

Consequences of Decentralization: Environmental Impact Assessment and Water Pollution Control in Indonesia

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After having been one of the most centralized states in the world for more than thirty years, in 2001 Indonesia introduced a sweeping program of decentralization with important consequences for the management of the industrial sector. This article explores whether the decentralization process has led to substantial changes in Environmental Impact Assessment (EIA) and enforcement of water pollution law. Its main findings are that the general division of authority in both fields has become less fragmented and that differences between districts have increased, but, in practice, not so much has changed as one would have expected. For EIA, "horizontal" disputes between sectoral agencies have been supplanted by "vertical" disputes between different levels of government. Monitoring and sanctioning of industrial water pollution have mainly continued within the scheme of the provincial program started under Soeharto's centralized regime, with still few initiatives at the district level. If any, such initiatives are usually driven by public complaints. On the other hand, there are indications that in the longer run the institutional changes may have more significant effects on EIA and enforcement practice. For EIA, these seem to be negative; for enforcement of water pollution regulation this depends much on the situation within a district or a province.

INTRODUCTION

The way authority is divided across levels of government has a clear influence on the performance of environmental control, meaning the processes of standard setting, monitoring, and imposing sanctions in order to protect the environment. The multifaceted nature of environmental damage and pollution, from a fully localized affair to something with impacts on a global scale, makes it difficult to determine an "ideal" situation from a government perspective. Authority over environmental control, therefore, is a subject prone

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to contest between government levels. As externalities of economic activities may be felt downstream a river, nationally, or “globally,” government actors from the district level up to international forums hold an interest in environmental control and may therefore compete for such authority.

These tensions have been well documented for developed countries. There is a great deal of literature on how the federal scheme in the United States has evolved in relation to the competences of the states, or how the European Union has influenced systems of environmental control in its member states. The same applies to Australia and Canada. Such studies demonstrate that, indeed, it is not easy to strike an effective balance in dividing authorities across levels of government. However, most will agree that after a good deal of experimentation the majority of countries in the developed world eventually have found workable solutions (e.g., Doern 1993; Rechtschaffen and Markell 2003; Breton et al. 2007).

A similarly extensive literature does not exist for developing countries.¹ There is a large and still-expanding body of literature on decentralization and development,² and, likewise, many scholars have addressed the relation between decentralization and natural resource management. Nevertheless, few writings specifically address the relation between decentralization and environmental control, in spite of the good reasons to pay attention to this topic. Problems concerning environmental pollution and damage are pervasive in most developing countries, while pressure from international donors has induced many highly centralized states to devolve authorities to lower levels of government (Manor 1999).

This particularly applies to Indonesia, which under Soeharto’s New Order counted among the most centralized countries in the world but has changed radically since. One year after Soeharto stepped down, the country adopted a new Act on Regional Autonomy (no. 22 of 1999, now replaced by Act no. 32 of 2004), which introduced sweeping changes. Not only were tasks devolved to the district level but the powers and funds required for carrying them out were as well.³ International donors and other supporters of decentralization suddenly found themselves in a state of alarm when they considered the consequences this act was likely to have and put all their efforts to channeling the process into a manageable form (Hofman and Kaiser 2002).

A field of particular concern, and rightly so, was environmental management. Until 2001, this had been an almost exclusively central government affair, certainly on paper. Most environmental law and policies were made by sectoral central government departments in Jakarta, notably those of industries, forestry, and mining. Policy directives and implementing decrees were passed on to the branch offices of these departments (*kantor wilayah*), which were to further implement and enforce them. Such branch offices were to be found at both the provincial level and the district level (or municipality), with most of the activities “on the ground” being performed by the branch offices at the district level.

The Department of the Environment attempted to coordinate the law- and policy-making process at the central level and to set environmental standards, but it had little say over the sectoral ministries (Bedner 2003a; Otto 2003). It held no operational powers, and as a result could not implement its own policies. To compensate for this lack of clout, the Minister of the Environment has headed, since 1990, a special agency called the national Environmental Impact Agency (*Bapedal*). Bapedal was supposed to coordinate implementation and enforcement of environmental norms, but it lacked effective power and capacity to do so. As a result, environmental regulation, policies, implementation, and enforcement were both centralized and fragmented across several departments (Bedner 2003b).

The expectation was that this system would radically change with the introduction of decentralization (Bedner 2000; Niessen and Van Lotringen 2000). The Regional Autonomy Act (no. 22 of 1999; RAA) greatly expanded the scope of authorities at the district level, at the expense of the central and the provincial governments' authorities. The obvious consequence seemed that monitoring and enforcement of environmental law would no longer be performed by branch offices from sectoral central government departments but would become the full responsibility of the districts. It seemed likely that this would introduce major changes in the practice of environmental control.

The literature on decentralization and environmental management suggests that the effects of such far-ranging decentralization may well have detrimental effects on the environment. An often-cited danger is that local political elites may use the newly acquired powers for their own benefit in the absence of sufficient upward or downward accountability; that is, the government apparatus may be "captured" by business interests (Dupar and Badenoch 2002: 67–68). Other reasons include the difficulty of dealing with pollution created in one (autonomous) district or province but causing effects in another, and the environmental consequences of a "race to the bottom" for investment (Revesz and Stavins 2004: 57–59). Likewise, district governments may lack the will or even the capacity to carry out their environmental responsibilities. Indeed, many environmentalists in Indonesia voiced such concerns when the decentralization process started (Bedner 2000).

On the other hand, decentralization may very well be beneficial for environmental management. It may make it easier for local constituencies to hold district or provincial governments accountable for their performance and to voice their concerns about environment issues, whether through parliamentary control or "direct" actions. Another advantage can be that better knowledge of the local situation enables the government to find "tailor-made" solutions, instead of imposing centrally manufactured ones, while the government may actually even prioritize environmental protection. It should be stated, however, that at the time of implementation of Indonesia's RAA nongovernmental organizations (NGOs) and academics promoting environmental management were more concerned about its dangers than hopeful about its benefits (Bedner 2000).

The present article examines the Indonesian experience on the basis of these theses. It will examine what has happened so far and whether the changes have led to improvement or deterioration of two important issues in environmental control: Environmental Impact Assessment (EIA) and enforcement of water pollution regulation.⁴ The article first analyzes the general division of authority in environmental management, presenting an overview of the legal structure underpinning EIA and water pollution law enforcement. After a brief description of the centralized system in place when the Environmental Management Act (EMA) was enacted in 1997, it discusses the legal consequences of the RAAs of 1999 and 2004 (Act no. 32) on this framework. The article then looks at how the law at the provincial and district levels has changed. Next, it turns to EIA and water pollution law enforcement in practice. This overview is perforce exploratory in nature, as no comprehensive materials are available. The account of Indonesia generally is drawn from an analysis of the scholarly and policy literature, while the more extensive data on West Java, in particular the Bandung region, are based on short periods of field work conducted in 2000, 2001, and 2003, and more recent interviews with key informants to update the materials. Of much importance have been the reports and publications on Indonesia's environmental programs (see below) and the environmental reports by the World Bank. In spite of their limitations, the materials suffice to offer an adequate overview, which may serve as a basis for more in-depth research.

