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INDONESIA: AN ENVIRONMENTAL SECURITY
ASSESSMENT

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Elizabeth B. Borelli, Major, USAF

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Advisor: Major Stephen Flippo

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Abstract

In recognition of growing U.S. interests in environmental diplomacy and security as a part of U.S. foreign policy and the fact that Indonesia holds much of the world's natural resources, the purpose of this paper is to show how Indonesia's environmental problems are causing instability in the region and could lead to increased U.S. involvement in the region. The paper assesses Indonesia's environmental situation, its capabilities to handle environmental issues, and then explores environmental security issues that could cause internal and international conflict.

The methodology used in researching this paper was limited to a literature review of material published primarily since 1994, on-line Internet resources, current newspapers, and radio and television news reports.

The research found that the major environmental problems center on the effects of rapid urbanization, deforestation, and both marine and land pollution. While there is a well-established environmental infrastructure in place, there are still examples of both internal and international conflicts due to Indonesia's environmental problems. A 1997 forest fire in Indonesia covered Southeast Asia in smoke and haze that lasted for months and was considered a planetary disaster. The long-term implications include health problems for more than 20 million people and the threat of future legal action by neighboring countries. This environmentally-induced instability could lead to increased U.S. involvement in the region to protect U.S. national security interests.

Chapter 1

Introduction

Not so long ago, many believed that the pursuit of clean air, clean water, and healthy forests was a worthy goal, but not part of our national security. Today, environmental issues are part of the mainstream of American foreign policy.

—Madeline K. Albright, Secretary of State ¹

Indonesia's current environmental problems are impacting stability in Southeast Asia and may increase future United States involvement in the region. In order to link the environment with stability and future U.S. involvement, it is important to establish Indonesia's strategic importance to the U.S. and its growing role and increasing influence in world events. It is equally important to discuss how the environment affects U.S. foreign policy and why the U.S. will become even more interested in Indonesia's environmental security problems in the future.

Indonesia's Strategic Importance

Indonesia sits astride two of the world's most strategic waterways; the Straits of Malacca and Lombok (Fig. 1). All shipping between the Pacific and Indian Oceans must pass by or through Indonesian waterways. U.S. naval access through Indonesian waterways is still an issue between the two countries. Political leaders in Washington, D.C. define the Straits as "high seas" while Indonesia claims them as territorial

“archipelagic” waterways. United States access depends on a tacit agreement that both countries may hold differing views while routine naval passage occurs.²



Figure 1. Map of Indonesia

The Association of Southeast Asian Nations (ASEAN) has expressed concerns about maintaining the balance of power in the region with the increasing influence of China and Japan.³ Tim Huxley echoes this need for a balance of power in his book, *Insecurity in the ASEAN Region*. He states that it “effectively legitimizes a continuing United States military presence in the region.”⁴ Evidence of this statement can be seen in the growing military relations between the two countries. Military exercises started in 1990, and the Indonesian government has offered the U.S. Navy the use of state-owned ship repair facilities at the port of Surabaya.⁵ What’s more, in 1997, Indonesia replaced Pakistan in a two-year non-permanent seat on the United Nations Security Council.⁶

Although we have a significant military incentive to be involved in the region, there are political and socio-economic considerations as well. President Suharto has been in power for over thirty-five years and there is much speculation as to what will happen when he steps down. According to Chris Cook, in his book *The Facts on File Asian Political Almanac*, “Excepting Cuba, no country on the planet-neither China nor Iraq nor Libya-comes anywhere near Indonesia’s preoccupation with one man and nowhere else will the departure of a single man so decisively close an era.”⁷ The current economic crisis in Indonesia (January 1998) has been blamed to some extent on President Suharto’s inability or unwillingness to implement strict economic reforms in his country. These issues will also have some bearing on how the government views and implements environmental policies as will be discussed in Chapters 3 and 4.

The Importance of the Environment

Indonesia’s strategic importance to the U.S. is based on current environmental factors as well as the variety of economic, political, and military factors discussed in the previous section. The following discussion will link U.S. strategic and environmental goals and show why Indonesia’s environmental problems are important to U.S. national security.

Environmental issues are becoming part of the mainstream of American foreign policy and have a profound impact on our national security objectives in two ways according to former Secretary of State Warren Christopher. He said, “First, environmental forces transcend borders and oceans to threaten directly the health, prosperity, and jobs of American citizens. Second, addressing natural resource issues is

frequently critical to achieving political and economic stability, and to pursuing our strategic goals around the world.”⁸

Indonesians consider environmental issues important to their national interests as well. A Far Eastern Economic Review poll in October 1996 asked Asian business leaders what Asia’s next war would be over; territorial disputes, natural resources, or ethnic lines. Indonesian’s overwhelmingly picked natural resources (45.8 percent) over territorial disputes (29.2 percent) and ethnic lines (25 percent).⁹

In order to deal with these types of problems, the U.S. State Department appointed an Under Secretary for Global Affairs to monitor world environmental problems and spearhead regional environmental hubs in U.S. embassies around the world. For instance, the Asian hub in Bangkok is chartered to promote the sustainable management of forests and marine resources in the region.¹⁰ In addition, the U.S. intelligence community has established a system to provide adequate warning of environmental crisis, the U.S. Navy is developing a system to monitor/predict sea-based environmental problems, and the Department of Defense is developing partnerships with other nations to promote stability through environmental cooperation.¹¹

The U.S. Department of State issued a publication in 1997 entitled *Environmental Diplomacy* outlining the U.S. position on environmental issues. It lists climate change, toxic chemicals, species extinction, deforestation, and marine degradation as the top five global environmental priorities for the U.S.¹² Three out of the five initiatives listed above; species extinction, deforestation, and marine degradation are happening in Indonesia at an alarming rate. This puts Indonesia’s environmental problems in conflict with U.S. global environmental objectives. Combine this with the many other reasons for U.S.

interest in Indonesia outlined in the previous section, and an environmental problem in Indonesia could spark an environmental security problem that could lead to increased U.S. involvement in the region to protect our national security objectives.

The following chapters will address such a scenario. Chapter 2 provides an overview of current environmental conditions in Indonesia while Chapter 3 discusses some of the institutional capabilities in place to solve environmental problems. This will lay the foundation for exploring potential internal and international conflicts in Chapter 4 that could lead to instability in the region and possible U.S. involvement. This chapter also highlights a series of forest fires that burned for months in Indonesia that required U.S. involvement in late 1997 and may be the environmental trigger event that will destabilize the region for any future environmental problems emanating from Indonesia.

This paper assumes the reader is somewhat familiar with general environmental terms like air pollution, deforestation, and hazardous waste and does not go into a scientific discussion on the subject. Additionally, this paper provides an overview of major environmental problems reached by the consensus of environmental experts studied during the literature review and does not attempt to list every environmental problem affecting the region.

Notes

¹ U.S. Department of State Publication 10470, *Environmental Diplomacy* (Washington D.C., 1997), 3.

² Chris Cook, *The Facts on File Asian Political Almanac* (New York, Facts on File, Inc, 1994), 188. Archipelagic rights would give Indonesia rights to all waterways within the Indonesian Archipelago while the law of High Seas would establish international waterways between the separate islands, not recognizing them as one “landmass.”

³ The Association of Southeast Asian Nations (ASEAN) includes Brunei, Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam.

⁴ Tim Huxley, *Insecurity in the ASEAN Region* (Royal United Services Institute for Defense Studies, 1993), 79.

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⁵ Ibid., 25.

⁶ Steven A. Liebo, *East, Southeast Asia, and the Western Pacific 1997, 30th Edition*, (Harpers Ferry, WV, Stryker-Post Publications, 1997), 116.

⁷ Cook, 185.

⁸ Hans A. Binnendijk and Patrick L. Clawson, *Strategic Assessment 1997:Flashpoints and Force Structure* (Washington, D.C., National Defense University, Institute for National Strategic Studies, 1997), 227.

