

Chapter 10

Reformasi, Environmental Security and Development in Indonesia

Budy P. Resosudarmo

For a natural resource rich country such as Indonesia, being able to properly manage its natural resources is crucial in eradicating extreme poverty and hunger and ensuring environmental security. The fall of President Soeharto in 1998 provided the opportunity for Indonesia to rapidly move from an authoritarian society to a more democratic one (often referred to as *reformasi*), and to conduct a ‘big bang’ transformation from a highly centralized towards a much more decentralized system of government. It was suggested in the early process of these transformations that this would offer the prospect for Indonesia to better manage its natural resources, and achieve a long-term development path that embraced environmental security, equity and alleviated significant rural poverty. This chapter conducts an overview of whether these predictions have begun to materialize. The findings of this chapter suggest that these the radical changes have instead created an environment of political uncertainty, inconsistent laws and regulations, weak law enforcement, a weak governmental system and insecurity of land tenure, with the result that ‘the management of natural resources in the country may not have worsened, but neither has it improved’ (Resosudarmo 2005, 1) at least in the short and medium term.

The setting

Indonesia is the largest archipelago in the world with approximately 17,000 islands stretching along the equator for about 6,000 kilometres between the Indian and Pacific oceans, and linking the continents of Asia and Australia. The country covers approximately 7.9 million km² (including the Exclusive Economic Zone area), of which only approximately 1.9 million km² is land. The main islands are Sumatra, Kalimantan, Sulawesi, Papua, and Java. Indonesia shares the islands of Kalimantan with Malaysia, and Papua with Papua New Guinea (Resosudarmo, Subiman and Rahayu 2000).

The country is diversified, both in terms of its population and its natural resources. In 2006, the population reached approximately 240 million, consisting of around 350 ethnic groups. Most of these have their own languages and customary (*adat*) laws, regulations and norms. The two largest ethnic groups are the Javanese

(45 per cent of the population) and the Sundanese (14 per cent). The population is growing at an annual rate of about 1.5 per cent. The majority of Indonesians – 61 per cent – live in Java and Bali, which together have a land area comprising only around 7 per cent of Indonesia. Another 21 per cent live in Sumatra (27 per cent of Indonesia), while the remaining 18 per cent inhabit Sulawesi, Kalimantan, Nusa Tenggara, Maluku and Papua – comprising the greater part of Indonesia in terms of land area. The majority of the population is Muslim (88 per cent). Nevertheless, other religions and denominations are represented; Protestants comprise 5 per cent of the population, Catholics 3 per cent and Hindus 2 per cent.

Indonesia has long been considered to have abundant natural resources, such as oil, gas and minerals as well as rich and very biodiversified forest and marine resources. For example, oil and gas are found in Aceh, Riau, South Sumatra and East Kalimantan. Mineral ores such as copper and gold are abundant in Papua, coal in most of Kalimantan and West Sumatra, tin on Bangka island, and nickel in South Sulawesi and North Maluku. Indonesia's vast rainforests account for over 50 per cent of the tropical forests in the Southeast Asian region and more than 10 per cent of the world's tropical forests (Barbier 1998). In terms of area, the country's tropical forests are third only to those of Brazil and Democratic Republic of the Congo (Zaire). Extremely diverse flora and fauna with abundant nutrients and untapped medicinal potential are found within these forests. Indonesia also carries the world's largest remaining mangrove forests and has the largest area of coral reefs of any country. Indonesia's waters are among the most productive of all tropical seas. The Banda–Flores Sea lies at the heart of global marine biodiversity; nowhere else on earth is there a comparable diversity of marine resources (Dutton, Hidayat, Gunawan, Sondita, Steffen, Storey, Merrill and Sylvianita 2001; Dutton 2005).

Forest and marine resources have always been important for Indonesia. At least 20 million Indonesians depend on the forests for their livelihood (Sunderlin, Resosudarmo, Rianto and Angelsen 2000). Similarly, millions of Indonesians have been, and continue to be, dependent on marine resources. Fish stocks in Indonesian waters provide a source of income and livelihood for more than five million fishermen. Fish provides more than 60 per cent of the animal protein intake of the average Indonesian and is the only affordable source of protein for the majority of the population (Bailey 1988; Dutton 2005). Indonesian women, though mostly do not take part actively in the commercial extraction of natural resources (except fuel wood extraction), have been significantly active in the processing activities of natural resources, such as fish processing, plywood as well as pulp and paper industries.

Ironically, despite these forest and marine territories being rich in resources, most people whose livelihood primarily depends on them are among the poorest. Table 10.1 shows estimated numbers of poor people by major island groups in 2004. The majority of rural poor in Eastern Indonesia, Sulawesi and Kalimantan, as well as significant numbers of rural poor in Sumatra and Java–Bali, depend on forest, marine and mining resources for their livelihood.

Table 10.1 Estimated numbers of total and poor population by major island group in Indonesia, 2004

Island groups	Urban		Rural	
	Total	Poor	Total	Poor
Sumatra	15.7*	2.2	30	5.7
		14%		19%
Java–Bali	65.0	7.8	64.5	12.9
		12%		20%
Kalimantan	3.8	0.3	7.7	1
		8%		13%
Sulawesi	5.0	0.4	11.5	2.3
		8%		20%
Eastern Indonesia	6.7	0.8	9.4	2.9
		12%		31%
Indonesia	96.1	11.5	123.0	24.8
		12%		20%

Notes: * = Numbers shown are in millions.