EIA AND POLLUTION ENFORCEMENT IN THE EMA OF 1997

One of the New Order's last major pieces of legislation was the EMA of 1997, which replaced Indonesia's first EMA of 1982. The act clearly took a centralist view on environmental management as its point of departure. It intended to repair several flaws of its predecessor statute and introduced a number of new environmental law tools developed since 1982, such as the environmental audit and the class action.

An important concern of the drafters was to increase the influence of the Minister of the Environment vis-à-vis his powerful colleagues in charge of sectors such as forestry, mining, and industries. To this end, the EMA attributed some operational powers to the State Minister that enabled him to play a more direct role in enforcement. Much hope was invested in the newly acquired power of the State Minister to appoint his own special investigators, who could undertake investigation independently from the police as well as from officials charged with supervision of firms in sectors such as mining, forestry, and industries (Bedner 2003b).

In addition, the EMA brought several changes regarding enforcement generally. Most conspicuous was a section on administrative enforcement, which up until then had never been regulated in any act of a general nature. The EMA also considerably expanded the opportunities for citizens to lodge

complaints or to bring suit before a court in cases of suffering from environmental pollution or damage, including suits brought by NGOs who were unequivocally allowed to act on behalf of environmental interests (Art. 38(1)). Environmental criminal law enforcement was further invigorated, with more punitive sanctions and a new section added on corporate crime (Bedner 2003b)—the first one in Indonesian law. Regarding EIA, the EMA brought nothing new when compared to the previous regulation. It stipulated that every plan for an activity with potentially serious impact on the environment needed an EIA and that without an EIA no permit could be obtained (Arts. 15 and 18(1)). The subject was to be further regulated by a government regulation.

Decentralization was not a major issue in the EMA. “Deconcentration”—implementation of central laws and policies by the branch offices of the central government—was to be the primary mechanism for environmental management (Art. 12). The central government was allowed to delegate certain tasks and authorities to lower levels of government, but it was certainly not stimulated to do so (Art. 13). Hence, enforcement remained, for the most part, a central government affair: by far, most enforcement agents were part of the central government structure of sectoral deconcentrated branch offices or belonged to the police, which to this day is a centralized organization.

Just on one point did the EMA introduce a decentralizing measure. It attributed to the provincial governor the power to use administrative coercion against someone causing environmental distress (Art. 25). This gave rise to—probably unintended—overlapping competences in some cases. For instance, if a chemical spill into a river were to occur, both the Department of Industries and the governor of the province concerned could take action. Alternatively, they could not take action and blame each other for inertia (Bedner 2003b).

In practice, there were three exceptions to this general rule of central state authority in enforcement, none of which found its basis in the EMA. First, from 1989 onwards the provinces had been responsible for the Clean River Program (*Program Kali Bersih* or *Prokasih*), which was intended to counter river pollution by industries.⁵ Although guided by the central government’s Environmental Impact Agency until approximately 2000, the provinces had always held the authority for supervision and enforcement in the framework of this program. This had been an obvious choice, given that the governors—the heads of the provinces—issued the wastewater license to firms discharging wastewater into rivers. The authority to supervise the use of this license was, at least in theory, the tool to enforce compliance with the Clean River Program, and therefore primary responsibility for the program lay with the provinces.

The second exception concerned the supervision by provinces and districts of their respective land-use plans. If activities were conducted that violated such plans, for instance illegal building, the authority whose land-use plan

had been violated could act against the trespasser on the basis of the Spatial Planning Act (no. 24 of 1992). A related issue was EIA, which for projects below a certain size fell within the authority of the provinces (Arts. 1–8 of Government Regulation (GR) no. 29 of 1986).

Finally, the district head issued and was authorized to enforce the so-called nuisance license, which still dated from colonial times and was—albeit a very general one—the only tool for managing industrial pollution and damage of the environment at this level.

This legal framework was affected in several ways by the decentralization project embodied in the RAA.

THE RAA'S IMPACT ON THE EMA'S DIVISION OF POWERS

In 1999, all of those concerned with environmental law and management must have experienced a shock upon discovering that the newly promulgated RAA almost completely excluded environmental management from the central government's authority. The RAA limited the role of the central government to foreign and monetary affairs, defense and security, justice administration, religion, national planning, strategic national resource exploitation, conservation, and standard-setting (Art. 7). As a logical consequence, environmental management was henceforth a district government affair, with only residual roles for the provinces and the central government.

However, the RAA's central implementing regulation, GR no. 25 of 2000, soon made clear that the central government interpreted its own authorities quite broadly. This raised immediate suspicions that the government intended to return to its former dominant position. As a senior member of the Provincial Environmental Impact Agency (*Bapedalda* or *BPLHD*)⁶ of Jakarta Special Province commented at the time,

Did you already see GR no. 25 of 2000? There is no decentralization at all! Look, in the RAA only five fields are held by the central government. And here . . . ! [. . .] And look here for instance, in the field of exploration the central government determines the policy, and in a Ministerial Decree or something they'll just determine that licensing still falls under the central government. That is my prediction.⁷

This prediction turned out to be largely correct. The crucial sectors of forestry, mining, and law enforcement have all but remained within the powers of the central government. The same applies to the National Land Agency (*Badan Pertanahan Nasional*), which plays an important role in spatial planning through the land rights it issues (Warlan 2003) and which has continued to remain a central government branch office.

There are two significant exceptions, however. First, the EIA system was decentralized. GR no. 25 of 2000 gives the power to conduct an EIA to the district where the activity is to take place—unless it potentially affects a large

number of people or crosses district borders (Art. 2(3) under 18.c). Secondly, licensing powers in the field of industries were effectively transferred from the central government's Minister of Industries to the district head, and this removed industrial pollution control entirely from the purview of the central government. Industrial pollution control became a shared task of the district and the province: the district head administers the business permit and the nuisance license, while the province is in charge of the wastewater license (as it had always been). With the authority to provide the business permit came the corollary powers of supervision and enforcement.

This is not to say that in practice the central government lost all its involvement in environmental control of industries. Under the EMA of 1997 the Minister of the Environment holds the authority to "supervise the compliance of those responsible for business and/or other activities with the provisions of environmental legislation" (Art. 22(1)). Whether this provision still applies under the new RAA scheme is questionable from a legal point of view, but the minister has not changed his environmental policies. The reason that district governments have not felt the need to raise their defenses against this interpretation is probably that the Environmental Impact Agency, charged with this article's implementation, has never actually used its legal powers.⁸ It has been important in getting parties to environmental conflicts around the table and has exercised influence over local governments in this matter (Nicholson in press; Bedner 2007), but only in an informal way.⁹ As a result, the provision still stands.

In summary, decentralization has not brought the important changes in legal authority regarding environmental matters one would expect upon reading the RAA. Environmental management is still overwhelmingly in the hands of the central government, with control of EIA and industrial pollution the notable exceptions. In these areas, authority has been shifted downwards to the provinces and the districts, thereby creating a new system for industries to deal with. Hence, these areas are well-suited to explore the question whether decentralization has led to changes in environmental control.