⁹ Aparisim Ghosh, "Asia 2046: How the Region Will Look 50 Years in the Future," *Far Eastern Economic Review*, 50th Anniversary Issue, October 1996, 215.

¹⁰ Ibid., 2.

¹¹ Binnendijk, 228.

¹² U.S. Dept of State Publication 10470, 3.

Chapter 2

Major Environmental Problems

Indonesia is endowed with an abundance of natural resources including land, forests, water, animals, and plants. The aim of this chapter is to take a look at the variety of major environmental problems Indonesia is facing and provide an overview of the challenges of environmental sustainability facing Indonesia in the future.

Urbanization

The most important and immediate threat to Indonesia's environment is pollution associated with rapid urbanization. Indonesia is the fourth largest country in the world with its cities growing at an average rate of five percent per year, a rate that is expected to continue into the next century.¹ Indonesia comprises 13,677 islands and 782,605 square miles, but almost 70 percent of the estimated population of 206 million people live on or near the island of Java.² The island of Java has almost 64 percent of the population while only occupying 7 percent of the land area.³ To further illustrate the growth/urbanization problem, consider that the population density of Java is 690 people per square kilometer while that of Irian Jaya is only 3 people per square kilometer.⁴ People are moving to urban areas at a growing rate and it is expected to continue well into the next century. Indonesia's population is projected to be over 270 million people by 2025, with Vietnam

(108 million) and the Philippines (106 million) the only other ASEAN nations topping 100 million by then.⁵

In an attempt to alleviate the growing urban population the government implemented relocation programs, known as Transmigrasi, from 1969 to 1989. Over 730,000 families were relocated from Java, Bali, and Madura to less populated islands.⁶ Land disputes with the native population, sustainable farming, and deforestation led many of the relocated families to return home. The U.S. Treasury Department and Congress pressured the World Bank to stop funding the project, as the net effect was the destruction of 270,000 hectares of primary tropical rainforest every year by initial clearing alone.⁷ A similar project in the Northwest Brazilian tropical rain forests cost the World Bank lenders approximately \$435 million and yielded the same disastrous environmental consequences.⁸

Despite the attempt to relocate people, increased mobility of the population surrounding the cities has increased the commuting range of city workers and the number of people in the urban areas. Indonesia's rapid urbanization and population growth has led to a variety of problems to be discussed next such as urban air, water, and soil contamination that pose serious health threats to the population and endanger the surrounding environment.

Urban Air Pollution

Urban air pollution is a big problem for the major cities in Indonesia. The major air pollutants are carbon dioxide, lead, nitrogen oxide, ozone, sulfur dioxide, and particulate matter. Smog and pollution from factories and industrial sites has increased rapidly. The electricity generation capacity has doubled every five years for the past twenty years and

is a major contributor to the overall increase in air pollution.⁹ The primary pollutants from power plants are sulfur dioxide and nitrogen oxides. Large landfills that are springing up near large urban areas are also contributing methane gas and carbon dioxide to the overall air pollution.

The biggest source of air pollution in urban areas is vehicle emissions. Roughly 80-90 percent of all carbon monoxide emissions and half of the nitrous oxide and hydrocarbons originate from the transportation industry.¹⁰ Figure 2 shows the dramatic increase in vehicle emissions over the past few decades and the projected increase for the next decade.¹¹ Jakarta estimates a 300-330 percent rise in emissions from most major pollutants between 1980 and 2000.¹² Subsidies on gasoline, kerosene, and fuel oil make driving cars and using “dirtier” fuel oil easier than trying alternative energy means. Finding suitable ways to control emissions will be a challenge with an estimated 14 percent annual increase in the number of vehicles on the roads.¹³ In comparison, the U.S. average increase is two percent per year while the United Kingdom averages three percent per year.¹⁴

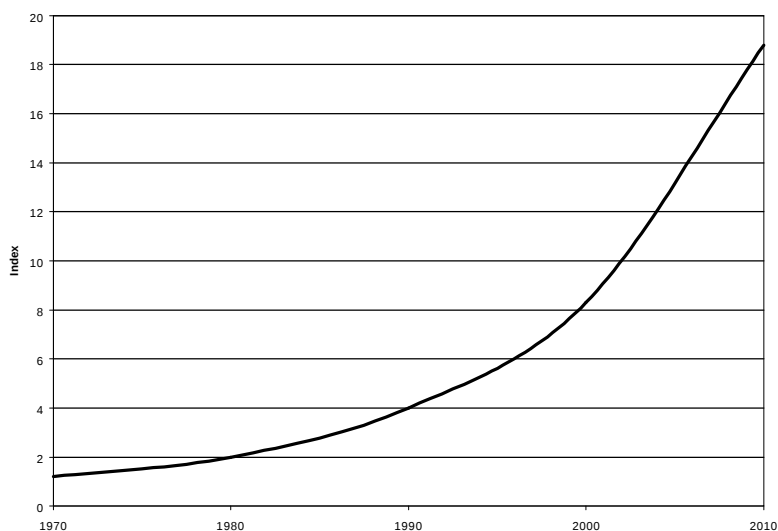


Figure 2. Urban Area Vehicle Emissions Trend

The government initiated a program called Blue Sky to try to restore air quality and reduce carbon dioxide, nitrogen oxide, and hydrocarbon emissions from automobiles and industry. The program includes monitoring ambient air quality, establishing target emission levels, implementing clean fuel policies, such as reduced sulfur and lead fuels, and setting policies for emission controls on automobiles.¹⁵ For example, a government-run oil-fired power plant on Sumatra is using low sulfur oil to reduce air pollutants. The government also sponsors a Clean City Program called ADIPURA (begun in 1986) to promote cleaner living.¹⁶ The goal is to reduce urban pollution, create healthy cities, and promote active community involvement in environmental management.

Urban Water Pollution

Water pollution monitoring began as early as the 1970s, paralleling the growth of industrialization. Currently, the Ministry of State for Population and Environment reports acute pollution problems in twenty rivers due to industrial discharge and inadequate or non-existent sewage treatment.¹⁷ Ten tons of chemical wastes are reportedly dumped into the Ciliwung River in western Java daily.¹⁸ Most of the major rivers on Java are polluted with a combination of untreated human waste, uncollected municipal refuse, and effluents from industry. Figure 3 shows the increase in human and solid waste over the past thirty years and the increase expected over the next ten years.¹⁹ Over 20 million people don't have access to sanitation facilities and this contributes to an estimated 1.44 million cases of diarrhea each year in Jakarta alone.²⁰ The cost of this one health aspect is estimated at an average \$300 million per year.²¹ If the projected increase in human and solid waste continues as expected, health costs will rise even more.

In addition to raw waste dumped into rivers, the public water system is just not adequate to handle the increase in the population and the industrial sector. Many aquifers in urban areas have been drained so low that salt-water intrusion has occurred.

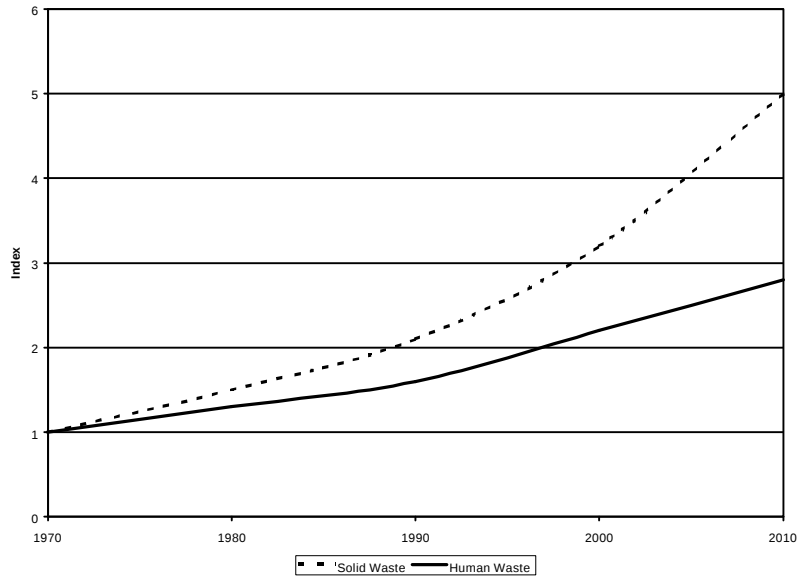


Figure 3. Solid and Human Waste Trends

The government's attempt to control river quality and reduce river discharges is a Clean River Program called PROKASIH. The program established laboratories to monitor river pollution and working groups to evaluate river quality. Since its inception in 1989, a total of 265 rivers have been cleaned in cooperation with 6,358 factories.²² Media attention has pressured companies to comply by reporting on the progress of the companies and publicly announcing who is and who isn't complying.