In general poor people in this table are those who are living below Rp 150,000 (US\$15) per month in urban areas and below Rp 125,000 (US\$12.5) per month in rural areas. The percentage number shows the percentage of poor population from the total urban or rural population in the island group.

Source: Statistics Indonesia (2005).

Indonesia's natural resources have been exploited for many centuries, including prior to the colonial period. This exploitation intensified with colonialism, particularly in Java, but it became worse and involved the whole country after President Soeharto came to power in 1966–67. He was quick to realize the potential of the country's abundant forests, oil, gas and minerals for development. Realizing that large scale resource extraction could be performed only with the involvement of foreign investments, Soeharto enacted three important laws in the first year of his presidency. Law 1/1967 on foreign investment provided clear procedures for foreign operations in Indonesia along with generous tax concessions for foreign companies; Law 5/1967 on forestry, placed all forests under the control of the state; and Law 11/1967 on mining, inferred that all lands within the Republic of Indonesia could be used for mining. These three laws made all of the country's natural resources available for extraction by large scale operations with a foreign investment component (Resosudarmo and Kuncoro 2006; Gellert 2005).¹

1 The Basic Agrarian Law No. 5/1960 also worked toward Soeharto's interests on large-scale natural resource exploitation. This law clearly defined that in cases of

Within the first few years of Soeharto's presidency several multinational companies started natural resource extraction throughout Indonesia. Their operations were protected by Soeharto's regime, which was then virtually unchallenged politically. During the 1970s, several major foreign companies became involved in oil extraction, particularly in Aceh, Riau, South Sumatra and East Kalimantan. During this period, oil became Indonesia's main export commodity and the country's major source of government revenue. In the 1980s, the role of oil in the Indonesian economy declined, but remained important, while that of other natural resource products, such as liquefied natural gas, copper, gold and timber, increased. By the mid-1990s, Indonesia had become the world's largest exporter of liquefied natural gas (Barnes 1995) and hardwood plywood,² the second largest producer of tin (after China), the third largest exporter of thermal coal (after Australia and South Africa) and the third largest exporter of copper (after the United States and Chile).³ It also produced significant quantities of gold, nickel and other forest products.

Natural resource revenues were the main engine of economic growth in Indonesia during the 1970s, and remain of critical importance to the Indonesian economy. During the 1990s, oil and gas still contributed approximately 30 per cent of the country's total exports (Resosudarmo and Kuncoro 2006), minerals and related products 19 per cent and forest products 10 per cent (Simangunsong 2004). However, since the 1980s the non natural resource based sector, particularly the labour intensive, export oriented industry, has taken over as the main generator of economic growth. The overall performance of the Indonesian economy from the early 1970s to the mid 1990s was remarkable. The economy grew at an annual rate of about 7 per cent, while the number of people living below the poverty line declined from around 40 per cent in the early 1970s to below 15 per cent in the mid-1990s.

The massive and widespread exploitation of natural resources created problems, particularly since the granting of rights to exploit natural resources was not based on considerations of resource sustainability. Neither did it convey fair and equitable benefits to the public. Extraction rights were mainly given to individuals or companies that were close to Soeharto and played a key role in strengthening his regime (Gellert 2005; Seda 2005) and mainly had the objective to generate cash incomes for the regime as soon as possible (Resosudarmo and Kuncoro 2006; Seda 2005). The two main problems of natural resource extractions were, first, a sharp acceleration in cases of environmental degradation and, second, the skewed distribution of benefits from natural resource extractions. For example, although local resources and local land were being exploited, local communities received little or no benefit from these activities (Resosudarmo, Subiman and Rahayu 2000; Resosudarmo and Subiman 2003; Colfer and Resosudarmo 2002; Azis and Salim 2005; Dutton 2005). By the mid-1990s, the two major problems with regard to

conflicts over land use between the state and local people, priority should be given to national interests.

2 World Forest Institute available at <<http://www.worldforestry.org/wfi/trade-5.htm>>.

3 Global InfoMine available at <<http://www.infomine.com/countries/indonesia.asp>>.

natural resource extraction had reached their peak among the general public. Many stakeholders believed that as long as Soeharto remained in power and as long as Indonesia was unable to move to a more democratic society, these problems of natural resource management would persist.

The 1997 East Asian economic crisis hit Indonesia devastatingly hard, causing severe disruption to the country's economic activities, so that in 1998 the economic output had contracted by about minus 14 per cent and inflation reached approximately 57 per cent. The crisis also induced a volatile political situation, forcing Soeharto to step down from the presidency on May 1998 after 32 years in power. The fall of Soeharto provided impetus for the transformation from an authoritarian society to a more democratic one in Indonesia, and for the move from a highly centralized towards a much more decentralized system of government. These transformations were thought to offer the prospect that Indonesia would be better able to manage its natural resources, and achieve a long term development path including environmental security. Environmental security in this chapter is generally defined as a sustainable environmental condition maximizing the benefits, which are accessible, by members of the society in an equitable way (see also Agrawal and Ribot 1999; Crook and Manor 1998; Maxhood 1983; Smoke 2001; Uphoff and Erman 1974). Improvement in managing Indonesia's natural resources should alleviate poverty, since most people whose livelihood primarily depends on natural resources are among the poorest. This chapter considers whether or not such expectations have begun to materialize.