DECENTRALIZATION'S IMPACT ON EIA

The first step in the process ultimately leading to enforcement of industrial pollution regulation is EIA, which provides the basis for monitoring and enforcement. Each EIA contains the environmental management plan, which subsequently becomes part of the business permit and is binding upon the firm carrying out the activities allowed by this permit. It thus constitutes the point of departure for supervision and enforcement, and, to a large extent, it determines what can be enforced and how enforcement will be structured.

Until 2000 the EIA system was heavily centralized. The authority to conduct EIAs on projects confined within district boundaries was attributed

to the province, while projects stretching across them fell within the purview of the central government. The system remained in place after a new government regulation on EIA was enacted in 1999 (no. 27).¹⁰ This is rather peculiar, given that this regulation was drafted parallel to the RAA. It may be attributed to the general uncertainty about the direction decentralization would take and the fact that the drafters departed from the situation as it was under the EMA. A more practical reason may have been that the drafters assumed most districts had insufficient capacity for evaluating EIAs at that time.

As stated above, this system was discontinued by the RAA's implementing regulation GR no. 25 of 2000. This at first generated a practical problem, because there were no legal rules on either EIA committees or procedures at the district level. As a solution to fill this legal and institutional vacuum,¹¹ the EIA committees at the provincial level have continued to evaluate the EIAs as they did before.¹² Although one author argues that under the New Order "the characteristics of effective EIA programs were largely absent and EIA had not been implemented particularly effectively" (Boyle 1998: 113), another points out that in Indonesia EIA had gradually improved to become a useful instrument for environmental management (Purnama 2003). Merely disposing of the provincial role in performing EIA would not necessarily mean an improvement.

An increasing number of districts have by now established their own EIA committees, however. This means that in those cases the province is no longer involved in EIA evaluation, which may potentially lead to serious disputes. That this danger is not unwarranted will be demonstrated below, in a discussion of the North Jakarta Coast Reclamation Project.

Decentralization has also caused one other fundamental change in EIA procedures: following the implementation of the RAA in 2000, some districts adjusted the rules for the size and scope of projects in need of an EIA. As a result, fewer projects than before have to submit to the procedure. As a manager of a developing firm active in Bogor district told me,

We applied for an EIA for a new developing project, but we were told by the district government that we no longer needed to do so, as Bogor had changed its regulations and such smaller real estate projects as this one no longer needed an EIA—at least not in Bogor district.¹³

The vice head of the EIA Department of the Environmental Impact Agency of West Java province confirmed that this was the case for several districts within his province.¹⁴ In response to this situation, the Minister of the Environment issued a new list of activities in need of an EIA in 2001. This action was not entirely successful, however, for some of the districts concerned denied that they were bound by this decree, which they considered of lower status than their own district regulations.¹⁵ In West Java, at least, the situation has therefore remained unchanged in this respect.¹⁶

Similar problems have emerged between the central and the provincial level, on account of a discrepancy between the GR no. 25 of 2000 (implementing the RAA) and GR no. 27 of 1999 (on EIA). They have come to the fore in a rather dramatic way in the widely publicized North Jakarta Coast Reclamation Project and led to a widely publicized conflict between Governor Sutiyoso of Jakarta Province and State Minister of the Environment Nabeli Makarim.

The conflict concerned the EIA for a huge project to expand Jakarta's north coast across fifteen miles, adding 2,700 hectares of new land to the city.¹⁷ The project initially came to a halt during the economic crisis but was given new life by Jakarta's Governor Sutiyoso, who claimed that the city needed the reclamation to accommodate its increasing population. Environmental groups have vehemently opposed the plan, as they think it will negatively impact the marine environment, cause severe flooding during the rainy season in what is now North Jakarta, and be detrimental to the livelihood of thousands of fishermen. In February 2003, the controversy grew into a real conflict, after State Minister of the Environment Nabeli Makarim rejected the project's EIA in his capacity as head of the national EIA committee. At the basis of this committee's jurisdiction is the fact that the reclamation stretches beyond Jakarta province into the provinces of Banten and West Java. Sutiyoso, who already held an approved EIA from Jakarta province,¹⁸—one he had approved himself, that is—retorted that he did not care what the state minister thought about the EIA, as these were the days of regional autonomy. When shortly thereafter he backed down, apparently deciding that he should avoid a head-on confrontation, it seemed that the matter had been settled in favor of the central EIA committee.

This turned out to be incorrect, however. At Sutiyoso's initiative, the six firms involved in the project took the state minister to the administrative court, which then passed a legally incomprehensible judgment. In the first place, the judges assumed jurisdiction over an administrative decision that is neither general nor final, two demands set by the Administrative Court Act (no. 5 of 1986, Art. 47).¹⁹ Secondly, the decision by the committee was annulled because the project found its legal basis in a presidential decree, and the Minister of Environment would not be allowed to go against the wishes of the president.²⁰ The consequence of this line of thinking would be that presidential projects supersede acts of parliament, as the EIA finds its basis in the EMA of 1997. Fortunately, the administrative high court overturned this decision and the case has been submitted to the Supreme Court for review (Wulandari 2008).

It seems that apart from these jurisdictional problems, the practice of EIA has not changed much. In a recent study the World Bank (2005) noted that due to the variation in capacity between provinces and districts the implementation of EIA "is likely to remain patchy for the foreseeable future" (ibid.: 9). The same report notes that one of the key challenges is "to reform

the existing mechanisms for public involvement in order to encourage greater public engagement” (ibid.: 10).

To this end, the Bank supports a program called Revitalizing EIA, which builds on the experience that the South Sulawesi Environmental Impact Agency could exploit the fear for public unrest to make sure that public consultation occurred during the EIA procedure for a new power plant in Bangkala (World Bank 2005). Meetings were widely announced and information was spread among the potentially affected communities in advance. A project that paid similar attention to this issue concerned a chemical plant in Jakarta. A striking remark by the report related to this project is the observation that the Jakarta Environmental Impact Agency attached particular value to the public consultation because it recognized its own lack of capacity to carry out adequate monitoring, a remark that underlined the particular importance of the link between public involvement and enforcement.

A few other findings fall into the same category. The first is that while the majority of districts have adopted the national guidelines on EIA procedures some have adjusted them procedurally to the district or provincial regulations already in place. This was in fact already possible under the former, centralized regime, but it is likely that the increase in regional autonomy has supported this development. The report also cites Jakarta and Surabaya as examples of regions where due to water management problems certain projects that normally would have been exempted from this procedure now require an EIA (ibid).

The second finding concerns the Jakartan innovation to impose a duty to self-monitor in the environmental plan. This reduces the monitoring burden of the Jakarta Environmental Impact Agency, which can now limit itself to checking whether the self-reporting has been adequate. Such a measure would have had little effect in the previous situation, as a provincial government such as Jakarta’s would have lacked the authority to integrate this device with the monitoring practice of the Department of Industries. Given the capacity problems mentioned before this seems helpful indeed (ibid.). A similar policy is now followed in Yogyakarta province (ibid.).²¹ However, whereas the Jakarta Environmental Impact Agency tends to take a more “conciliatory” approach, its Yogyakarta counterpart relies more on administrative sanctions. To what extent this leads to different outcomes is as yet unclear.

