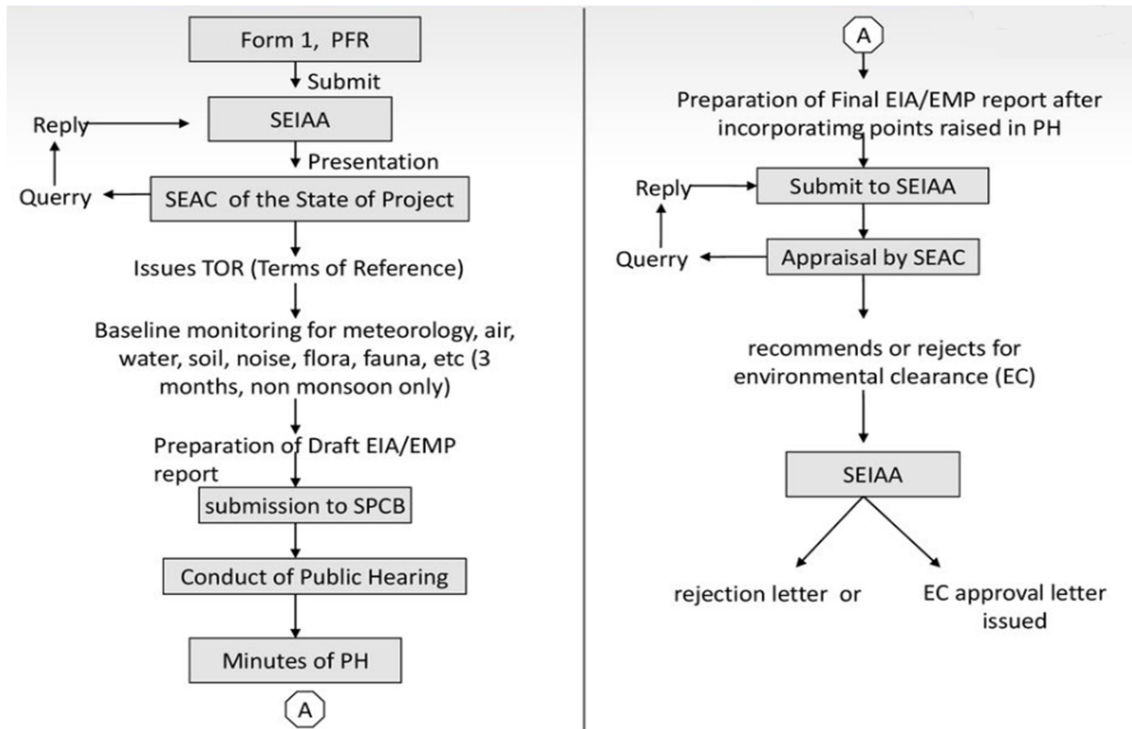


Figure 2. EIA Process for B Category Projects

RESULTS

Challenges in Public Participation

Public participation is a key element of the Environmental Impact Assessment (EIA) process, allowing affected communities and stakeholders to influence decision-making. However, despite its importance, public participation in the EIA process, particularly in India, faces numerous challenges that undermine its effectiveness. These challenges arise from both structural and procedural issues, which impact the legitimacy and value of public involvement in environmental governance.

Limited Awareness and Capacity in Local Communities; A major challenge to effective public participation in the EIA process is the lack of awareness among local communities about the process and their rights within it. Many communities, particularly those in rural or economically marginalized areas, are unaware of the environmental risks posed by development projects or the opportunities available for them to voice their concerns. This lack of awareness significantly limits their ability to engage meaningfully in the EIA process. Even when communities are informed, they often lack the technical knowledge or resources to understand complex environmental assessments or to present their concerns effectively. As a result, participation tends to be passive, with individuals attending public hearings or submitting comments, but not having a substantive impact on the decision-making process.

Exclusion of Certain Projects from Public Scrutiny: In India, some categories of development projects are exempt from the requirement for public hearings or detailed EIAs, reducing the scope for public involvement. For example, small-scale industrial projects or those in designated industrial zones may bypass the public consultation process altogether. This selective approach

to public participation leads to significant gaps, as projects that might have localized but serious environmental impacts can proceed without input from affected communities. Additionally, infrastructure projects or developments within Special Economic Zones (SEZs) and export processing zones are often exempt from mandatory public hearings, further limiting public participation in critical environmental decisions.