Political and economic development

During his presidency, Soeharto adopted an authoritarian rule. He did not permit any individual or organizations, including the military, to challenge this. Besides his own party, Golkar, Soeharto only allowed the existence of two other parties, the Indonesian Islamic Party and the Indonesian Nationalist Party. He intervened to a great extent in their activities, even in the choice of the parties' leadership. In the last four elections during Soeharto's era, Golkar won more than 50 per cent of the seats in parliament.⁴

In 1999, a year after Soeharto stepped down, the parliament enacted two laws related to political parties and elections. The first was Law No. 2/1999, allowing the establishment of new political parties that had clearly defined rights to compete in elections. The second law was Law No. 3/1999, paving the way for a considerably more democratic election that was held in 1999. During this election the media, with much greater freedom than in Soeharto's era, played an important role in reporting political debates. The establishment of a new democratic environment with freedom to speak and to choose had not only made the election successful,

4 In the last election of Soeharto's era, 1997, Golkar gained 73 per cent of the seats in parliament.

but also made it very similar to election situations in developed countries. This process of moving from an authoritarian to a much more democratic political condition was called *reformasi* by Indonesians.

Two years later, Laws No. 31/2002 and 12/2003, respectively, amended Law No. 2/1999 and No. 3/1999, aiming to establish an even better democratic political system in the country. In 2004, Indonesia conducted its second democratic election. These elections were conducted remarkably smoothly, with relatively few cases of violence or electoral fraud. In the April 2004 general election, 11 of the 24 participating parties succeeded in gaining seats in parliament for their candidates. Later in the same year, Indonesians elected their president and vice president directly for the first time. The two rounds of presidential elections held in July and September 2004 went extremely well, with Susilo Bambang Yudhoyono and Yusuf Kalla being elected president and vice president. More importantly, a balance of political power was achieved between the president and parliament and among political parties. This balance had been lacking under Soeharto (Aspinall 2005) and in this sense, *reformasi* has certainly induced a much better political environment compared to that during Soeharto's era.

The euphoria of *reformasi* also inspired society to push parliament to enact various new laws. This situation benefited the majority of Indonesians, since there were laws established during Soeharto's era, particularly relating to land and natural resource utilization that needed to be amended. However, in many cases the newly enacted laws conflicted with other laws and created various problems and ambiguities. Take, for example, the case of mining in protected forests. Until the enactment of the new forestry law, Law No. 41/1999, there was no law explicitly prohibiting open pit mining activities in protected forests. Implementation of this new law prohibited operations intended by 150 mineral and coalmining companies. The affected mining companies argued that they should be allowed to continue their operations in the protected forests because they were granted their permits or contracts before the issuance of the new forestry law. Meanwhile Non Governmental Organizations (NGOs) and the Department of Forestry argued the need to maintain the quality of protected forest. Although finally President Megawati Soekarnoputri approved Perpu (government regulation in lieu of regulation) No. 1/2004, which exempts all mining permits or contracts granted before the issuance of Law 41/1999 from the prohibition, the conflict has promoted an unstable business climate and created disincentives for future business investment.

Another major change occurred in the governmental system. During Soeharto's era, the governmental system was very centralized. First, almost all decisions at the local level were decided or strongly influenced by the central government. Regional governments had little input about policies in their own regions. Secondly, most revenues from economic activities in the regions, particularly from natural resource extractive industries, were collected by the central government. Although the central government distributed some of these revenues to regional governments, resource rich regions, particularly, considered that they should obtain much more than the amount redistributed to them.

After Soeharto stepped down, Indonesia rapidly moved towards a much more decentralized system of government. This was achieved through the enactment of Law 22/1999 on local government and Law 25/1999 on fiscal balancing between the central and regional governments. In 2001 authority for all but a few areas of governance was transferred from the central government to districts and municipalities, including authority for agriculture, industry, trade and investment, education, health and natural resource management (Alm, Aten and Bahl 2001). The main goal of the decentralization policy was to give the regions a greater say in the development and growth of their own localities, so that regions could grow according to their potencies and capacities and allow locals to enjoy much greater benefits from this economic growth. The new policy also sought to resolve the longstanding tensions between some regions and the central government over the unfair distribution of benefits from natural resource extraction, by giving resource rich regions a greater share of the revenue generated by their own natural resources.

The implementation of the two decentralization laws provided local people and local governments with input in the development and management of natural resources within their areas. These also created an environment to enable the exposure of conflicts and mismanagement of natural resources through various media and debates within parliament. The decentralization laws ultimately established more equal natural resource revenue sharing arrangements between local and national governments as a way to ensure that local people could enjoy a higher portion of the benefits of natural resource extraction.

However, the implementation of these two decentralization laws also increased conflict among various levels of government, particularly in cases where related laws and regulations were unclear. These conflicts typically occurred over trans- or near-boundary economic activities. In the spirit of resolving this problem, in 2004, both decentralization laws were amended by Law No. 32/2004 on local government and No. 33/2004 on fiscal balancing between the central and regional governments.