In summary, we may conclude that so far the decentralization process has not led to clearly identifiable changes in the implementation of the EIA regime. The North Jakarta Coast Reclamation Project case, however, points to a potential danger in the new EIA regime: if a project is located within a single district and that district has its own EIA committee, this body may be confronted with serious political pressure to lower its standards in deciding on certain projects. Collusion and corruption are also more likely to take place if the EIA committee finds itself at this level. This depends, of course,

on the political situation within a district, but studies of the effects of decentralization in Indonesia are unanimous in their finding that in most districts regional autonomy has led to an increase in corruption at the district level. Likewise, clear cases of “capture” of the district government by local business elites have been recorded. The chances for public involvement and pressure to offset this, as suggested by the World Bank, seem slim at best. Combined with the expanding list of district EIA committees on the website of the Ministry of the Environment,²² the situation may therefore be changing for the worse. Indeed, in 2006 the Department of the Environment carried out a study into the practices of district EIA committees, finding that three quarters of the approximately sixty functioning district EIA committees were issuing documents of “poor” or “extremely poor” quality. The Minister of the Environment said that “the authority to assess EIAs is [. . .] considered a chance to earn extra income.”²³

Another reason why it might have been wise to leave the responsibility for EIA at the provincial level rather than give it to the districts is that they lack sufficient capacity. Up until the present, however, there are no indications that this has had serious consequences, as in several reported cases districts have invoked provincial expertise in EIA procedures (*ibid.*). This argument is therefore less compelling.

DECENTRALIZATION'S IMPACT ON WATER POLLUTION CONTROL²⁴

The fact that under the predecentralization regime the central government's Department of Industries carried the primary responsibility for enforcing pollution control on the basis of the business permit does not mean that provincial and district agencies were not involved. From the mid-1980s onwards, several actors at these levels used the limited authority they had to try to enforce water pollution regulations in order to respond to social outcry. In this era, regular monitoring and enforcement by the Department of Industries functioned so poorly that factories often ignored or were not even aware of environmental regulation (Afsah, Laplante, and Makarim 1996; Braadbaart 1995).²⁵

Among the first provincial and district responses to the growing problems of pollution were antipollution teams. West Java established such a team in 1980 after angry peasants burned down a factory after it had spilled caustic soda (Braadbaart 1995). This Regional Coordination Team for Anti Pollution Action (TKP2D) operated under the deconcentrated branch office of the National Investment Planning Board but could act quite independently. Initially, it only took action after complaints had been made or after a pollution incident, but after 1989 it started a regular monitoring program. After having been quite successful for some years (*ibid.*), the antipollution team's budget was shifted to the Clean River Program team, which became increasingly prominent as part of a national policy (see below). Another

reason for disbanding the antipollution team was that the police and the public prosecutor's office—which were also involved in them—withdrew their support.²⁶

More successful in the longer run has been the already-mentioned Clean River Program. The idea for the Clean River Program was first developed by the provincial government in East Java before it was adopted by the central government. With strong support from the East Java vice governor, the program led to a significant reduction in wastewater discharges by factories (Lucas and Djati 2000). Key to the implementation of the program was the governor's authority to monitor the wastewater license. At first, inclusion in the Clean River Program was voluntary, and this ensured the cooperation of the firms involved with regard to monitoring. However, gradually the program has changed to a more mandatory format and provided the provinces an increasingly serious role in monitoring and enforcement. It should be noted, though, that monitoring of effluent was much more difficult for the provincial authorities than for the Department of Industries, as the latter did have access to the factories, whereas the former could only monitor their performance by taking samples of river water (Rock and Aden 1999).

The Clean River Program seems to have had a significant impact on the reduction of water pollution, even if we take into account that the program has allegedly suffered from underreporting by participating industries and that some observers have raised doubts about the reliability of the data reported (Bräuer 2003; Afsah, Laplante, and Makarim 1996). Since 1989, provinces have produced reports on the Clean River Program, reports that contain a wealth of information on pollution of waterways.²⁷ The main conclusions that can be drawn from them are the following.

First, if we look at the outcomes of the Clean River Program from 1989 through 1997, the number of industries that invested in pollution abatement equipment consistently increased. That many of them also used this equipment²⁸ is witnessed by the increasing number of industries in compliance with official effluent standards. A good indication is offered by the data of the company's Performance Ranking Evaluation Program (PROPER), a public disclosure system of environmental data from the Clean River Program, which started to run in 1995. The evaluation program's data show that the number of firms included in the Clean River Program whose discharges were in compliance with environmental standards increased from 36 percent in 1995 to 55 percent in 1997 (Makarim 2006). The only in-depth study of the Clean River Program by Lucas and Djati (2000), in the province of East Java, confirms this outcome. The reports make clear that this was not due to a lowering of standards, and there are no indications that other factors have caused this change.

Second, and important in the context of decentralization, there was a serious disparity in results between provinces. While in some provinces the Clean River Program managed to reduce pollution substantially, notably in

East and Central Java, in others, such as West Java, the Clean River Program was far less successful in the long run.²⁹ The reports give no explanation regarding the reasons for success, but a closer analysis indicates that the intensity of monitoring river quality by the government in combination with the willingness of the provincial government to impose sanctions corresponds to success or failure.³⁰

During this period, Java as a whole did better than Sumatra and the other outer regions. According to Afsah, Garcia, and Sterner (2004), the reasons are likely to be more community presence and more government involvement. This already foreshadows one of the obvious consequences of decentralization, which has been an increasing diversity in environmental performance from one province or district to the other.

An important point to acknowledge is that a substantial number of firms discharging wastewater into rivers do not participate in the Clean River Program. This applies in the first place to the large number of small firms and “home industries,” which are generally excluded altogether from environmental monitoring (Braadbaart 1995: 441). Although they need to dispose of a wastewater license, little effort has been made to achieve any monitoring over such industries, which are basically considered “too small fish” to bother, or too difficult to address.³¹ No matter how small, they do account for a substantial amount of all pollution in industrialized parts of Indonesia, so an investment in bringing these home industries in line would be most fruitful from an environmental perspective.

To what extent, now, has decentralization changed the practice of water pollution enforcement? At first glance the answer seems to be not much. As my respondents at the central, provincial, and district levels emphasized, the Clean River Program and its evaluation program have continued to be the spearheads of pollution control efforts.³² The continuing importance of these programs shows that regular enforcement of water pollution regulation on the basis of business permits has not yet gotten off the ground.

