Environmental Management Plan Implementation in Indonesia: A Review of Selected Urban Projects

As political and economic changes continue to dominate the Indonesian landscape, this review assesses the extent to which environmental management plans (EMPs) have been implemented in the execution and daily operations of large World Bank-funded urban development projects over the last two to five years. The Bank has a long history of supporting urban development projects in Indonesia. Because of the scale of their potential environmental impacts, many of these projects fall into Category A. Detailed Environmental Assessments (EAs) usually precede these investments, and projects approved after July 1995 have been accompanied by comprehensive EMPs.2

This note evaluates the effectiveness of EMPs in mitigating adverse environmental impacts and improving environmental management. It is largely based on discussions and field visits to selected urban project sites in Indonesia in March and April 1999. Albeit limited, the sample has yielded valuable insights into environmental management and supervision of Bank-financed urban projects in Indonesia, and general trends in environmental management. We are grateful to the task managers, project management offices, and counterparts in local agencies for their cooperation and thoughtful inputs.

Why Are Environmental Management Plans Important?

Environmental management plans have two critical functions: to ensure that project implementation—planning, designing, constructing, commissioning—has as little negative impact on the environment as possible; and that project operation is environmentally sound. In essence, an EMP ensures that the comprehensive work done on environmental assessments bears fruit in practice.

By outlining impacts, mitigation and monitoring measures, agencies responsible for monitoring, and in many cases, performance indicators, an EMP sets up benchmarks. Environmentally sound projects must follow EMP steps in the initial stages and, more critically, internalize "sound" environmental management principles.

Increasing numbers of project appraisal documents now recommend the inclusion of EMP implementation in the legal covenants, thereby placing "environmental management" at a level previously reserved for financial management. However, project documents themselves rarely give EMP

1 According to the Bank’s Operational Directive (OP) 4.01, "A proposed project is classified as Category A if it is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. EA for a Category A project examines the project’s potential negative as well as positive environmental impacts, compares them with those of feasible alternatives (including that of "no action") and recommends any measures needed to prevent, mitigate, or compensate for adverse impacts and improve environmental performance. For a Category A project, the borrower is responsible for preparing a report, normally an EA (or a suitably comprehensive regional or sectoral EA) that includes, as necessary, elements of the other instruments ... (referred to in para. 7)." World Bank, 1999.

2 According to OP 4.01, "A project’s environmental management plan consists of the set of mitigation, monitoring, and institutional measures to be taken during implementation and operation to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. The plan also includes the actions needed to implement these measures. Management plans are essential elements of EA reports for Category A projects; for many Category B projects, the EA may result in a management plan only."
implementation the same status as they do other safeguard measures. This means that there are no legal remedies in place when all or part of the EMP is not implemented.

Another weak link is the absence of regular “environmental” supervision in Bank projects. Although project implementation plans have begun to include some elements of environmental supervision, these are not necessarily directly linked to the EMP. As a result, EMPs continue to be seen as bureaucratic hurdles, and not as tools to improve environmental performance. In their recent evaluation of EMPs, Goodland and Mercier note that the lack of implementation of EMPs, which often contain capacity-building measures, is itself one of the reasons why environmental management continues to suffer.1

Nevertheless, timely and conscientious implementation of EMPs does happen. EMPs, or parts thereof, may be implemented for a number of reasons: they are found to be useful by project management and the borrower; elements of the plans must be implemented to ensure general public and private sector support; they are simple and easy to follow; most of the critical mitigating actions are already part of the practice in the country; and lastly because both the national authorities and the World Bank support and encourage the implementation of EMPs.