Urban Soil Contamination

Soil contamination from river runoff is yet another one of the problems facing Indonesia's urban population. Industrial pollution in the form of hazardous and toxic waste, chemicals and pesticides used in the agriculture sector, and tons of garbage generated in the major cities also contribute to soil contamination. Farmers are using

contaminated water for irrigation, then adding chemicals and pesticides in the fields to further complicate the overall pollution problem.

Illegally imported hazardous waste is another threat to Indonesia's environment. For example, hazardous waste from Singapore was discovered labeled as "noodles" and dumped on Bintani Island in Riau Province.²³ With over 13,000 islands and not enough inspectors and infrastructure to monitor what is coming and going, there are sure to be many other contaminated sites waiting to be discovered.

Tropical Forests

Indonesia is home to the world's third largest tropical rain forests behind Brazil and the Congo and the home to many endangered, rare and endemic species of plants and animals. This equates to 10 percent of the world's tropical forests and 60 percent of Asia's tropical forests, with approximately 280 million acres of forested land.²⁴ Sustainable development of the country's forested lands is an important element in Indonesia's economic development. The forestry industry contributes approximately 15 percent to Indonesia's total exports, making it the second-largest foreign exchange earner after oil and gas. Indonesia is the world's largest producer of hardwood plywood, supplying 85 percent of the world's total. Its yearly production of wood has reached 37 million cubic meters. The forestry industry also provides direct and indirect employment for nearly 4 million workers.²⁵

"The Ministry of Forestry has divided 355 million acres within its jurisdiction into the following classifications shown in Figure 4.²⁶ Conversion areas are areas of shrubs and tall grass, with low biodiversity levels, that are converted into timber estates, plantations, agricultural lands and other uses.

The Indonesian government uses a concession system to allow private companies to harvest trees in the designated “production forests.” Concessionaires are granted a 20-year license and pay a mandatory fee per cubic meter of harvested logs to finance Indonesia’s re-greening and reforestation programs. Presently, there are approximately 580 concessionaires, varying in size from 50,000 to 5 million acres.²⁷

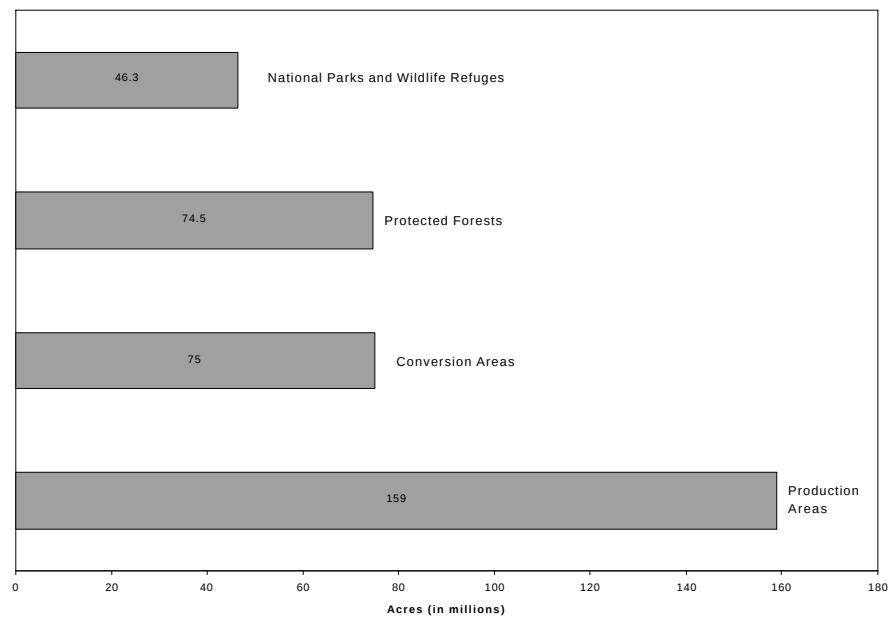


Figure 4. Forest Use Classifications

The government is working to establish legally binding laws for the sustainable management of forests that reflect existing conventions on biological diversity, climate change and desertification. Indonesia is cooperating with the International Tropical Timber Organization to establish by the year 2000 the mechanism to sell wood products made only from sustainably managed forests. Indonesia is also in the process of establishing an ecolabelling system to certify that its wood products have been produced in accordance with sustainable management.²⁸ In addition, a high-technology mill

designed with it's own spill collection system, scrubber to reduce airborne emissions, and a water treatment system was built in the remote northeast section of Kalimantan.²⁹ The mill manages their own forest concession, replanting and reusing the same forest land while also setting aside and maintaining acreage for a wildlife refuge.

The U.S. government recently honored a reduced-impact logging (RIL) project in Indonesia on two East Kalimantan logging concessions. RIL techniques include directional felling, pre-cutting vines, and extracting timber on skid rails. The goal is to harvest the forest's timber in ways that save surrounding trees, use fewer logging roads, improve water quality in forest streams, and reduce erosion.³⁰

Despite all of the accolades and attempts to manage the tropical timber industry, if the present deforestation rates continue, an additional 15-32 million hectares of forest will be lost by 2020.³¹ Competing interests by the government, loggers, the transmigration program, and cultivation will have to be addressed to provide a sustainable, manageable forest-use plan.³² A case study of the major forest fire event of 1997 in Chapter 4 will attempt to show how this type of problem can lead to an international disaster and destabilize the region.

Biodiversity

Felling trees in the tropical rain forests not only affects the amount of forest land but the animals and plants that live there. Rain forests hold 50-90 percent of the world's species, 40 percent of the birds of prey, 60 percent of the vascular plant species, 90 percent of the primates, and more than 95 percent of the world's insects.³³ Indonesia leads all of Southeast Asia for known species as can be seen in Figure 5.³⁴

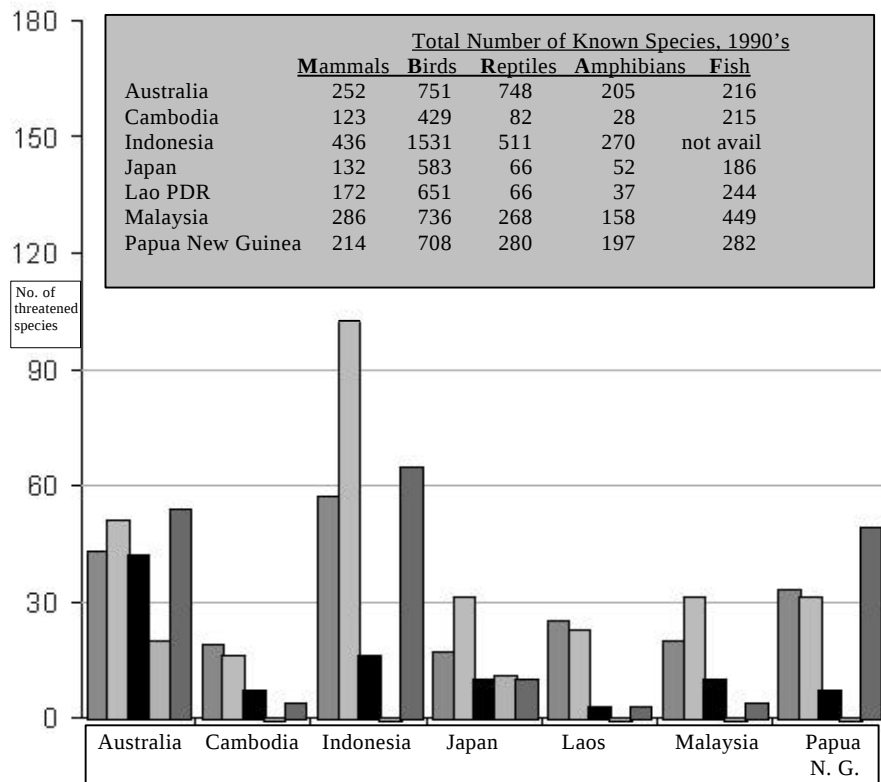


Figure 5. Species Count and Number of Threatened Species in Indonesia and Neighboring Countries