In terms of administrative organization, however, the implementation of the Clean River Program has been reinforced by decentralization. Since the districts have acquired the monitoring powers of the Department of Industries, their enforcement agents now have access to factories, rendering their tasks much easier than under the old regime. Moreover, environmental plant monitoring is performed or led by the district environmental impact agencies, instead of by the branch offices from the Industries Department.³³ The district agencies bring in environmental knowledge and focus that were lacking when the latter was still in charge.³⁴

Why this shift occurred is not quite clear. According to an official from the West Java Environmental Impact Agency, the reason was that districts received more funding from the central government if they had more departments. An environmental impact agency would therefore bring in money, and if you have one, why not let it do something?³⁵ If this is true, it is certain that there was no environmental incentive behind this development.

That monitoring and enforcement are important for the success of the Clean River Program not only follows from the record of West Java in this respect, as mentioned above, but was also emphasized by a study by Rock and Aden (1999) on the performance and outcomes of this program in Semarang. These authors noted a strong correlation between enforcement actions and investment in pollution abatement equipment. The heads of the environmental impact agencies in Bandung municipality and Bandung district confirmed that monitoring and enforcement in the framework of the Clean River Program had become easier after the changes brought by decentralization.³⁶ That this organizational improvement has significantly paid off in practice is not clear, however. Data from the evaluation program indicate that after very bad compliance rates following the economic crisis of 1997–98, when the number of firms in compliance dropped from 55 percent to 35 percent, there has been significant improvement again. The latest figure available is from 2005, which shows that with 52.5 percent of firms in compliance, the rate has almost risen to the precrisis figure (Makarim 2006) but still has not matched it.

Another issue is that within a single province, the Clean River Program runs better in some districts than in others, because not all of them are equally prepared to cooperate. A case in point in West Java is that of Rancaekek. This area lies on the border between the districts of Sumedang and Bandung, with the main textile factories (*PT Kahateks* and *PT Sandang Internusa*) located in Sumedang. These discharge their wastewater into the Citarum River, which flows from Sumedang to Bandung, causing loss of harvest to the farmers in the latter district. After protests of farmers to the subdistrict and district government of Bandung, the latter requested assistance from the Sumedang district government in monitoring these firms. Although all of the factories involved were included in the Clean River Program, the Sumedang district government refused. It required the good offices of the West Java Environmental Impact Agency to convince Sumedang to allow Bandung inspectors to visit the factories concerned, but the reluctance of Sumedang to cooperate in this matter has remained.³⁷ This is not surprising, as for Sumedang it would mean serious loss of income if these firms were to move their premises elsewhere. This indicates that decentralization indeed increases the danger of “capture,” as already indicated in the section about EIA or the difficulty in dealing with pollution created in one district but causing effects in the other—two theses set out earlier.

Another issue one might be inclined to link to decentralization is that recent figures (2004–2005) indicate Java has started to lag behind Sumatra and the outer provinces in the Clean River Program as regards compliance rates.³⁸ This cannot be reduced to a better coverage of Java by the program, with higher relative numbers also potentially including more environmental laggards, because Sumatra is almost as well represented as Java with 28 percent of the total number of factories included in the program (Makarim 2006). An explanation more likely than decentralization, however, is the

nature of the factories on Java. With a relatively high number of textile firms and other manufacturing industries, Java has suffered more from the economic crisis and increased competition than Sumatra and outer island provinces, whose industry is oriented towards less value-added products such as pulp and plywood (UNIDO 2001). This is an issue that needs further investigation, however.

In summary, it seems that although decentralization has boosted the powers of the district for environmental control, these powers are underused. When asked about this issue, interviewees at the national, district, and provincial environmental impact agencies confirmed this impression.³⁹ Compliance figures of the program have not changed significantly, and various cases indicate that the potentially negative consequences of decentralization in this realm—capture and problems with “transboundary” pollution—have indeed materialized. However, just as in the case of EIA, some changes that are now just visible are likely to become more pronounced in the longer term, but in this case not all of them are negative.

The case of Rancaekek has already indicated that what may actually lead the district or provincial government to action is public pressure. While studies conducted in western settings indicate that such pressure may be an independent force affecting environmental performance by polluting plants (Kagan, Gunningham, and Thornton 2003), Nicholson (in press) has shown how in Indonesia such pressure only seems to work if protesters succeed in getting the government involved somehow.⁴⁰ It seems that there are two sides to this issue. First, firms may be either arrogant or convinced of their capacity to keep protesters at bay, but they are more concerned about their relations with the government. The other is that in the Indonesian legal system circumstantial evidence of pollution is not much valued, and the only way for protesters to mount material against the firm accused of polluting is to get such data from the government (Bedner 2007).

Despite the fact that decentralization is supposed to make it easier and more effective for citizens to complain to the district government, the central government has also continued to play a role in citizens' actions against pollution. The national Environmental Impact Agency has continued to receive reports of environmental offenses, and its staff also actively compiles files on certain cases.⁴¹ Such reports may come from all kinds of sources: direct complaints from people afflicted by environmental pollution or damage, information from newspapers, and cases brought to its attention by NGOs, among others. If deemed necessary, cases are further investigated, usually together with the provincial or district environmental impact agencies.⁴² This role should not be underestimated, as the national Environmental Impact Agency examines hundreds of cases every year. However, for imposing administrative sanctions, this agency is completely dependent on the provincial governor or the district head.

For that matter, public appeals to the district government were also made under the centralized scheme of the New Order. However, district govern-

ments sometimes invoked their lack of powers in monitoring and enforcement to justify their nonintervention. A positive effect of decentralization is that this route of escape has been cut off. An example is a case in Bekasi, where after prolonged protests from local communities the district government asked the Minister of the Environment to take action against two firms causing pollution because, due to limited storage capacity, their wastewater overflowed the neighborhood. While the state minister did warn the firms concerned, he returned the case to the Bekasi district government as it was beyond his power to impose any sanctions. Only then did the Bekasi government issue a prohibition for the firms concerned to operate as long as they did not improve their performance.⁴³ This interplay between various levels of government seems also an important issue to further explore.

While observers of Indonesian local politics are wary about the actual functioning of democracy at the local level (e.g., Schulte Nordholt and Van Klinken 2007), there is some support for the thesis that district governments have to take local protests more seriously than they did under the New Order (Reerink forthcoming).⁴⁴ As Nicholson has indicated, this has had positive effects on environmental dispute resolution from an environmental perspective (Nicholson in press). Again, it shows decentralization's tendency to promote diversity among districts (The Asia Foundation 2003).

This overview indicates that so far decentralization has only caused some potentially significant changes regarding the practice of water pollution control but not an overhaul. The practices existing before the implementation of the RAA have continued, with the provinces still in the driver's seat as the center of the Clean River Program efforts and with the provincial governor as the provider of the wastewater license. The major shifts recorded in performance seem to bear little relation to decentralization.

CONCLUSION

The effects of decentralization on the legislation and institutional framework concerning EIA and water pollution have been significant. Nonetheless, the EMA has turned out to be quite compatible with the RAA, in spite of its having been drafted for a centralized system of environmental management. A new EMA is currently being drafted and will be better adjusted to the new system,⁴⁵ but this is not to repair any major flaws resulting from the mismatches between the current EMA and the RAA. That authority in EIA has been devolved from the provincial to the district level has not created legal problems and neither has the transfer of water pollution enforcement authority from the central to the district government. Indeed, some of the EMA's problems in divisions of authority have even been solved inadvertently by the RAA and will hopefully be preserved under the new law.