Meanwhile by 2005, the Indonesian economy began to recover from the 1997 crisis. Economic output grew at the annual rate of approximately 4.8 per cent, so that in 2004 the gross domestic product (GDP) returned to the pre-crisis level of 1997, though the per capita income was still 4 per cent below that in 1997, as a result of the increasing population. The inflation rate decreased from about 15 per cent in early 2002 to below 5 per cent in February 2004. International reserves grew steadily, while fiscal policy was considered relatively prudent. This improvement in economic performance has not been without challenges, particularly since the level of investment did not bounce back to the pre-crisis rate. One of the main reasons for this low investment is that *reformasi* and decentralization also created a very uncertain business climate in the country (McLeod 2005). There are at least three major explanations for this uncertain business climate. First, as mentioned, various levels of government faced increasing conflict over authority to produce permits for doing business in a particular region. These conflicts also often involved local

people, particularly when the economic activities utilized local land areas. Business communities became confused over who they should approach for the appropriate permit to establish a new economic activity. Second, there was a strong temptation for local governments to create new local nuisance taxes to increase their own local revenues. The main reason for this tax creation was that local governments faced increasing expenditure responsibilities. Although local governments were happy with *reformasi* and decentralization, they were also overwhelmed when their responsibilities increased due to the transfer of several central government functions, such as payment of all civil servant salaries (including those of several thousand central government employees reassigned to regional level jobs), and providing full public services previously performed by the central government, such as primary and secondary education, health clinics, local and regional roads, water supply and sewerage systems. Third, there was a change in the nature of corruption within Indonesia. The era of centralized political systems had ended and was replaced by a system where power and authority were more diffused. The nature of centralized corruption had also gone, replaced by a more fragmented bribe collection system where ministerial and local government officials, military, police and legislative members, both at the national and local level, demanded bribes. While in other countries decentralization may have nothing to do with corrupt behaviour, in Indonesia, already burdened with a corruption problem from Soeharto's era, decentralization further fragmented corruption (Resosudarmo and Kuncoro 2006; Kuncoro 2004).

Although the global economy may have positively affected Indonesia it has also created three major challenges. The first is the impact of the increasing and highly volatile world price of oil. To keep domestic prices of fuel stable and low, the government subsidized these prices. This policy puts severe pressure on the country's fiscal position and reduces the incentive to improve efficiency in fuel use. If this policy is maintained, domestic demand for fuel will keep increasing rapidly, escalating Indonesia's emissions of carbon dioxide (McKibbin 2005). The rapid increase in domestic demand for fuel also reduces Indonesia's net gain from oil exports (Resosudarmo and Tanujaya 2002). The second challenge is the impact of China's high growth and rapid expansion in world trade in the new millennium. While the rapid pace of development in China is threatening because China and Indonesia compete in the same export markets, it is also promising because China is also increasing its imports, providing an opportunity for Indonesia to export more of its products, particularly primary products, to China. Indonesia can therefore expect to experience negative terms of trade effect for manufacturing and positive terms of trade effect for primary sectors such as forest products, including logs, lumber and woodchips (Coxhead 2005). If Indonesia is not cautious, the increased pressure on its natural resources caused by demand from China will lead to unsustainable levels of extraction.

The third global challenge to Indonesia is the world recession of 2009. Slowly but persistently, it is slowing Indonesian exports, that causes export oriented industries to lay-off a significant number of workers. Without strong government

social safety net programmes, the number of unemployed and poor people in the country is likely to significantly increase and drive those unemployed and the poor, particularly those in rural areas, into natural resource extraction activities such as cutting forests, mining and fishing; and so creating a higher pressure on the environment.

Natural resource management

Reformasi and the implementation of decentralization often emphasized the need for local initiatives in shaping the vision and future actions of local authorities. Such initiatives have indeed occurred. In relation to natural resource management, these initiatives have produced a diversity of procedures for exploiting local resources to increase revenues and for safeguarding valuable sources of revenue from exploitation by others. Most of these initiatives have been based on expectations to gain immediate local revenues, but a few, in the spirit of *reformasi*, truly mean to improve the management of natural resources. These initiatives have produced new challenges in the management of natural resources that have long been problematic.

Forestry

The major challenges in the forestry sector related to the *reformasi* movement and the implementation of decentralization are the allocation of forest extraction rights, redistribution of forest revenue from the centre to local governments, illegal logging, and deforestation.

The allocation of forest extraction rights continued to be contentious with decentralization. With the spirit to empower local communities, in January 1999 the government enacted a regulation (PP No. 6/1999) to allow districts to produce small scale logging permits (up to 100 hectares for a short duration, typically one year) and to grant these permits to local communities. District governments, particularly in Kalimantan and Papua, realized this was an opportunity to raise local revenues and so swiftly produced many types of this license in their regions. Communities, but lacking capital, also reacted quickly by finding business partners to conduct the logging activities. All activities were typically conducted by the business partners, while the communities, since they usually are at a disadvantage during negotiation, received marginal fees from their partners.

These small scale logging licenses created two main problems. First, these permits caused an increasing number of conflicts among communities, typically over local rights to the areas associated with the logging permits. Secondly, the regulations for these small scale logging permits did not contain any requirement for replanting or systematic felling. There was no incentive for loggers to follow any measures for sustainable forest management. After the government recognized the problems caused by these small scale licenses, it cancelled the authority of

district governments to produce these in June 2002 (PP No. 34/2002). Some districts quickly obeyed this new regulation, but in many cases it was not easy for the central government to enforce this (Colfer and Resosudarmo 2002; Fox, Adhuri and Resosudarmo 2005).

Several issues concerned the redistribution of forest revenue from the central to local governments. District governments complained to the central government that the timing of the redistribution of these revenues had been uncertain and the calculation to redistribute these revenues was not transparent. The latter problem usually arose because only the central government knew how much forest revenue had been collected, while some the rules for distribution were unclear. For example, the rules to distribute the reforestation fund stated it should go to 'producing regions'. District governments interpreted 'producing regions' as producing districts, while the centre defined 'producing regions' as producing provinces. The unclear timing of distribution and the lack of transparent calculation of the amount distributed made it difficult for district governments to estimate their revenues, and ultimately to plan their spending. Further complications have occurred since many district governments have asked logging companies to directly pay their taxes to district governments (Fox, Adhuri and Resosudarmo 2005).