**Framework for Environmental Protection and Monitoring in Indonesia**

A 1995 World Bank review of environmental assessment in Indonesia concluded that “the main administrative impediment to effective environmental management has been that the Government’s AMDAL (environmental assessment) system does not guarantee that environmental issues will be identified early in the project development stage or responded to by changes in project concept or design or other appropriate strategies.”4 It also suggested that AMDAL quality would improve and authorities would act on specific EA recommendations only if there were an open dialogue with the public. Information disclosure and consultation were seen as key to improving overall accountability. In the past few years, recommendations from this and other reports have been taken into consideration, at least in the design of Bank projects. Environmental assessments now include public consultation and disclosure. Umbrella or sectoral EAs are carried out for large projects with diverse environmental impacts, or where a single loan is being made to a group of smaller towns in a region or province. However, implementation of AMDAL findings, both in terms of modifying project design and implementing environmental monitoring and management plans, is still weak. A recently closed World Bank project, Bapedal Development Technical Assistance Project (BDTAP), had as its primary objective to assist the Government of Indonesia to strengthen its national Environmental Impact Management Agency (Bapedal), and to design and implement adequate pollution control measures at the central and regional levels. The project aimed to clearly define a system of environmental responsibilities and put in place the technical skills and equipment necessary for environmental management at the central government level.5


In the past, responsibilities for mitigation and monitoring were divided, depending on the investment, among the Public Works Department (PU), Human Settlements (Cipta Karya) or Local Cleansing Agency (Dinas Kebersihan), and the Planning Agency (Bappeda). The Bappeda Level I and II are the center of investment planning and coordination at the provincial and local level.

The Environmental Management Act, drafted as part of BDTAP, was signed into law in 1997. The new act is expected to improve environmental management and protection by providing more diverse and practical enforcement tools. In association with the establishment of provincial and local environmental management agencies (Bapedalda), the new law should facilitate implementation of environmental regulations. The Bapedalda, with staffs of 50 to 100, will replace existing bureaus of environment or environmental management teams. The establishment of Bapedalda began in 1997-98 and many cities demonstrated an interest in creating such agencies; however, only nine have become operational thus far. There are also three pilot Bapedalda, one of which is in Semarang, a city included in this sample.

Although administrative arrangements for environmental management have been clarified, and an important milestone reached in terms of environmental protection legislation, one of the chief criticisms of the BDTAP and other projects with institutional strengthening components has been that, in the absence of a functioning legal system, it is difficult to put in place effective environmental monitoring and management systems. An OED summary of the BDTAP Implementation Completion Report concludes that Bapedalda’s effectiveness is adversely influenced by many factors: “Poor internal communication and cooperation and a judicial system not particularly sympathetic to environmental management objectives, the pervasive culture of corruption and the use of political power to evade legal responsibilities, and finally the eventual shift in enforcement responsibilities to the Bapedalda.” The perceived lack of clarity regarding function and the absence of penalties are recurring observations in the present review.

**Urban and Environment Projects Funded by the Bank**

This review encompasses the following four projects with investments in ten urban centers in Indonesia:

- Bali Urban Infrastructure Project
- Kalimantan Urban Development Project
- Surabaya Urban Development Project
- Semarang-Surakarta Urban Development Project

As of June 50, 1999, there were nine integrated urban infrastructure/environmental projects in Indonesia in various stages of implementation. The majority of these projects concentrated on improving provision of services to urban populations, both through investments in infrastructure and by strengthening agencies responsible for service delivery. Environmental education and training are part of the institutional goals of the projects. Three of the projects in this sample have investments in more than one city. Investments in the selected projects have all or most of the following components:

- urban roads
- water supply and distribution systems
- storm drainage and flood control
- solid waste collection and disposal
- human waste disposal - sewerage and on-site sanitation facilities

- multi-sectoral programs for kampung and market improvements
- programs for development and strengthening of local institutions
- programs to increase local revenue generation
- technical assistance for implementation

**Environmental Management Plan Implementation—Evidence from Indonesia**

Degree to which local agencies identified in the EMP adopted and implemented EMP recommendations

There are two main types of mitigating actions in EMPs, those for which a government agency is responsible, and those that are the responsibility of a private contractor. Not all projects, even category A, have separate EMP documents, but they are always part of the EA report, referred to as the ANDAL in Indonesia.