Inefficient Public Hearing Procedures: Even when public hearings are required, the process itself often presents challenges. Hearings are frequently held in urban centers or far from the project site, making it difficult for local communities—especially rural or indigenous populations—to attend. The timing of these hearings is often inconvenient, adding further barriers to meaningful participation. Furthermore, the notices for public hearings are often inadequately distributed, giving communities insufficient time to prepare. The language and technical nature of the information presented during these hearings are also frequently inaccessible to the general public, hindering effective communication and genuine dialogue. As a result, community concerns may go unaddressed.

Lack of Transparency and Accountability: A significant challenge in the public participation process is the lack of transparency and accountability in decision-making. Even after public consultations, it is often unclear whether the concerns raised by the public are incorporated into the final decision. In many instances, environmental clearances are granted despite substantial opposition from local communities or stakeholders. This lack of transparency undermines public trust in the EIA process and raises concerns about the influence of political or corporate interests in decision-making. When the public perceives that their concerns are ignored, it leads to skepticism about the process and reduces their willingness to participate in future consultations.

Bureaucratic and Institutional Barriers: The EIA process is also hindered by bureaucratic inefficiencies and institutional barriers that make it difficult for stakeholders to participate meaningfully. These barriers include delays in the approval process, restricted access to critical information, and a lack of coordination among various government agencies and stakeholders. Additionally, the absence of strong enforcement mechanisms means that even when public participation occurs, the concerns raised may not be adequately addressed or implemented. This lack of follow-through diminishes the impact of public participation and weakens the overall environmental governance framework. The challenges to public participation in the EIA process are diverse and encompass issues related to awareness, accessibility, procedural fairness, transparency, and institutional support. Overcoming these challenges requires improvements in both the legal and regulatory frameworks, as well as efforts to empower communities, ensure inclusivity, and enhance the quality of public hearings. Only through meaningful public participation can the EIA process fulfill its goal of promoting sustainable development, balancing economic growth with environmental protection and the well-being of affected communities.

Public Participation Techniques and Approaches

Public participation is crucial in the Environmental Impact Assessment (EIA) process as it ensures that local communities and stakeholders can influence decisions affecting their environment. Effective participation enhances transparency, inclusiveness, and legitimacy in the EIA process. Several techniques have been developed to encourage active engagement. Below are the key approaches used in public participation for the EIA process.

Public Hearings: Public hearings are one of the most common methods for gathering input from stakeholders. These formal meetings allow local communities, activists, and other concerned parties to present their views on proposed projects. However, public hearings often face challenges such as poor accessibility, inconvenient timing, and inadequate outreach, which can undermine their effectiveness. To improve public hearings, it is essential to ensure accessibility, provide clear information, and schedule them at convenient times for the affected communities.

Focus Group Discussions (FGDs): Focus Group Discussions (FGDs) are smaller, more intimate sessions where stakeholders engage in detailed discussions on specific issues related to a project. These discussions are moderated to ensure that all voices, especially those from marginalized groups, are heard. FGDs are particularly useful for addressing complex or sensitive issues. However, their success depends on effective facilitation and creating an open environment where participants feel comfortable sharing their concerns.

Public Surveys and Questionnaires: Surveys and questionnaires allow for the collection of both quantitative and qualitative data from a broad range of stakeholders. They are useful for gauging public opinion on various aspects of a project, such as potential risks and benefits. While this method can reach a large audience, it is crucial to design clear, unbiased questions that are accessible to all stakeholders, including those with limited literacy or access to technology.