The combination of confusing laws and regulations with other dynamics at the local level, increased conflict among communities, between communities and the authorities, and among levels of authorities. This also decreased the power of the centre at the local level, which created an incentive to local communities to reclaim their lands previously taken by Soeharto's government with unfair or no compensation. The magnitude of 'illegal' logging activities also increased.⁵ Local communities and governments saw these activities as a way to increase their revenues, and became involved or even instigated these activities. Local government then taxed these activities, one of the mechanisms being the issuing of small scale logging permits, hence 'legalizing' the activities of these illegal loggers (Casson and Obidzinski 2002).

Not only small scale loggers have conducted illegal logging, but also large logging companies have done so for many years, by logging outside their concession areas, cutting trees of less than the allowable diameter, and under reporting their production. There are an increasing number of cases where large logging companies have also bought the products of small scale illegal loggers as cheap inputs to their companies emerged after *reformasi*. Clearly many parties benefit in the short run from these illegal activities (Obidzinski 2005).

This illegal logging and the large amount of small scale logging activities, combined with continuing activities of the usual logging companies and land clearing for plantations, continuing occurrences of forest fires, as well as the increasing demand for forest products from China, have doubled the rate of forest clearing in Indonesia from approximately one million to two million hectares per year during

5 The definition of illegal logging here is broad, basically contravening any forest regulations.

the period of the *reformasi* and decentralization (Fox, Adhuri and Resosudarmo 2005). From this perspective, the ongoing *reformasi* and decentralization era has not yet produced better management of Indonesia's forests.

Fisheries

One institutional change after the *reformasi* in fisheries was the establishment of the Ministry of Marine Affairs and Fisheries (MMAF). This accorded the issues of coastal and marine management a higher profile, symbolized an increased level of political recognition of the significance of the country's seas,⁶ and created the opportunity to conduct an integrated approach in managing fishery-related marine issues for the first time in the country's history (Dutton 2005). Since its establishment, the MMAF has been conducting a comprehensive review of fishery and coastal development policies and has been proposing various management reforms.

Marine captured fisheries in Indonesia can be divided into offshore and inshore fishing. Offshore fishing is conducted by large boats, over 30 Gross Tonnes (GT) and often foreign owned, operated beyond 12 nautical miles from the coast, between the islands and out to the 200 nautical mile limit of Indonesia's EEZ. Meanwhile, inshore fishing is conducted by domestic subsistence and artisanal fishers using small boats and gears, up to 30 GT, operated up to 12 nautical miles from the coast. Under the decentralization policies, jurisdiction over inshore fishing is partly under district (*kabupaten*) governments, from shore to 4 nautical miles, and the rest on the hand of provincial government, from 4 up to 12 nautical miles. The central government retains jurisdiction over the offshore fishing. The size of vessels, the nationality, wealth and political influence of their owners differs between inshore and offshore fishers and presents different challenges to fisheries' management (Fegan 2003; Fox, Adhuri and Resosudarmo 2005).

For offshore fishing, approximately more than 9,000 fish and shrimp trawlers operate in Indonesian waters, plus a large proportion of pelagic purse seine and pole and line vessels and their motherships and reefers (international frozen cargo carriers). The majority of these vessels are owned by companies in China, Thailand, Taiwan, South Korea, the Philippines and Japan (Fegan 2003). Most of these vessels conduct illegal fishing in Indonesian waters; fishing without proper licenses, under reporting, or using destructive fishing techniques. In 2003, the MMAF indicated that about 7,000 vessels or about 85 per cent of all modern vessels above 50 GT have been operating in Indonesia without proper licenses (*Kompas*, 9 June 2003). A significant number of these vessels operate without any license, some use duplicate licenses for other vessels, some use expired licenses, some use invalid licenses and some operate outside the permitted zone. The majority of these are vessels reflagged as 'Indonesian' by registering them as owned in joint venture

6 Fishery issues used to be the responsibility of the Directorate-General for Fisheries under the Ministry of Agriculture.

or chartered, under the name of a local company that provides only the vessel and fishing licences and in some cases, port services. The Indonesian company receives a fee to arrange papers for the vessel and crew, arranges supplies of fuel at the domestic price that is much lower than the world price, supplies water and food and deals with officials. It has no ownership in the vessel, gear or catch and no share in the profit or loss. These foreign vessels underreport their catches by only reporting approximately 30 per cent (Fegan 2003).

After the decentralization period, many of these joint venture vessels asked regional governments for licenses. In many cases, to obtain licenses from regional governments, vessel owners lie by stating that the GT of their vessels is less than it actually is. After receiving these licenses, these vessels can operate anywhere they want, including outside the areas stated in the licenses. Meanwhile regional governments are often eager to produce these licenses in an effort to increase their local government revenues as well as their personal incomes. Regional governments do not have any incentive to keep these vessels operating only in their sea territories since the higher these vessels' production, the higher the expected incomes for regional governments.

The MMAF estimated that the total loss of revenues to Indonesia from illegal fishing in 2003 was around US\$2,136 million, or almost equal to the total export value of Indonesian fish products, comprising US\$1,200 million in the value of fish captured from the Indonesia EEZ and exported,⁷ US\$574 million in lost licensing fees, US\$240 million in unwarranted fuel subsidy, and US\$122 million in loss of royalty and other fees (*Tempo Interaktif*, 19 February 2003). Additionally, illegal ships employ foreign crew, which represent a lost employment opportunity valued at approximately \$780 million (*Media Indonesia*, 29 April 2002). It is expected that the amount of illegal fishing will continue to increase, since conducting surveillance activities in Indonesia's huge water territory is very expensive. There is a strong incentive for regional governments to produce licenses, although these are not always the proper ones and collusive behaviour from some authority officials is difficult to detect. Consequently, over-fishing occurs almost everywhere in Indonesian waters (MMAF 2001).