The effects of these changes on practice, however, are not as clear as one might expect. In both cases, there are indications that EIA and water

pollution enforcement processes and their outcomes have become more diverse between provinces and districts. This was to be expected, of course, but the process of differentiation has not evolved equally as quickly, and in both cases it has been the role of the province that has been central in maintaining this balance.

As regards EIA, the reason seems to be mainly that district governments have appeared not very eager to take away EIA from the provinces and have continued to rely upon provincial expertise in this matter. This is somewhat surprising, as EIA procedures are both a potential cash cow and a lynchpin in attracting investment, and therefore an attractive target for a takeover. However, districts have been slowly but steadily setting up their own EIA committees, which may well lead to more jurisdictional disputes between provinces and districts regarding EIA, similar to those that have already occurred between the central government and the provinces. In addition, the district EIA committees seem more prone to capture by local business elites.

The lack of change in water pollution enforcement also follows from the role played by the provinces. First, these have continued to be the primary actor in the Clean River Program, which to this day is still by far the most important vehicle for water pollution control. District governments have acquired new powers of monitoring and sanctioning, which formerly belonged to the central government, and most of them now dispose of environmental impact agencies—special environmental agencies—to implement these powers. However, they have not been very eager to use them for environmental purposes. Again, monetary reasons may explain this, as these powers are not the ones that bring in the goose that lays the golden eggs.

Second, the provinces have continued to administer and enforce the wastewater license and can therefore act independently from the district government. Given their position in administering disputes between districts, it is quite important that they have kept this power.

What seems to have changed is that district and provincial governments have become somewhat more responsive to complaints about water pollution, a tendency recorded for other issues as well. In this context, special reference ought to be made to the opportunities for civil action in the courts. Some of the 1997 EMA's most radical changes were in opening up new legal avenues for citizens suffering from environmental pollution or damage, including a class action and mechanism for environmental mediation (Nicholson 2003). In practice, these have only started to blossom after the decentralization process got underway (Nicholson in press; Bedner 2007).

The decentralization dynamics have also provided a new impetus to environmental law development, such as the suggestion of the Provincial Parliament of North Sumatra to make the provincial Environmental Impact Agency an independent body with the power to take polluters to court without involving the police or the public prosecutor,⁴⁶ the emergence of public-private monitoring of potentially polluting firms,⁴⁷ and the establishment of intergovernment—civil society forums, for instance—for integrated

river basin management (Asia Foundation 2003). So far, such issues seem to have been of a rather incidental nature only. The Clean River Program also started as such an incident, however, which gives some hope for the future.

Reconsidering the theses from the decentralization literature set out at the start of this article, we must conclude that some of them have indeed materialized. On the positive side, the district and provincial government have become more responsive in some cases, but through direct citizens' action or legal action rather than through parliamentary accountability. The thesis about "tailor-made" solutions cannot be checked by absence of relevant data, so that remains a point for new research.

As regards the "negative" theses, four of them—unaccountability and/or capture, problems of transboundary pollution, not making the environment a priority, or not having the capacity to effectively carry out environmental tasks—have indeed materialized to a variable degree. A race to the bottom could not, however, be noted.

Generally speaking, there are serious environmental problems in the current situation, which may perhaps not be caused by but certainly are linked to decentralization. Water pollution levels continue to be high and few EIAs are up to the standard. More in-depth studies of environmental law practices at the district level are badly needed, in particular to evaluate what will happen in the long run. As noted above, economic concerns seem to be tilted clearly against the chances for effective water pollution control, and this may be reinforced by regional autonomy. Likewise, the shift in EIA authority for many projects from the provincial to the district level carries serious dangers. It is important to evaluate the results of decentralization in the long run in order to define adequate responses.

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NOTES

1. Breton et al. (2007) also contains a few chapters on developing countries.
2. For an overview, see Bardhan (2002).
3. The degree of fiscal autonomy is limited, however, as most funds are still administered by the central government. Still, districts have tried hard to raise their income on the basis of the limited fiscal autonomy they do have (e.g., Schulte Nordholt and Van Klinken 2007).
4. Enforcement in this article refers to both monitoring and imposing sanctions.
5. For a general description of the *Prokasih* program, see Afsah, Laplante and Makarim (1996). A more comprehensive account can be found in Lucas and Djati (2000). Initially, *Prokasih* mainly concerned a transfer of funds from the center to the provinces in order to stimulate the provincial government to manage and supervise its wastewater licenses in a proper manner. Subsequently, the provinces have had to perform these activities from their own budgets.

6. *Bapedalda* stands for *Badan Pengendalian Dampak Lingkungan Daerah* (Regional Agency for Environmental Control). The name is used for both provincial and district environmental agencies. In some districts and provinces it is called *BPLHD* (*Badan Pengelolaan Lingkungan Hidup Daerah* or Regional Environmental Management Agency). For reasons of convenience I will further refer to Provincial or District Environmental Impact Agency.
7. Interview (May 2000).
8. The Environmental Impact Agency has a special Compliance and Enforcement Unit for this task.
9. Many had in fact expected that Article 22(1) of the EMA would render *Bapedal* truly operational by allowing the State Minister of the Environment to send his own special investigators around in U.S. Environmental Protection Agency (EPA)-style. This has not happened, however (Bedner 2003a).
10. The details on the EIA committees at the central and the provincial level are provided by GR no. 27 of 1999. A major change is that the EIA committees are no longer headed by an official from the sectoral department concerned, but rather by an official of the environmental agency (see also Bedner 2008).
11. As acknowledged by the State Ministry, which has listed GR no. 27 of 1999 as one of the regulations that needs to be adjusted to the RAA (Rapat Kerja Prokashih, November 2000. Available at http://www.menlh.go.id/airnet/ProsedNov2000_02A.htm (accessed 15 August 2003)).
12. On the basis of transitional Article 9 of GR no. 25 of 2000. Interview with the Vice Head of the EIA-department of the *BPLHD* West Java, Mr. Wisandana (July 2001).
13. Interview with Mr. Martin (July 2001).
14. Interview (July 2001).
15. *Ibid.* The issue of legal hierarchy has always given problems in Indonesia (Damian and Hornick), but they have been exacerbated by the decentralization efforts. In 2004, the new Act on Lawmaking once again defined legal hierarchy (Art. 7 of Law no. 10 of 2004), but it has failed to clarify the relation between regional regulations and national regulations below the level of government regulation.
16. I have no exact data on this topic.
17. Its basis was Presidential Decree no. 52 of 1995.
18. Hantoro and Dewanto (2004).
19. See, e.g., Wijoyo 2004.
20. *Suara Pembaruan* (2003).
21. We should take into account, however, that Jakarta and Yogyakarta are special cases, since here the province is the size of a district. Normally, the province has little control over the districts' monitoring functions, which means that districts can simply disregard the wishes of the province (although the RAA no. 32 of 2004 has redressed this situation to some extent).
22. <http://www.menlh.go.id/archive.php?action=infoandid=39andidx=amdalnet>. On 23 December 2008, there were altogether eighty-seven listed.
23. Rukmantara (2006).
24. Although Indonesia does have air pollution standards, for both stationary and moving sources, these are hardly monitored. This is not surprising given the fact that most air pollution is probably not of an industrial origin but from traffic and forest fires (little is known about the contribution of industries to air pollution (World Bank 2003)), while monitoring air pollution is renowned for being difficult and expensive.
25. Figures on actual monitoring and imposing sanctions are not available.
26. Interview with senior *BPLHD* West Java official Mr. Wisandana (July 1999).