In the construction phase at least, Bank projects appear to follow mitigation measures similar to those found in an EMP. Construction is usually carried out according to the conditions and specifications provided to the private contractor. However, contractors frequently must be supervised by local agencies regarding mitigating actions and environmental impacts. This often falls to Bank supervision missions rather than

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7 The remaining five are: Third Jabotabek Project, East Java II Urban Development Project, Sulawesi II Urban Development Project, Municipal Innovation-Learning and Innovation Loan, Urban Poverty Project.
local government officials, who appear to be much less apt to adopt a confrontational stance with private sector contractors, or who have neither the interest nor the capacity to adequately supervise contracts. For example, a field visit to one project site revealed that a private contractor, ordered through a previous Bank supervision mission to stop work on a bridge pending a resettlement study, was still working. The local project officer admitted that while no payments would be made to the contractor until a clearance was received from Bank staff, neither had the contractor been told to stop work.

In other cases, government agencies are responsible for mitigating actions and regular monitoring. For example, in the case of landfills, the cleansing agency may be responsible for implementing a site operation plan while the regional environmental protection agency would monitor the site to make sure that it is following the plan. However, because of a lack of communication and coordination, none of the agencies will accept responsibility for problems or for implementing remedies. In Surabaya, a landfill that had supposedly been closed by the local cleansing agency and was reported to have been monitored by the Bapedalda, was in fact in operation. Trucks were regularly using it because an alternative site had not yet become available.

**Monitoring and enforcement of standards**

Monitoring of project activities and routine environmental monitoring by local government agencies both suffer from a lack of resources, unclear lines of authority, and absence of follow-up on identified problems. There are clear repercussions when supervision missions uncover a problematic project component, but such supervision is periodic. In its absence, monitoring has been found to be sporadic and records hard to obtain. Environmental monitoring teams, and now agencies, lack the stature of their counterpart revenue-generating and established agencies, and shortages of both technical expertise and monitoring equipment are part of the problem. It has been suggested that if the Mayor's office and Tk II staff were more directly involved in the preparation of the ANDAL, in cooperation with the Bapedalda staff and under the guidance of the Mayor, monitoring probably would be a more collaborative effort. Given its weak position relative to other local agencies, it is unlikely that Bapedalda's policing role will be taken more seriously.

The legal framework for enforcing environmental laws and regulations is inadequate, especially with regard to violations by local governments and agencies. It is unclear how sanctions should be levied even for private sector violations. The lack of transparency in assessment and levy of fines hampers the effective enforcement of standards.

With the exception of basic drinking water quality, regular environmental monitoring is irregular and data are unlikely to be reliable. EMP emphasis on noise and dust pollution during the construction period has led to certain rules being followed, but regular air quality monitoring, even in urban road upgrading or transport projects, is rare.

**Mitigating and compensatory actions**

Many EMP recommendations on mitigation and monitoring are closely associated with regular operation and maintenance (O&M). However, the low status of O&M activities leads to inadequate allocation of financial and technical resources. There are few incentives for those responsible for O&M to do their job well; they are poorly paid and unsupervised. Monitoring schedules for O&M are rarely followed. Even when limited O&M funding is available, it is usually included in the investment (=development) budget, and not under recurrent costs.

In Banjarmasin, Kalimantan, for example, garbage truck operators are asked to make four trips to the landfill site every day. No account is taken of the amount of garbage carried to the landfill or whether it makes it to the final dumping site. Garbage overflows at transfer points and the presence of informal dumps throughout cities is an
Box 2: Management of Indonesian Landfills

The Bank has supported landfill development and dump closings in medium-sized cities in Indonesia with mixed success. Great strides have been made in collection and overall management of solid waste, but safe disposal will require more intensive effort in landfill site selection and improved daily operation of the landfills themselves. Most disposal sites in Indonesia are well below a minimum acceptable standard. Efforts to develop new landfills can sometimes become distorted, as appears to be the case for the SSUDP, where the Bank has financed the upgrading of the Jatibarang dumpsite as well as site selection studies for a new landfill.

The new site selected in Semarang was found by the Bank to be unsuitable for several reasons: it is near the city center, stagnant water and mangroves are in the area, it is very close to the sea, there is a high water table, and it is surrounded by residential areas – BUT the site is convenient because the land is already owned by the municipality.

Development and operation of this site would cause many problems in the future, but there appears to be no political will to select a site that is geotechnically and socially more appropriate.

The lengthy and fractious process of selecting a new site, which then turned out to be unsuitable, and continued poor operation of the Jatibarang dumpsite underscore the problem of poor final disposal management and the lack of political will. It is also clear that the Bank should monitor activities on the ground more closely, and take strong action in case of non-compliance.