For inshore fishing, district governments have the right to produce licenses for boats between 5 to 10 GT, which are expected to operate within a 4 nautical mile limit. Provincial governments can offer fishing licences to boats between 10 to 30 GT, that are expected to operate between 4 and 12 nautical miles. 'Traditional fishing' or boats using less than 5 GT have not been regulated. All coastal regions are therefore open to exploitation by this simple method.

Meanwhile, after the *reformasi* and decentralization era, there has been a strong call for local community involvement in surveillance of local resources, including marine resources. The uncertainty of area restriction for the use of small fishing boats as well as local community involvement in surveillance created increasing

⁷ Representing an estimated theft of 1 to 1.5 million tons per year (*Jakarta Post*, 15 August 2002).

conflict within local community fishing. A typical case would be where fishermen from one district are caught by local fishermen in another district for fishing in their waters. For example in 2000, around seven boats from Pati and Tegal in Central Java were burned by local Masalembo fishers in East Java. Fishers from Brebes and Tegal in Central Java took Maduranese fishers from East Java captive for fishing in their waters. In many cases, these conflicts induced violent confrontations. Some cases cannot easily be resolved but others can be solved by the establishment of local fishing agreements (Fox, Adhuri and Resosudarmo 2005).

Mining

The utilization of mining resources also involves similar issues of ambiguity over jurisdiction and levels of authority as were encountered in the forestry and marine sectors. Unclear guidance to calculate and distribute revenues from mining operations to regional and local governments is also the source of disputes among regional and local governments and the centre. The Ministry of Finance determines the allocation of funds to each province; each province then becomes the distributor to its regions. In this process, provinces usually claim not to have received their right share from the central government and regions within provinces often also claim that their appropriations were inappropriate. Furthermore, subdistricts and villages, the areas immediately affected by mining operations, are the least likely to receive a fair share from these mining operations (Fox, Adhuri and Resosudarmo 2005).

The uncertainty as to how much total revenue is generated by the centre, the unclear guidance as to the distribution of this revenue to local regions, and the excessively long chain of revenue distribution to local levels make it difficult for local people to receive benefits from mining operations. Therefore local frustrations often induce land disputes between local and mining companies, and destructive activities over mining operation (Fox, Adhuri and Resosudarmo 2005).

During the Soeharto era, mining activities were regulated by individual Contracts of Work directly between the central government and the companies, typically under close supervision by Soeharto and his regime. These arrangements never included explicit contractual benefits to local people. There were companies that offered some assistance to local people affected by their operations, but these were usually as goodwill rather than as part of their contracts. Mining operations also typically brought in better skilled workers from outside the regions. Local communities certainly had reasons for feeling ignored in mining activities. However, since Soeharto and his regime used the military to guard these mining operations, local people were afraid to demand any compensation.

In the *reformasi* era, high level coverage in the media of human rights violations by the military and their ruthless business activities weakened their position in the regions. This gave locals the opportunity to reclaim their lands that were utilized by mining companies and demand compensation, and for illegal miners, often directly or indirectly involving local people, to operate in the areas of mining companies.

Cases of land disputes between local people and large mining companies as well as the amount of illegal mining increased significantly in the few years just after the fall of Soeharto (Erman 2005).

The implementation of decentralization laws, as mentioned, provided strong incentive for regions to raise their own revenues. In regions where mining operations were dominant, regional (district and provincial) governments quickly issued a variety of taxes and levies on mining companies. In several cases, regional governments tried to obtain revenues from illegal mining activities, such as in the case of developing and coordinating a village cooperation unit for illegal miners in West Sumatra, making these activities 'legal' (Erman 2005).

These taxes and levies imposed by regional governments, in addition to those specified in individual Contracts of Work; the activities of illegal mining as well as land disputes, have been regarded by mining companies as an increasing cost and arbitrary burden. Mining companies have responded to this situation by suggesting two possible options: either that regional governments become parties to the next generation of Contracts of Work or, that these remain as bilateral contracts between central government and companies but contain shares of taxes and royalties for regional governments.

Further complications occurred when a new Forestry law (Law No. 41/1999) was implemented. This law explicitly prohibited open-pit mining activities in protected forests for the first time. Approximately 150 mineral and coalmining companies were no longer able to carry out their operations.

In 2001, for the case of oil and gas, the central government enacted a new mining law (Law No. 22/2001) confirming the right of the central government to award mining contracts and to set the terms of these agreements, including the way in which profits, royalties and fees are determined and distributed. In 2004, the central government produced a government regulation in lieu of regulation (Perpu No. 1/2004), which exempted all mining permits or contracts granted before the issuance of Law 41/1999 from the prohibition.

The conflicts, uncertainty and confusions have induced an unstable business climate in the mining sector and created disincentives for future mining investments. However, in the case of marine and forestry resources, exploitation appears to have increased after the *reformasi* and decentralization era, the reverse seems to be the case for the mining sector (Fox, Adhuri and Resosudarmo 2005). Hundreds of exploration projects in Indonesia have been suspended, withdrawn or remain currently inactive and investment in the mining sector has been very low up until now.