The Findings from Surveys Should be Analyzed and Shared with the Public to Maintain Transparency

1. **Stakeholder Workshops:** Stakeholder workshops bring together a variety of stakeholders—community members, government agencies, and experts—to collaboratively discuss the impacts of a project. These workshops can foster cooperation, build trust, and provide a platform for constructive dialogue. They are most effective when they are well-planned, inclusive, and focused on addressing specific community concerns. Workshops can span multiple days to allow for comprehensive discussions and solution-building.
2. **Information Dissemination and Awareness Campaigns:** To enable meaningful public participation, stakeholders must be well-informed about the project and their rights in the EIA process. Information dissemination campaigns through brochures, media advertisements, and online content help raise awareness and empower communities. Ensuring that information is clear, accessible, and understandable to all, particularly vulnerable groups, is essential for encouraging informed participation.

3. **Online Platforms and Digital Tools:** Online platforms and digital tools are increasingly being used to enhance public participation in the EIA process. These platforms allow stakeholders to access information, submit comments, and participate in discussions remotely. While digital tools can broaden participation, they require internet access, which may exclude certain rural or economically disadvantaged groups. Therefore, digital platforms should complement traditional methods to ensure inclusivity.

Various public participation techniques, including public hearings, FGDs, surveys, stakeholder workshops, and online platforms, offer different strengths and limitations. A combination of these approaches should be used to ensure that all stakeholders, especially marginalized communities, can effectively participate in the EIA process. Providing accessible information, ensuring inclusivity, and incorporating public concerns into decision-making are crucial steps toward achieving sustainable development and effective environmental governance.

CONCLUSIONS AND RECOMMENDATIONS

The Environmental Impact Assessment (EIA) process is essential for balancing development with environmental protection. Public participation is a key aspect, ensuring that the concerns and voices of affected communities and stakeholders are considered in decision-making. Involving the public in EIA processes enhances project designs, promotes transparency, and ensures that the environmental, social, and economic impacts are adequately addressed. However, the effectiveness of this participation, especially in regions like India and Odisha, is hindered by several significant challenges.

A major issue is the limited awareness and capacity of local communities to engage meaningfully in the EIA process. Many stakeholders, particularly in rural or marginalized areas, lack access to critical information and often do not fully understand the potential implications of development projects. This results in passive participation, where individuals attend hearings or submit comments but lack the tools to actively influence the decision-making process. Additionally, some projects are exempt from mandatory public hearings, further limiting opportunities for genuine participation and compromising the comprehensiveness of the EIA.

Another challenge lies in the procedural limitations of public participation methods. Public hearings, though commonly used, often fail to provide an inclusive and transparent platform. These hearings are frequently scheduled at inconvenient times or held in locations far from affected communities, making it difficult for them to attend. Furthermore, the technical complexity of EIA documents, which are often difficult for the general public to comprehend, hinders meaningful engagement. Even alternative participation methods, such as focus groups, surveys, and online platforms, face challenges like low response rates, access issues, and cultural barriers that prevent full participation by certain groups.

Despite these obstacles, there is growing recognition of the need to strengthen public participation within the EIA process. Best practices, such as stakeholder workshops, public surveys, and digital tools, offer promising ways

to enhance engagement, making the process more inclusive, transparent, and responsive to local concerns. The POSCO steel plant case study in Odisha highlights the complexities surrounding public participation and emphasizes the importance of a truly inclusive approach. While India's EIA framework has made progress in incorporating public input, significant efforts are still needed to address gaps in awareness, access, and procedural fairness.

For public participation to be truly effective, it must go beyond being a mere procedural formality. Communities must be actively involved in every phase of the decision-making process, from initial planning to implementation and monitoring. Policymakers must ensure that public participation leads to better project designs, promotes sustainable development, and enhances environmental protection. There is also a need for reforms in the regulatory framework to ensure that public concerns are genuinely addressed, transforming the EIA process into a tool for community empowerment rather than just regulatory compliance.

In conclusion, while the EIA process in India and Odisha plays a crucial role in environmental governance, overcoming the challenges to public participation is essential for the process to be truly inclusive, transparent, and effective. By improving access to information, expanding participation opportunities, and adopting more inclusive methods, the EIA process can better fulfill its goal of protecting the environment while promoting sustainable development that considers the needs and concerns of all stakeholders. Achieving this will require a concerted effort from the government, industry, and the public to ensure that development is environmentally sound and socially responsible.

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