Although the Indonesian government grants forest concessions that are supposed to control the rate of deforestation, they certainly don't stop it all together. Whenever virgin forestland is destroyed, whether replanted or not, it endangers the biodiversity of the region. At the rate the businesses are converting the natural forest to sustainable forests, an estimated 43 percent of vegetal and animal species from south and Southeast Asia will have vanished before the next century.³⁵

The forests in Indonesia are home to sun bears, the Sumatran tiger, orangutans, the Asian elephant, the Javan and Sumatran rhinoceroses, and the Bird of Paradise to name just a few of the more endangered species. Illegal hunting for both sport and for the black market medicinal trade, deforestation, encroaching urbanization and associated

diseases are threatening these species. Both the Sumatran tiger (estimated population: 400) and the Javan rhinos (estimated population: 60) are critically endangered species.³⁶ In East and West Kalimantan, farmers supplement their incomes by collecting reptiles for the exotic leather trade. Over 350,000 python, veranus lizard, and whip snake skins were processed by one modern tannery.³⁷ The financial gain realized by the illegal hunting trade combined with that of the timber industry puts a tremendous burden on the Indonesian government to balance biodiversity and environmental concerns with the sheer magnitude of money people and businesses make. The illegal wildlife trade in the U.S. grosses \$5 billion a year, so U.S. businesses and individuals indirectly contribute to Indonesia's biodiversity problems by buying Indonesian endangered species.³⁸

The Marine Environment

Indonesia is home to thousands of species of marine life and coral reefs in both the Indian and Pacific Oceans. The coral reefs system is in danger as well as the fisheries and way of life of many of the outer island populations that subsist on fishing. Industrial pollution, lime mining, and soil erosion are endangering the country's coastlines, coral reefs, and mangrove swamps.³⁹ Pollution in Jakarta Bay is at a critical level. A sample of fish and shellfish caught in the bay showed heavy metal lead, mercury, and cadmium levels exceeded World Health Organization standards by 44, 38, and 76 percent respectively.⁴⁰

In addition to urban pollution sources, over 490 shipping accidents have occurred in the Straits of Malacca from 1988-1992.⁴¹ Oil spills are increasing pollution in the region, as is just the magnitude of ships transiting the region. As the strategic waterway

for shipping, any environmental disaster that occurs in the straits could have repercussions on the shipping industry throughout the world.

The economic value of Indonesian coral reefs is estimated at \$3.3 billion per year according to World Bank consultant, Herman Cesar. He said that Indonesian's 70,000 square kilometers of coral reefs could produce at least \$2.7 billion in profits from fish per year and at least \$600 million a year from tourism.⁴²

In addition to the monetary value placed on fishing and tourism, there are abundant oil reserves in Indonesia's ocean basins. Indonesia has proven oil reserves of 5.14 billion barrels with an additional 5.79 billion barrels estimated to exist.⁴³ With 60 known basins with oil potential, only 36 have been explored, and only 14 are producing. With the prospect of Indonesia becoming an oil-importing nation in the next 5-10 years because of domestic demand, future exploration is likely and will require sound environmental policies to protect the fragile marine environment while exploiting the resources.

In summary, urbanization, tropical forest use, and the marine environment hold many of Indonesia's environmental problems as well as much of the nation's wealth. Maintaining the balance between sustainable development and environmental preservation/restoration remains a problem for the current government. While there are some programs in place to address the problems highlighted in this chapter, they are not enough by themselves and some serious environmental problems still exist. In the next chapter, we will explore in more detail the institutions in place to help solve the environmental problems just discussed and then use that to assess possible sources of environmental conflict.

Notes

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³ Mark Baker, Libby Bassett, and Athleen Ellington, *The World Environment Handbook: A Directory of Natural Resource Management Agencies and Non-governmental Organizations in 145 Countries* (New York, A World Environment Center Book, 1995), 242.

⁴ O.P. Dwivedi and Dhirendra K. Vajpeyi, *Environmental Policies in the Third World: A Comparative Analysis* (Westport, CT: Greenwood Press, 1995), 87.

⁵ Maria Seda, *Environmental Management in ASEAN* (Singapore, Institute of Southeast Asian Studies 1993), 84.

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¹¹ Data for Figure 2 was taken from The World Bank. *Indonesia: Environment and Development* (Washington, D.C., 1994), 151.

¹² Ibid., 23.

¹³ Frederick, 196.

¹⁴ Seda, 87.

¹⁵ “Tropical Forests,” July 1997, n.p. On-line. Internet, 7 November 1997. Available from http://www.indonesiatoday.com/a4/a4_index.html

¹⁶ Ibid.

¹⁷ Dwivedi, 90.

¹⁸ Ibid.

¹⁹ Data for Figure 3 was taken from The World Bank. *Indonesia: Environment and Development* (Washington, D.C., 1994), 153.

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²⁴ Mohamad “Bob” Hasan, “Achieving Sustainable Management of Indonesia’s Tropical Forests,” *The Future of the Forests*, July 1997, n.p. On-line. Internet, 7 November 1997. Available from http://www.indonesiatoday.com/a4/a4_index.html

²⁵ Ibid.

²⁶ Ibid.

²⁷ Ibid.

²⁸ Ibid.

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³⁰ “White House Recognizes Indonesia’s Forestry Management,” Environmental News Room, July 1997, n.p. On-line, Internet, 7 November 1997. Available from http://www.indonesiatoday.com/a5/a5_index.html.

³¹ Charles Victor Barber, *The Case Study of Indonesia*, 1997, summary page 2, on-line, internet, 20 February 1998. Available from <http://utl2.library.utoronto.ca/www/pcs/state/indon/indonsum.htm>

³² Frederick, 179.

³³ Geoffery C. Saign, *Green Essentials: What You Need To Know About the Environment* (San Francisco, CA: Mercury House, 1994), 112.

³⁴ Ibid.

³⁵ “Deforestation,” International Commission for the Rights of Aboriginal People, November 1997, n.p. On-line. Internet, 20 January 1998. Available from <http://users.skynet.be/icra.belgique/irianll.htm>.

³⁶ “On the Ground: Species Information,” Special World Wildlife Report: WWF Story of the Year, October 1997, n.p. On-line. Internet, 10 December 1997. Available from <http://www.worldwildlife.org/new/fires>.

³⁷ Ronald Bailey, *The True State of the Environment* (New York: The Free Press, 1995), 234.

³⁸ Saign, 115.

³⁹ Mark Baker, 242.

⁴⁰ David O’Conner, *Managing the Environment with Rapid Industrialisation: Lessons for the East Asian Experience* (Paris: Organisation for Economic Co-operation and Development, 1994), 102.

⁴¹ “Asia Environment News,” The Mining Company, no date, n.p. On-line. Internet, 4 February 1998. Available from <http://environment.miningco.com/msubasia.htm>.

⁴² “RI Coral Reef Economic Value Reaches RP 6.5 Trillion Annually.” Environmental News Room, August 1997, n.p. On-line, Internet, 7 November 1997. Available from http://www.indonesiatoday.com/a5/a5_index.html.