Public consultation, especially in community-based project components, has been steadily improving. Non-governmental organizations are serving as facilitators for Bank projects and also as critics. This is especially important in the current climate of change in Indonesia, as rapid decentralization and devolution of financial powers provides local authorities with more power and increases their accountability. In at least one of the project sites, government officials were willing to invite members of a local NGO to meetings to hear criticism of the way in which the kampung improvement component (KIP) had been executed.

Reasons for Non-Implementation of EMPs

Investment decisions continue to be made on the grounds of cost, available funding, and land availability, and not on environmental considerations. Meager operating budgets also contribute to weak EMP implementation, but a lack of awareness and training among local staff is equally important. In the past, EMPs were often not available as separate documents, although this has changed recently. Local government officials themselves also must understand that EMPs are action documents whose implementation is mandated by a legal covenant in the loan agreement.

Consultants are sometimes used to monitor project implementation but the quality of their work is uneven. Better quality is rarely
demanded, because these documents are seldom used in decision-making and environmental concerns are not regarded as a priority. Similarly, when consultants raise important objections, as they sometimes do, these problems may have to come to the attention of Bank staff in order for action to be taken, because locally, environmental issues do not get adequate priority.

Ultimately, the project implementing agency is responsible for all monitoring and mitigation actions to be carried out. Agency staff must feel comfortable with executing this responsibility even if it places them in a confrontational position with colleagues from other government agencies. The new Decentralization Act may radically alter the degree of local responsibility: financial autonomy and investment decisions will change along with accountability to the people. There is hope that environmental goals will gain greater respect as well as increased financial and technical resources.

**GENERAL TRENDS IN ENVIRONMENTAL MANAGEMENT**

There are two clear trends in environmental management in Indonesia. The first is a shift toward a more decentralized structure, in which provincial and local authorities will have greater financial autonomy and responsibility for environmental management. The second is increased privatization of urban service delivery, placing new emphasis on the need for a pollution control strategy and the ability and willingness of the government to manage and monitor contracts.

In the current climate of uncertainty it is difficult to determine when the proposed structure and operations of Bapedal agencies, including Bapedalda, will become fully effective. Even if bureaucratic changes do occur, it will take time before these agencies are able to provide leadership in environmental management at the local level.

The second change, privatization of certain services, was at first seen as a "loss of power" by some local agencies. However, they have witnessed improvements in service delivery and, by charging fees and fining offenders, have actually gained some power. For the staff of environmental management offices this is a welcome change. In Denpasar, the collection of septage by private trucks has improved general cleanliness and generated revenues for the local government. Nevertheless, well-connected investors still face no penalties for failing to conform to effluent disposal standards and regulations.

**RECOMMENDATIONS**

Improvements in environmental management institutions, clearer and stronger legislation and the creation of a system that can effectively implement those laws, will result in better implementation of EMPs and improved project outcomes. However, in the interim, EMPs themselves could be made more useful guides for project managers, contractors, consultants and responsible local agencies. In addition, learning across Bank units and exchange of ideas and information among staff working in different countries would also generate new ideas and solutions.

- An EMP that is project-component specific and builds on existing regulations and practices would tend to be more closely followed than one with an exhaustive list of actions that may not be absolutely necessary, and which fails to prioritize impacts and mitigating actions.

- The EMP should be available in the local language and separate from the larger EA, as a guide for staff responsible for monitoring and supervision. The borrower should be made aware of the specific inclusion of EMP implementation requirements in the legal covenants, if that is the case.

- Until sanctions and penalties are applied more regularly and openly, enforcement of EMP measures will continue to be seen as a bureaucratic hurdle. Clearer lines of responsibility for the project implementing agency, especially in terms of ability to monitor, correct and penalize contractors as well as other government agencies, are a part of the challenge.

- Lastly, EMP implementation should be seen not just as a critical safeguard measure but also as an opportunity to improve long-term environmental management by strengthening the capacity of environmental institutions. When key measures on training and supervision are not implemented, a chance is lost to improve environmental outcomes.

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