27. Unfortunately, they are not easy to access. After *Bapedal* reduced its involvement in *Prokasih* in the early 2000s, there was no longer a clear obligation for the provinces to send in their reports. Internal reorganizations have produced further constraints. When I visited *Bapedal* (at that time already integrated into the Department of the Environment) in 2003, it turned out rather difficult to acquire an overview.
28. That industries fail to do this has been a regular complaint of environmental officials and NGOs. For instance, the *Jakarta Post* of 23 April 2002 reports that only 60 percent of the industries in Jakarta actually operate their water treatment installations.
29. *Prokasih* reports of 1995 of these provinces (on file with author).
30. This is most clearly visible in the 1995 report (*Prokasih* Jawa Barat) on West Java (on file with author). Until 1995 the results of this province had been quite impressive, but with sharply dropping monitoring and sanctioning rates biological oxygen demand levels in West Java rivers soared.
31. Interviews with West Java *BPLHD* staff Mr. Wisandana (May 2000), and Mr. Wangsaatmadja (July 2001), Mr. Rudy (July 2001), and expert adviser to the *BPLHD* West Java Ms. Gonnje Verbruggen (September 2008).
32. Interviews with staff of the Compliance and Enforcement Unit of *Bapedal*, notably Mrs. Vivien (July 2003); interviews with staff of *Bapedalda* of Bandung city, Mr. Nuriati and Mr. Supriatna (July 2001), and Bandung district, Mrs. Ita (August 2001); and interviews with staff of the *Indonesian Center of Environmental Law*, Mrs. Awiati (July 2001), and Mr. Sugianto (July 2003). To become more solid, this conclusion needs to be verified in other provinces and districts.
33. They may carry other names as well.
34. It is not that the Department of Industries did not perform its monitoring functions, but, not the its focus was health and safety regulations, not the environment (Kemp 2001). See also Braadbaart 1995.
35. Interview with West Java *BPLHD* official Mr. Wisandana (July 2001).
36. Interview with the heads of the *Bapedalda* of Bandung city and Bandung district (July 1999 and July 2001).
37. Interview with West Java *BPLHD* official Mr. Wisandana (July 2001).
38. The phrase “compliance rates” refers to the numbers of firms whose effluent outputs conform to the official standards, as recorded by these firms themselves and controlled by the environmental authorities. It concerns 271 firms on Java, 129 on Sumatra, and 66 on other islands.
39. Interviews with *Bapedalda* staff of Bandung municipality and Bandung district (August 2001) and interview with staff of the Compliance and Enforcement Unit of *Bapedal* (July 2003).
40. On the other hand, the threat of potential enforcement actions seems to always play a role in the behavior of plants confronted with complaints. Cf. Aalders (2003), who explores this issue for success or failure of mediation.
41. Observed during several visits to the section, July 1999 and June 2000.
42. Still, the agency (which has been integrated now with the State Ministry of the Environment) has continued to have its own special investigators. According to State Minister of the Environment Rachmat Witoelar, in 2005 there were altogether 180 special investigators in Indonesia (*Kompas*, 29 November 2005).
43. Rulianto, Hidayat, and Riza (2002).
44. Of course, this differs strongly from one district to the other. For instance, in a recent report by Human Rights Watch (2006) the major conclusion was that forced evictions in Jakarta had become both more frequent and more brutal after 1998. Still, there is lots of evidence showing that district governments simply need

- to be more responsive to their constituencies, even if it is only because government power is not taken for granted as before.
45. Interview with the Director of Legislation of the State Ministry of the Environment (December 2008).
 46. *Jakarta Post*, 5 September 2003.
 47. For instance in Cirebon, by a coalition of the YBHL (Legal Aid Foundation) Cirebon, *Bapedalda*, and a branch from the social security agency *PT Jamsostek* (*Jakarta Post*, 15 July 2003).

REFERENCES

- Aalders, Marius (2003) "Self-regulation and Compliance with Environmental Law from a Global Perspective." In *Towards Integrated Environmental Law in Indonesia?* edited by A. W. Bedner and N. J. A. P. B. Niessen. Leiden: CNWS Publishers.
- Afsah, Shakeb, Benoît Laplante, and Nabel Makarim (1996) "Program-Based Pollution Control Management: The Indonesian PROKASIH Program." *Policy Research Working Series*, no. 1602. Washington, DC: World Bank.
- Afsah, Shakeb, Jorge Garcia López, and Thomas Sterner (2004) "What Kinds of Firms Are More Sensitive to Public Disclosure Schemes for Pollution Control? The Case of the PROPER Program in Indonesia." Work in Progress Report. Washington, DC: World Bank.
- Asia Foundation (2003) "Final Synopsis Report of the 3rd 'Indonesia Rapid Decentralization Appraisal.'" Jakarta, Indonesia: Asia Foundation.
- Bardhan, P. (2002) "Decentralization of Governance and Development," *Journal of Economic Perspectives* 18: 185–206.
- Bedner, Adriaan W. (2000) "Decentralization and Enforcement of Environmental Law." Paper presented at the INSELA conference on Decentralization and Environmental Law, 2 June, Sukabumi, Indonesia.
- Bedner, Adriaan W. (2003a) "Introduction: Environment and Law in Indonesia." In *Towards Integrated Environmental Law in Indonesia?* edited by A. W. Bedner and N. J. A. P. B. Niessen. Leiden: CNWS Publishers.
- Bedner, Adriaan W. (2003b) "From the Old to the New EMA: Integration or Disintegration of the Potential for Enforcement?" In *Towards Integrated Environmental Law in Indonesia?* edited by A. W. Bedner and N. J. A. P. B. Niessen. Leiden: CNWS Publishers.
- Bedner, Adriaan W. (2007) "Access to Environmental Justice in Indonesia." In *Access to Environmental Justice: A Comparative Study*, edited by A. Harding. London: Kluwer Law International.
- Bedner, Adriaan W. (2008) "Amalgamating Environmental Law in Indonesia." In *Lawmaking in Developing Countries*, edited by J. Arnscheidt, B. van Rooij, and J. M. Otto. Amsterdam: Amsterdam Univ. Press.
- Boyle, John (1998) "Cultural Influences on Implementing Environmental Impact Assessment: Insights for Thailand, Indonesia and Malaysia," *Environmental Impact Assessment Review* 18: 95–116.
- Braadbaart, Okke (1995) "Regulatory Strategies and Rational Polluters: Industrial Waste-water Control in Indonesia, 1982–1992," *Third World Planning Review* 17: 439–58.
- Bräuer, N. (2003) "Umweltpolitik und die Besondere Rolle von NROs in der Umweltbildung in Indonesien." Berlin: Humboldt-Universität, Institut für Asien- und Afrikawissenschaften, Seminar für Südostasienwissenschaften.
- Breton, Albert, Giorgio Brosio, Silvana Dalmazzone, and Giovanna Garrone (eds.) (2007) *Environmental Governance and Decentralization*. Cheltenham, UK: Edward Elgar Publishing.