⁴³ Frederick, 190.

Chapter 3

Institutional Capabilities

This chapter will lay out some of the institutional capabilities the Indonesian government has at its disposal to address environmental issues. A review of the two major governmental agencies responsible for environmental policies will be followed by the governing regulations and agreements Indonesia abides by. Indonesia's ability to finance environmental policies will then be addressed and the chapter will end with a view of the role of emerging non-governmental organizations (NGOs).

Government Agencies

The State Ministry of the Environment (MLH)

The State Ministry of the Environment is charged with policy formulation and general oversight of environmental matters. There is a national level framework that includes eight central ministries, several state, government-sponsored, and NGO environmental groups, and various regional-level institutions. The entire institutional framework for environmental management can be seen in appendix A.

One of the programs the Ministry of the Environment oversees is the program called Cleaner Production, begun in 1995. Its programs provide education, technical assistance, and help developing partnerships between industries and environmental consultants.

Cleaner Production is a guiding ethic only while programs such as the Clean River Program and Blue Sky Program mentioned in Chapter 2 mandate compliance.

The State Ministry of the Environment is also charged with working with other nations in the region to establish regional environmental goals. They are currently involved in several Southeast Asian regional air and water quality initiatives. The goal is to achieve ambient air quality below 100 Pollutant Standards Index (PSI) and develop water quality standards for four classes of rivers by the year 2010.¹ This type of cooperation is critical to ASEAN as air pollution from one country drifts over another and river pollution runs off into the ocean, affecting the other's territorial waters. This type of conflict will be further developed in the next chapter.

In September 1997, Indonesia hosted the Seventh ASEAN Ministerial Meeting on the Environment in Jakarta and the Ministers adopted 3 flagship projects for implementation, namely the ASEAN Environment Year 2000, ASEAN Environment Awards and the ASEAN Regional Center for Biodiversity Conservation (ARCBC). The ASEAN Environment Year 2000 promotes the theme, "Our Heritage, Our Future." The ASEAN Environment Award promotes and rewards ASEAN Environmentalists for contributions to the protection and betterment of the environment. The ARCBC will develop a network of links among ASEAN member countries and between the ASEAN and European Union partner organizations to promote biodiversity, conservation, and sustainable use of the region's natural resources.²

Environmental Impact Management Agency (BAPEDAL)

BAPEDAL is the agency responsible for managing environmental issues in coordination with the State Ministry for the Environment. There are BAPEDAL

representatives in each region as well as Deputies for Pollution Control, Environmental Impact, and the Institutional Sector. Specific directorates can be seen in appendix B.

One of the more successful programs BAPEDAL is managing is the environmental impact assessment (EIA) process, known as AMDAL. AMDAL was established in 1986 to assess the environmental impact of new projects in Indonesia. One of the priorities is to improve BAPEDAL's oversight abilities to ensure better enforcement of existing laws and more efficient program implementation. There are huge administrative challenges facing Indonesia in trying to maintain control of its thousands of islands and extensive coastlines. Another focus is on urban policies to improve the air and water quality in major cities. BAPEDAL is working on a draft law regarding the treatment of dangerous and poisonous wastes that would mandate severe sanctions against violators.

Education and training, especially on environmental impact control is another goal of BAPEDAL and the AMDAL process. It is a combined effort between the Centers for Environmental Studies (affiliated with Indonesian Universities), Governmental Departments, consultants, non-governmental organizations (NGO) and overseas organizations. Appendix C has a representative list of the various courses offered on environmental impact and management.

Environmental Regulations and Agreements

The Government of Indonesia has a well-established infrastructure in place to tackle environmental problems as discussed in the previous section. They have implemented rules and regulations ranging from the living environment to toxic waste to environmental monitoring procedures. A list of the major environmental impact regulations can be found in appendix D.

Current initiatives include mandating compulsory environmental audits. This would force companies to carry out environmental audits and increase the punishment for companies found guilty of destroying the environment, setting a maximum jail term of 15 years and a maximum fine of \$312,000. The current law only stipulates a maximum jail term of 10 years and a \$4,200 fine.³ Another current initiative is to replace existing legislation. The current legislation is outdated with the extent of current urbanization and industrialization and doesn't adequately address industrial wastes. The legislation will address the need to obtain accurate information in order to enforce the law.⁴

The Government of Indonesia is currently a party to the international agreements on Biodiversity, Climate Change, Endangered Species Act, Hazardous Wastes, Law of the Sea, Nuclear Test Ban Treaty, Ozone Layer Protection, Ship Pollution, Tropical Timber 83, Tropical Timber 94, and Wetlands. They have also signed the following international treaties that have not been ratified yet: Desertification and Marine Life Conservation.⁵

Despite all the laws and regulations, environmentally sound practices are what count. Rules and regulations provide the framework in which to carry out a sustainable environment, but sometimes that is not enough. For example, a mill was ordered to install wastewater treatment equipment that would reduce effluent by up to 90 percent. They complied with the installation but in later inspections, it was found they only turned the equipment on when they knew they were going to get inspected.⁶

Financial Support for the Environment

Indonesia's 1992/1993 budget for natural resources and the environment amounted to \$16.2 billion. Of that, only about 1.2 percent (approximately \$188 million) was dedicated to pollution control activities.⁷ The majority of the money went to resource

exploitation projects rather than conservation projects. This can be expected in a developing nation that needs to exploit resources to increase their gross national product. This is clearly evident in the large sums of money to be made in the forestry industry, marine exploitation, and the illegal wildlife trade as discussed in Chapter 2.

Indonesia fell prey to the economic crisis that hit Asian stock markets in late 1997/early 1998. With the financial crisis still going on in Asia, Indonesia has so far amassed approximately \$40 billion in debt to foreign countries trying to help them bolster the economy.⁸ The rupiah has lost 80 percent of its value against the dollar and an estimated 8 to 14 million people will likely be unemployed this year (a 10 to 40 percent unemployment rate).⁹ It is too early to tell how that will affect environmental programs, but it is likely that environmental programs will have to be scaled back until Indonesia's financial situation stabilizes. With that said, the following financial programs for the environment are currently in place but it is not known how the economic crisis will affect their funding. First of all, the Environment Soft-Loan Program provides loans with lower interest rates to finance pollution control equipment or pay for consulting fees. More than 20 firms, mainly in Western Java, received loans between 1994 and June 1995.¹⁰ A second source of environmental funds is the Consultative Group on Indonesia, a multinational consortium, which extended soft loans worth \$5.3 billion to Indonesia for the 1997-98 fiscal year (FY). A third monetary source is the Pollution Abatement Fund. It has been set up to provide \$300 million to banks to lend to companies investing in pollution abatement and consulting programs.

Outside help is also an essential part of Indonesia's environmental financial base. The World Bank put up \$1.5 billion for environmental programs in Indonesia in 1997, up

from \$1.2 billion the previous year.¹¹ They also approved a \$4 million grant and a \$66.4 million loan to help finance Indonesia's Renewable Energy Small Power Project.¹² The money will be used to entice the private sector to develop and create markets for alternative, renewable energy projects.

Pollution control technology for the booming manufacturing and urban population sector are also providing financial opportunities for the private sector to provide industrial pollution control technologies and manage public works projects. Industries such as chemicals and petrochemicals, paper and pulp, electronics and electroplating, wastewater treatment facilities, and solid waste disposal facilities are an estimated \$1.1 billion market in 1997, a substantial increase from just \$8 million in 1995.¹³

On the opposing side, some contend that money and governmental regulations are leading to environmental devastation.¹⁴ What local individuals used to do for the good of their own society have been taken over and dominated by state and multinational corporations with a multitude of distant interests that may not coincide with local environmental problems. As will be seen in the following chapter, Indonesia has fallen prey to this type of problem with the biggest forest fires of the century that started in the fall of 1997. Large corporations followed their own money-making practice of burning the land versus other methods of land clearing despite the risk to the local populations.