Conclusion

Reformasi and the implementation of decentralization have provided the opportunities and challenges for Indonesia to respond to natural resource related utilization issues. Unfortunately, the transition period brought a situation of

conflicting laws and regulations, weak law enforcement, a weak governmental system, and insecurity of land tenure. This created several problems. First, instances of conflict among various levels of government have increased. Conflicts between central and regional governments particularly occur in cases where the centre wishes to assert its dominance. Conflicts among regional governments typically are jurisdictional disputes over natural resources that lie on provincial or district borders. Second, cases of disputes involving local communities over the right to exploit natural resources have also increased. These disputes tend to be between local communities and the state or a large natural resource company concerning a piece of land occupied by the state or the company but claimed by locals as theirs, based on their *adat* (customary) law, and among local communities themselves. Third, the nature of corruption has moved from a centralized type to a more fragmented bribe collection system, in which government officials, military, police and members of the legislatures, both in the centre and regions, are all demanding bribes. Fourth, the number of local nuisance taxes and natural resource extraction licences established by regional governments to increase their own revenues has increased. These local taxes and levies have increased the cost of doing business in the country, creating slow growth and low investment.

Despite these challenges, the ability of Indonesia to carry out such ambitious *reformasi* and decentralization programme within such a short period of time without incurring any significant social or political costs was an important achievement. In a short period of time, new laws and regulations related to natural resource management have been enacted, and though not perfect, they are an improvement over the old laws and regulations. Local communities as well as local and regional governments now have a greater say in the management of natural resources in their areas. Media and parliaments have the opportunity to conduct debates openly on conflicts and mismanagement of natural resources. A fairer system for the sharing of natural resource revenue between the central and local governments is now in place.

There are also some signs that *reformasi* and decentralization policy will eventually lead to a better Indonesia. In 2004, as previously mentioned, to address some of the problems associated with the implementation of decentralization, the national parliament enacted two new decentralization laws, Law No. 32/2004 on regional autonomy to replace Law No. 22/1999, and Law No. 33/2004 on regional finance to replace Law No. 25/1999. If implemented properly, these new laws should soften the conflict between the central government and regional governments over authority for several key areas of responsibility (particularly those related to natural resources), result in a better distribution of the central to regional financial transfers and place some much needed controls on the number and type of local taxes.

An investment climate survey conducted by LPEM–UI (2005) indicates that, in time, the process of decentralization would itself contribute to an improvement in government performance and a reduction in corruption in the regions. The authors argue that as regional governments come to terms with their new responsibilities

under decentralization and are held directly accountable by their constituents, this would create an incentive for an improvement in regional government performance – one aspect of which is a reduced prevalence of corrupt behaviour. Local governments that appreciate the importance of attracting business and investment to their regions will also understand that business people and investors will be reluctant to commit themselves to regions in which the quality of public services is poor and corrupt officials are likely to impose heavy costs on their operations. Competition among Indonesia's several hundred local governments to attract business and investment may well prove an effective means of improving the quality of public services and discouraging corrupt behaviour. In the end, better quality of public services and significant reduction of corrupt behaviour should significantly contribute to better management of natural resources in the country.

Finally, it may be concluded that, although *reformasi* and decentralization hold promises for better management of Indonesia's natural resources, it will take a longer horizon for these promises to materialize. It remains to be seen whether or not Indonesia is able to secure its natural resources and environment for the benefits of the majority of Indonesian people.

References

- Agrawal, A. and Ribot, J. (1999), 'Accountability in Decentralization: A Framework with South Asian and African Cases', *Journal of Developing Areas* 33, 473–502.
- Alm, J., Aten, R.H. and Bahl, R. (2001), 'Can Indonesia Decentralise Successfully? Plans, Problems, and Prospects', *Bulletin of Indonesian Economic Studies* 37:1, 83–102.
- Aspinall, E. (2005), 'The Politics: Indonesia's Year of Elections and the End of the Political Transition', in B.P. Resosudarmo (ed.), *The Politics and Economics of Indonesia's Natural Resources* (Singapore: ISEAS), 13–52.
- Azis, I.J. and Salim, E. (2005), 'Development Performance and Future Scenarios in the Context of Sustainable Utilisation of Natural Resources', in B.P. Resosudarmo (ed.), *The Politics and Economics of Indonesia's Natural Resources* (Singapore: ISEAS), 125–144.
- Bailey, C. (1988), 'The Political Economy of Marine Fisheries Development in Indonesia', *Indonesia* 46 (October), 25–38.
- Barbier, E.B. (1998), *The Economics of Environment and Development: Selected Essays* (Cheltenham: Edward Elgar).
- Barnes, P. (1995), *Indonesia: The Political Economy of Energy* (Oxford: Oxford Institute for Energy Resources).
- Casson, A. and Obidzinski, K. (2002), 'From New Order to Regional Autonomy: Shifting Dynamics of "Illegal" Logging in Kalimantan, Indonesia', *World Development* 30, 2133–2151.