- Doern, G. Bruce (1993) "From Sectoral to Macro Green Governance: The Canadian Department of the Environment as an Aspiring Central Agency," *Governance: An International Journal of Policy and Administration* 6: 172–93.
- Dupar, Mairi, and Nathan Badenoch (2002) *Environment, Livelihoods and Local Institutions: Decentralization in Mainland Southeast Asia*. Washington, DC: World Resources Institute.
- Hantoro, Juli, and Andi Dewanto (2004) "Menguji Wewenang Menteri" [Testing the Authority of the Minister], *Tempo* 22 February.
- Hofman, Bert, and Kai Kaiser (2002) "The Making of the Big Bang and Its Aftermath: A Political Economy Perspective." Paper presented at the conference on "Can Decentralization Help Rebuild Indonesia?" 1–3 May, Atlanta, GA. Available at <http://www1.worldbank.org/publicsector/LearningProgram/Decentralization/Hofman2.pdf> (accessed 4 September 2009).
- Human Rights Watch (2006) "Condemned Communities: Forced Evictions in Jakarta." Research Report. Washington, DC: Human Rights Watch.
- Kagan, Robert A., Neil Gunningham, and Dorothy Thornton (2003) "Explaining Corporate Environmental Performance: How Does Regulation Matter?" *Law & Society Review* 37: 51–90.
- Kemp, Melody (2001) "Corporate Social Responsibility in Indonesia: Quixotic Dream or Confident Expectation?" *Technology, Business and Society Program Paper*, no. 6. New York: United Nations Research Institute for Social Development.
- Lucas, Anton, and Arief Djati (2000) *The Dog Is Dead So Throw It in the River: Environmental Politics and Water Pollution in Indonesia*. Clayton, Victoria, Australia: Monash Asia Institute.
- Makarim, Nabel (2006) "Implementing Effective Public Disclosure Programs for Environmental Management." Paper presented at the Good Governance Institute, 22 May.
- Manor, James (1999) *The Political Economy of Democratic Decentralization*. Washington, DC: World Bank.
- Nicholson, David F. (2003) "The Legal Framework for Environmental Public Interest Litigation in Indonesia." In *Towards Integrated Environmental Law in Indonesia?* edited by A. W. Bedner and N. J. A. P. B. Niessen. Leiden: CNWS Publishers.
- Nicholson, David F. (in press) *Environmental Dispute Resolution in Indonesia*. Leiden: KITLV Press.
- Niessen, Nicole J. A. P. B., and Karin van Lotringen (2000) "The Compatibility of the Legal Framework for Decentralization and the General Environmental Laws." Paper presented at the INSELA conference on "Decentralization and Environmental Law in Indonesia," 1 June, Sukabumi, Indonesia.
- Otto, Jan Michiel (2003) "Incoherence in Environmental Law and the Solutions of Co-ordination, Harmonisation and Integration." In *Towards Integrated Environmental Law in Indonesia?* edited by A. W. Bedner and N. J. A. P. B. Niessen. Leiden: CNWS Publishers.
- Purnama, D. (2003) "Reform of the EIA Process in Indonesia: Improving the Role of Public Involvement," *Environmental Impact Assessment Review* 23: 415–39.
- Rechtschaffen, Clifford L., and David L. Markell (2003) "Improving State Environmental Enforcement Performance Through Enhanced Government Accountability and Other Strategies," *ELR News and Analysis* (August). Available at <http://ssrn.com/abstract=412341> (accessed 4 September 2009).
- Reerink, Gustaaf R. (forthcoming Ph.D. diss.) *Tenure Security for the Urban Poor in Post-New Order Indonesia: A Socio-Legal Study of Kampongs in Bandung*. Leiden: Leiden Univ. Press.
- Revesz, Richard L., and Robert N. Stavins (2004) "Environmental Law and Policy." In *Handbook of Law and Economics*, edited by A. M. Polinsky and S. Shavell.

- Amsterdam: Elsevier. Available at <http://ssrn.com/abstract=552043> (accessed 4 September 2009).
- Rock, Michael, and Jean Aden (1999) "Initiating Environmental Behavior in Manufacturing Plants in Indonesia," *Journal of Environment and Development* 8: 357–75.
- Rukmantara, Arie (2006), "Amdal System Creates Graft: Minister," *Jakarta Post* 12 May. Available at <http://www.thejakartapost.com/news/2006/05/12/amdal-system-creates-graft-minister.html> (accessed 2 October 2009).
- Rulianto, Agung, Agus Hidayat, and Budi Riza, (2002) "Kubangan Racun Di Sungai Bekasi" [A Pool of Poison in the Bekasi Rivers], *Tempo* 29 April. Available at <http://majalah.tempointeraktif.com/id/email/2002/04/29/LIN/mbm.20020429.LIN118846.id.html> (accessed 2 October 2009).
- Schulte Nordholt, Henk, and Gerry Van Klinken (eds.) (2007) *Renegotiating Boundaries: Politics in Post-Soeharto Indonesia*. Leiden: KITLV Press.
- Suara Pembaruan (2003) "Gugatan Pengusaha Terhadap MenLH Soal Reklamasi Tidak Berdasar" [Claim of Firms Against the Minister of the Environment Because of Reclamation Has No Basis], 1 July.
- UNIDO [United Nations Industrial Development Organization] (2001) "Study on Indonesia Industrial Sectors Contribution to Sustainable Development." Draft Final Report. Available at <http://www.unido.org/fileadmin/import/userfiles/timminsk/rio10-ind-indonesia-eng.pdf> (accessed 5 August 2009).
- Warlan Yusuf, Asep (2003) "Spatial Planning and Environmental Management." In *Towards Integrated Environmental Law in Indonesia?* edited by A. W. Bedner and N. J. A. P. B. Niessen. Leiden: CNWS Publishers.
- Wijoyo, Suparto (2004) "AMDAL Dalam Gugatan Hukum: Studi Kasus Gugatan Terhadap AMDAL Reklamasi Pantura Jakarta." Paper presented at a seminar organized by LP3ES, 27 January 2004. Jakarta, Indonesia: LP3ES.
- World Bank (2003) *Indonesia Environment Monitor 2003*. Washington, DC: World Bank.
- World Bank (2005) *What Is Right with AMDAL: A Study on Emerging EIA Good Practice in Indonesia*. Washington, DC: World Bank.
- Wulandari, Rieska (2008) "Pesisir Jakarta Menimbun Masalah," *National Geographic Indonesia* 4 (7): 90–109.