Non-Governmental Organizations

In the past few years, public interest environmental advocacy in Indonesia has increased and proved more effective than in the past. Two established national organizations form the backbone of this network: the Indonesian Forum for the Environment (WALHI) and the Indonesian Legal Aid Foundation (LBH). WALHI is an

umbrella organization for hundreds of grassroots environmental NGOs throughout Indonesia.¹⁵ LBH is a group of human rights and environmental lawyers that provide legal representation to communities throughout Indonesia.¹⁶ These groups are involved in several major litigations with the Indonesian Government that will be explored in more depth in the next chapter.

Indonesia has a well-established environmental infrastructure in place to include government and financial institutions, environmental regulations, and non-governmental organizations but conflicts will continue over the major environmental problems discussed in Chapter 2. The following chapter will highlight the sources of internal and international conflicts that exist within Indonesia and the potential destabilizing effect they will have on the rest of the Southeast Asian region.

Notes

¹ "Seventh Ministerial Meeting for the Environment," 18 Sep 97, n.p. On-line. Internet, 24 January 1998. Available from <http://www.gov.sg/env/sprd/Amme.htm>. Pollution Standards Index (PSI) value descriptions: 101-200 PSI is unhealthy causing mild aggravation and irritation symptoms, 201-300 is very unhealthy causing significant aggravation, 301-400 is hazardous causing early onset of certain diseases, and above 400 is very hazardous causing life-threatening to ill and elderly persons.

² Ibid.

³ "Environmental Audits to be Compulsory," Environmental News Room, July 1997, n.p. On-line, Internet, 7 November 1997. Available from http://www.indonesiatoday.com/a5/a5_index.html.

⁴ "Government Preparing New Environmental Bill," Environmental News Room, no date, n.p. On-line, Internet, 7 November 1997. Available from http://www.indonesiatoday.com/a5/a5_index.html.

⁵ CIA World Fact Book.

⁶ "Environmental Audits to be Compulsory."

⁷ O'Conner, 179.

⁸ CBS Radio News, 14 Jan 98

⁹ Keith B. Richburg, "In Indonesia, Waiting for the Work to Come Back," The Washington Post, 8 February 1998, n.p. On-line. Internet, 10 February 1998. Available from <http://www.washingtonpost.com/wp-srv/Wparch/1998-02/08/155f-020898-idx.html>.

¹⁰ "The Future of the Forest."

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¹¹ Donor Countries Agree to Grant \$5.3 Billion in Loans,” 18 July 1997, n.p. On-line. FBIS-EAS-97-199. On-line. Internet, 21 November 1997. Available from <http://fbis.fedworld.gov>.

¹² “Environmental Shorts.”

¹³ “Opportunities for Pollution Control Technologies,” Environmental News Room, July 1997, n.p. On-line, Internet, 7 November 1997. Available from http://www.indonesiatoday.com/a5/a5_index.html

¹⁴ Jerry Mander and Edward Goldsmith, *The Case Against the Global Economy: and for a Turn Toward the Local* (San Francisco, CA.: Sierra Club, 1996), 501.

¹⁵ Mark Baker, 243.

¹⁶ “Public Interest Environmental Law in Indonesia: Courage, Skill, and Networking,” Environmental Law Alliance Worldwide, Summer 1995 Update, On-line, Internet, Available from http://www.igc.apc.org/elaw/update_summer95.html/#indonesia.

Chapter 4

Sources of Conflict

Internal

In its ranking of the highest priority environmental issues facing the Government of Indonesia, the World Bank listed water supply and sanitation, solid waste management, vehicle emissions, industrial pollution control, and management of forest concessions as the top five.¹ While we discussed these issues in Chapter 2, the following discussion will help illustrate how these are sparking internal conflict in the country.

Lawsuits against industries brought up by the growing environmental groups in the country are on the rise. Three paper mills were charged with discharging untreated wastewater into the Surabaya River. Surabaya, in East Java, is Indonesia's second largest city with a population of more than three million, and contains the largest concentration of Indonesia's industry.² These paper mills are part of over forty industries that discharge their wastewater upstream from Surabaya's drinking water intake site. This is causing concern with the public who want this stopped and the mills charged with crimes.

In Irian Jaya, public interest environmental lawyers with the Irian Jaya Foundation for Community Legal Education are working together to protect the rights of indigenous communities. A system of customary land ownership, recognized in theory under Indonesian law, is in conflict with the government's concession system which allows

timber and mining in the region. In a 1994 protest rally, it was reported that the Indonesian army shot and killed 31 members of an indigenous community near the town of Timika, where mining has silted river beds and overrun fields used to grow sago, a staple crop.³

In yet a third case, lawyers brought lawsuits against four paper mills that are polluting the Ciujung River in Serang, a town in West Java near Jakarta. It is a test case against pulp and paper mills; pioneering the use of “class action” legal standing. Dozens of residents from Serang who use the Ciujung River have joined as a class in the lawsuit, marking the first time that this concept has been attempted in an environmental case in Indonesia.⁴

Other considerations that might spark internal problems include what will happen after President Suharto retires. His government, while promoting environmentalism, has a poor track record of enforcing economic, and thus environmental, rules on monopolies run by family members.⁵ One of his sons was the head of an agro-technology company that had the monopoly on urea tablets fertilizer. The government passed laws to force farmers to use urea tablet instead of the powdered variety and the farmers protested. Three East Java village cooperatives were burned down in protest and the program cost the government over \$6.1 million in lost revenue and subsidies to his son’s company.⁶

Another question that needs to be asked is will environmental groups be given more or less power when Suharto retires. It all depends on who succeeds the current President and if environmental issues will be in their list of priorities. All indications with the burgeoning environmental groups are that they will become more influential, but time can only tell.

Another unresolved issue is that there are currently not enough inspectors to test for compliance. Environmental standards are being enforced on an ad hoc basis at best. The current financial situation is also cause for alarm as environmental interests will have to be weighed against a growing national debt and natural resources will have to be exploited to make up the deficit.

The present forest concessions system presents another environmental problem. The reforestation fee levied on loggers discussed in Chapter 2 is too low an incentive for the loggers to actually replant. It cost them more to replant than the incentive is worth so they pay the reforestation fee but never reforest. It has become the price for doing business. The intent of the law is there to protect and preserve the environment; the economic incentive is not. In just the opposite case, individuals find that the reforestation subsidy is enough of an incentive to cut down the natural forest and get money back for starting tree plantations. They can cut down the natural forest, sell the wood, get money back to reforest and then grow whatever kind of trees that are profitable to them. Neither of these scenarios helps preserve the forest.

External

It is apparent that there is still a lot of external pressure on Indonesia based on the political perspectives of realism versus idealism, and the economic perspectives of mercantilism and structuralism. The clash between the realist, (i.e. Indonesian Government) view and the idealist view (rest of the world) is best summed up by Collinwood's statement in his book *Global Studies: Japan and the Pacific Rim*. He said, the "exploitation of Indonesia's amazing panoply of resources is drawing the ire of more and more people around the world who fear the destruction of the world's ecosystem." ⁷

There is a clash between those that want the state to survive by using its natural resources and the “rest of the world” who take on the idealist perspective that Indonesia’s resources are part of the global structure and therefore feel compelled to become involved in Indonesian affairs.