- Colfer, C.J.P. and Resosudarmo, I.A.P. (eds) (2002), *Which Way Forward? People, Forests, and Policymaking in Indonesia* (Washington, D.C.: Resources for the Future).
- Coxhead, I. (2005), 'International Trade and the Natural Resource "Curse" in B.P. Resosudarmo' (ed.), *The Politics and Economics of Indonesia's Natural Resources* (Singapore: ISEAS), 71–91.
- Crook, R.C. and Manor, J. (1998), *Democracy and Decentralization in South-East Asia and West Africa: Participation, Accountability and Performance* (Cambridge: Cambridge University Press).
- Dutton, I.M. (2005), 'If Only Fish Could Vote: the Enduring Challenges of Coastal and Marine Resources Management in Post-reformasi Indonesia', in B.P. Resosudarmo (ed.), *The Politics and Economics of Indonesia's Natural Resources* (Singapore: ISEAS), 162–178.
- Dutton, I.M., Hidayat, K., Gunawan, T., Sondita, F., Steffen, J., Storey, D., Merrill, R. and Sylvianita, D. (2001), 'Sikap dan Persepsi Masyarakat Mengenai Sumberdaya Pesisir dan Laut di Indonesia', *Pesisir dan Lautan* 3:3, 46–52.
- Erman, E. (2005), 'Illegal Coal Mining in West Sumatra: Access and Actors in the Post-Soeharto Era', in B.P. Resosudarmo (ed.), *The Politics and Economics of Indonesia's Natural Resources* (Singapore: ISEAS), 206–215.
- Fegan, B. (2003), 'Plundering the Sea', *Inside Indonesia*, No. 73, January–March.
- Fox, J.J., Adhuri, D.S. and Resosudarmo, I.A.P. (2005), 'Unfinished Edifice or Pandora's Box? Decentralisation and Resource Management in Indonesia', in B.P. Resosudarmo (ed.), *The Politics and Economics of Indonesia's Natural Resources* (Singapore: ISEAS), 92–108.
- Gellert, P.K. (2005), 'Oligarchy in the Timber Markets of Indonesia: From Apkindo to IBRA to the Future of the Forests', in B.P. Resosudarmo (ed.), *The Politics and Economics of Indonesia's Natural Resources* (Singapore: ISEAS), 145–161.
- Kompas*, 9 June 2003.
- Kuncoro, A. (2004), 'Bribery in Indonesia: Some Evidence from Micro-level Data', *Bulletin of Indonesian Economic Studies* 40:3: 329–354.
- LPEM–UI (Institute of Economic and Social Research, University of Indonesia) (2005), *Monitoring Investment Climate in Indonesia: A Report from the Mid 2005 Survey* (Jakarta: LPEM–UI report in collaboration with the World Bank).
- Maxhood, P. (1983), *Local Government in Third World* (Chichester: John Wiley).
- McKibbin, W.J. (2005), 'Indonesia in a Changing Global Environment', in B.P. Resosudarmo (ed.), *The Politics and Economics of Indonesia's Natural Resources* (Singapore: ISEAS), 53–70.
- McLeod, R.H. (2005), 'The Economy: High Growth Remains Elusive', in B.P. Resosudarmo (ed.), *The Politics and Economics of Indonesia's Natural Resources* (Singapore: ISEAS), 31–52.
- Media Indonesia*, 29 April 2002.

- Ministry of Marine Affairs and Fisheries (MMAF) (2001), *Pengkajian Stok Ikan di Perairan Indonesia* (Jakarta).
- Obidzinski, K. (2005), 'Illegal Logging in Indonesia: Myth and Reality', in B.P. Resosudarmo (ed.), *The Politics and Economics of Indonesia's Natural Resources* (Singapore: ISEAS), 193–205.
- Resosudarmo, B.P. (ed.) (2005), *The Politics and Economics of Indonesia's Natural Resources* (Singapore: ISEAS).
- Resosudarmo, B.P. and Kuncoro, A. (2006), 'The Political Economy of Indonesian Economic Reform: 1983–2000', *Oxford Development Studies* 34:3, 341–355.
- Resosudarmo, B.P. and Subiman, N.I. (2003), 'The Management of Biodiversity in Indonesia at a Sustainable Level', *Indonesian Quarterly* 31:1, 73–87.
- Resosudarmo, B.P., Subiman, N.I. and Rahayu, B. (2000), 'The Indonesian Marine Resources: An Overview of Their Problems and Challenges', *Indonesian Quarterly* 28:3, 336–355.
- Resosudarmo, B.P. and Tanujaya, O. (2002), 'Energy Demand in Indonesia: Past and Future Trend', *Indonesian Quarterly* 30:2, 158–174.
- Seda, F.S.S.E. (2005), 'Petroleum Paradox: The Politics of Oil and Gas', in B.P. Resosudarmo (ed.), *The Politics and Economics of Indonesia's Natural Resources* (Singapore: ISEAS), 179–192.
- Simangunsong, B.C.H. (2004), 'The Economic Performance of Indonesia's Forest Sector in the Period 1980–2002', *GTZ–SMCP Briefing Paper 4*, Jakarta, July.
- Smoke, P. (2001), 'Fiscal Decentralization in Developing Countries: A Review of Current Concepts and Practice', Programme Paper Number 2, *Democracy, Governance and Human Rights* (Geneva: United Nations Research Institute for Social Development).
- Statistics Indonesia (2005), *Statistical Yearbook of Indonesia 2004* (Jakarta: Statistics Indonesia).
- Sunderlin, W.D., Resosudarmo, I.A.P., Rianto, E. and Angelsen, A. (2000), 'The Effect of Indonesia's Economic Crisis on Small Farmers and Natural Forest Cover in the Outer Islands', *CIFOR Occasional Paper. No. 28(E)* (Bogor: Center for International Forestry Research).
- Tempo Interaktif*, 19 February 2003.
- Uphoff, N.T. and Erman, M.J. (1974), *Local Organization for Rural Development: Analysis of Asian Experience*, Special Series on Rural Local Government Paper No. 19, Rural Development Committee (Ithaca, NY: Cornell University).