Taken a step further, environmental groups characterize tropical rain forests as the lungs of the world and the genetic repository for numerous species of plants and animals that are the heritage of all of mankind. Such views lead Europeans, North Americans, or Japanese to challenge the timber-cutting policies of Brazilians and Indonesians.⁸ The question comes up as to how far can we push the environment before destroying it. Depending on one’s perspective, the answer can be at opposite ends of the spectrum. For example, Indonesia proposed to ban the export of rattan because they didn’t want to deplete the resource and wanted to retain it for domestic use. Environmentalists raved but the United States and the European Community criticized the Indonesia government for not upholding fair trade practices. They accused the government of taking protectionist steps and threatened to impose economic sanctions against Indonesia’s exports.⁹

Another way for international environmental conflict to arise is when a country takes on any view as long as it suits their needs. A country professes concern for protecting the global environment, but for economic reasons, they look the other way. A glaring U.S. example is our professed global diplomacy concern about deforestation as discussed in Chapter 1 and the fact that we are the largest timber consumers on Earth. The U.S. government buys huge quantities of rain forest timber, usually as plywood or veneer, from Southeast Asia, including Indonesia.¹⁰ We tend to think environmental issues start

with grass roots organizations applying pressure to corporations to follow government environmental standards and then forget to look at the choices of the government itself.

Another perspective on the situation is brought out in the context of structuralism and the difference between core and periphery economies. Indonesia is an emerging nation, a so-called Asian Tiger that is trying to develop its economy to compete with the industrialized nations. The dilemma is that “while the rich and well fed are more interested in the environment because they want to secure their future, the poor and dispossessed, caught in daily struggle to survive, are more interested in the environment because they want to secure their present.”¹¹ Indonesia has millions of people that depend on natural resources, both to exploit and to conserve, in order to survive. The forest fire study explored next is a good example of how internal and external pressures combine to create an environmental disaster.

Forest Fire Case Study

In all too many countries of the world, serious attention to issues of environmental degradation...came only after a catastrophic event galvanized government action.

—The World Bank¹²

The following forest fire study will exemplify how the U.S. could become more involved in an environmentally-induced destabilized region based on Indonesia’s environmental problems, institutional capabilities, and types of environmental conflicts discussed above.

As discussed in the tropical forest section of Chapter 2, forestry activities comprise at least 15 percent to Indonesia’s exports and land clearing for economic reasons has been going on for decades. Haze and smoke from land clearing has gotten worse over the

years as well. In the past, the haze was blamed on slash and burn agriculture practices but this year it is blamed on the \$1 billion dollar a year oil palm industry.¹³ On September 15, 1997 the Indonesian Government ordered all companies to cease “slash and burn” land-clearing within 15 days. In response to this directive, it appears that many companies actually increased their “slash and burn” practices to prepare additional lands for plantations and timber estates before the deadline became effective.¹⁴ Accelerated by a drought brought on by the 1997 El Nino event, many fires spread out-of-control.

Most of the fires started on the islands of Sumatra and Kalimantan and engulfed Indonesia and neighboring countries in haze and smoke. Singapore, Malaysia, and Indonesia air pollution indices were 6-7 times the normal limits. The fires caused the worst air pollution in Singapore’s history.¹⁵ According to an Asiaweek magazine article on October 3, 1997, “Every year smoke from man-made forest fires in Indonesia envelops parts of Malaysia and Singapore in a cloud of gas and ash. It was unpleasant, but life went on. This time it’s different. The air is the worst it has ever been.”¹⁶ Government and private organizations issued more than two million masks but hundreds of thousands of people were still affected by respiratory problems due to the hazardous air.¹⁷ President Suharto issued a formal apology for the fires on 17 September 1997 while addressing the seventh ASEAN Ministerial Meeting on the Environment mentioned in Chapter 3.¹⁸ Just over a week later, the Indonesian Government declared the forest fires a national disaster. Figure 6 shows the extent of the forest fires and smog throughout the region just a month after the government’s announcement. The final emergency report from the United Nations, dated December 1997, located in appendix E is a

comprehensive summary of the efforts to control the fires. Some of the more important long-term issues are discussed next.

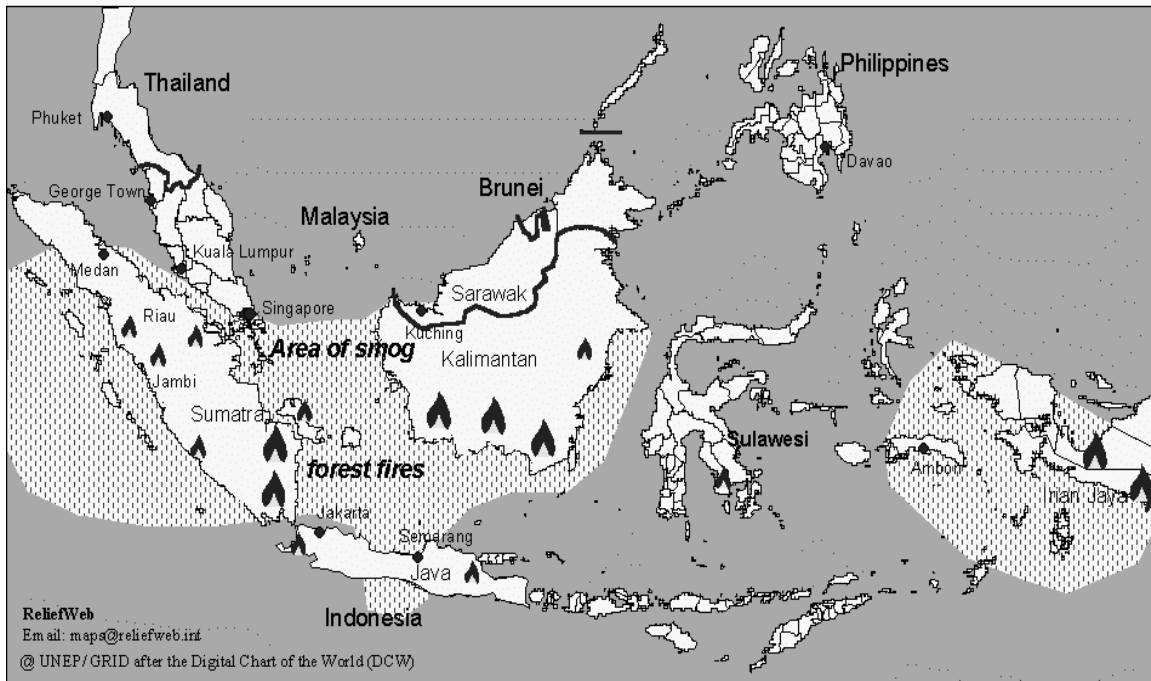


Figure 6. Extent of Smog due to Forest Fires (31 October 1997)

Long Term Implications

One of the first things this disaster showed was that the government was not prepared to handle this magnitude of disaster despite the environmental infrastructure in place. Most of the infrastructure as noted in Chapter 3 is in place to promote sustainable development and exploitation of resources, not preservation. It also brings out the issue of enforcing policy that is in place and how to stop such a large environmental disaster once it's started. Although President Suharto did not formally request international assistance, he did accept a large contingent of international help that "played an especially important role" according to the UN Department of Humanitarian Affairs situation report located in Appendix E. The U.S. contributed over \$5 million to the effort

and the U.S. Air Force contributed the bulk of the support by deploying three C-130 aircraft to provide aerial fire-fighting support and USTRANSCOM-provided airlift for medicine, water purification systems, and transport for international disaster personnel, supplies and equipment.¹⁹ For the first time ever, the U.S. government authorized the evacuation of the U.S. Embassy for medical reasons, and over 100 people were evacuated from Kuala Lumpur, Malaysia.²⁰ Major General Charles H. Coolidge, Jr., in his USTRANSCOM briefing to ACSC students on 10 February 1998 even showed the Indonesia Forest Fires as one of USTRANSCOM's major events for FY 1998.

Internally, the Ministry of Forestry and the Ministry of the Environment are currently investigating a total of 176 companies: 133 plantation companies, 28 timber estate companies, and 15 transmigration sites. The Government temporarily revoked the operating permits of these companies and announced it intends to take legal actions against companies that deliberately set fires.²¹ By October 4, permits had been revoked for 29 companies out of the 66 that failed to submit reports rebutting accusations that they had started fires.²² The Indonesian Ecological Movement Wahli believes these companies have destroyed at least 1.7 million hectares of forested land.²³

Internationally, President Suharto's public apology and acceptance of Indonesia's responsibility for this environmental and health crisis could have destabilizing effects for years to come.²⁴ Long term effects will include health, financial, legal, as well as environmental concerns. The fire affected not only Indonesia, but also its neighbors in the region; Malaysia, Thailand, Brunei, New Guinea, and the Philippines. Indonesian health officials estimate at least 20 million people suffered from respiratory, skin, and eye ailments.²⁵ While the number from neighboring states have not been tabulated, noting

that the smog spread over some of the more populated Southeast Asian cities in Singapore and Malaysia, it is likely to be at least twice that number in the final analysis. The haze from the fires was also a contributing factor to the crash of an Indonesian plane crash that killed all 234 people on board.²⁶ It also caused three ship collisions in the Strait of Malacca; tying up ship traffic, killing 29 people, and having the potential to cause an even worse environmental disaster had it been two oil tankers that collided.²⁷

In summary, Indonesia has established policies and standards designed to prevent environmental disasters such as those caused by these fires, yet a disaster still happened. The government will face enormous pressure not to push the case against the politically powerful loggers and not to review destructive logging practices and land-use policies that have permitted the clearing of large tracts of forest every year.²⁸ The economic fallout could be tremendous as well. “The strong winds of market demand and the smoldering coals of collusion are likely to keep the fires raging for many dry seasons to come,” according to Margot Cohen in a *Far East Economic Review* article about the fires.²⁹ The international community and most certainly the neighboring countries will remember this for a long time and any future environmental problems in Indonesia will surely bring about an even greater international outcry. While understanding and helpful this time, Malaysia and Singapore have both threatened legal actions against Indonesia if future environmental problems emanate from Indonesia and affect their countries.³⁰ Legal actions by countries and individuals for lost wages, deaths associated to the fires, and long-term health care will continue to undermine Indonesia’s environmental track record. The government will have to walk a fine line in the future to prevent a similar

environmental disaster while balancing economic growth with preservation of natural resources.

Notes

¹ The World Bank, *Indonesia: Environment and Development* (Washington, D.C., 1994), 259.

² "Public Interest Environmental Law in Indonesia: Courage, Skill, and Networking."

³ Ibid.

⁴ Ibid.

⁵ John McBeth, "Dept of Connections," *Far Eastern Economic Review*, Vol. 160, No. 42, 16 October 1997; 56.

⁶ Margot Cohen, "Barren Business," *Far Eastern Economic Review*, Vol. 160, No. 42, 16 October 1997, 60.

⁷ Collinwood, 57.

⁸ Richard N. Cooper, *Environment and Resource Policies for the World Economy* (Washington, D.C.: The Brookings Institution, 1994), xxi.

⁹ Mander and Goldsmith, 57.

¹⁰ "Conservation Action," Special World Wildlife Report: WWF Story of the Year, October 1997, n.p. On-line. Internet, 10 December 1997. Available from <http://www.worldwildlife.org/new/fires>.

¹¹ Philip Shabecoff, *A New Name for Peace: International Environmentalism, Sustainable Development, and Democracy* (University Press of New England, 1996), 161.

¹² The World Bank, xxiii.

¹³ Cohen, 28.

¹⁴ "The Government Response on Fires," Indonesian Forestry Community, Environmental News Room, October 1997, n.p. On-line, Internet, 29 December 1997. Available from http://www.indonesiatoday.com/a5/a5_index.html.

¹⁵ "Government Urged To Take Effective Measures To Control Haze," Kuala Lumpur, The Star (Internet version) in English, FBIS-TEN-97-259, 16 Sep 1997 n.p. On-line. Internet, 10 November 1997. Available from <http://fbis.fedworld.gov>.

¹⁶ Shepherd, 29.

¹⁷ "The Government Response on Fires."

¹⁸ "RI Offers its Most Sincere Apologies," Environmental News Room, 17 September 1997, n.p. On-line, Internet, 29 December 1997. Available from http://www.indonesiatoday.com/a5/a5_index.html.

¹⁹ "Southeast Asia Environmental Emergency Situation Report No. 8."

²⁰ Murray Hiebert, S. Jayasankaran, and John McBeth, "Fire in the Sky," *Far Eastern Economic Review*, 9 October 1997, Vol. 160, No. 8, 78.

²¹ Ibid.

²² "Deforestation." International Commission for the Rights of Aboriginal People, November 1997, n.p. On-line. Internet, 20 January 1998. Available from <http://users.skynet.be/icra.belgique/irianll.htm>.

²³ Ibid.

Notes

²⁴ Ibid.

²⁵ "Southeast Asia Environmental Emergency Situation Report No. 8."

²⁶ Murray Hiebert, S Jayasankaran, and John McBeth, 75.

²⁷ "On the Ground: Fire Facts." On-line.

²⁸ "The Government Response on Fires."

²⁹ Cohen, 28.

³⁰ Choong Tet Sieu, "Scorched," *Asiaweek*, 10 October 1997, Vol. 23, No. 40, 42.

Chapter 5

Conclusions

Indonesia is well endowed in natural resources and has the fourth largest population in the world, coral reefs that stretch over 3,000 miles, ten percent of the world's tropical forests and over seventeen percent of the world's species. Natural resources are a blessing and a curse and Indonesia is in the position of trying to balance an environmental program of sustainable development with an economic program of rapid industrialization. With the current emphasis by the U.S. and other industrialized nations on conserving global resources, it is not an easy balance for Indonesia to maintain. If they try and conserve resources, they bring about the ire of other nations as seen in Chapter 4, and if they continue to exploit; they will face problems with sustainable development in the future.

While there is a well-established infrastructure in place to formulate environmental regulations, enforcement has become lax and in some instances, non-existent.¹ While the State Ministry of the Environment and BAPEDAL have a host of rules, regulations, and training programs in effect, they are still at the mercy of private companies and conglomerates to follow through with sound environmental practices.

What this leads to is the type of internal and international conflicts discussed in Chapter 4. Internally, the government has to deal with lawsuits against industrial

polluters, companies with connections to the political leaders that find ways to work around the law, and a host of emerging NGO's that are ready to put the government's policies to a test. Internationally, Indonesia's vast resources are drawing other nations into a world debate on just how much exploitation is enough to allow Indonesia to sustain itself yet sustain the biodiversity, marine life, and tropical forests for the "global ecosystem." This is bound to yield some conflict with the U.S. as it professes that environmental issues are becoming part of the mainstream of American foreign policy and have a profound impact on our national interests of maintaining stability in the region. This was brought to light in the 1997 Indonesian forest fire disaster that saw the U.S. become involved in such activities as fire-fighting, transporting medical supplies, personnel and equipment, and evacuating the American Embassy in Kuala Lumpur, Malaysia.

While there are many political, economic, and military reasons for U.S. involvement in Indonesia, it is clear by looking at the U.S. response to the forest fire that environmental issues can now be added to the list. As the preceding chapters have shown, environmental issues emanating from Indonesia have and will continue to cause instability in Indonesia and throughout Southeast Asia. With fingers pointing at Indonesia for the current environmental disaster, Indonesia's next major environmental disaster will likely increase U.S. involvement to protect U.S. national security objectives in the Southeast Asian region.

Further Study

This paper was written during a very volatile period in Indonesian history. They had what some experts feel is the worst man-made environmental disaster ever, the forest

fires of 1997. The results shown here are preliminary as there were still forest fires burning at the time of this publication. It would be an interesting follow-on study to fully explore the ramifications of the forest fires and see how the long term implications discussed in Chapter 4 actually turn out.

A tremendous drop in the Indonesian stock market occurred about the same time as the forest fires and the government is still reeling from rampant inflation and devaluation of their currency. It will be interesting to see how the economic crisis plays out in the environmental arena. While mentioned briefly in Chapter 3, it would be interesting to look at Indonesia's environmental problems from a purely economic perspective. I found many interesting articles on the economic value or non-value of such areas as timber production and biodiversity but they were well outside the scope of this paper.

Other recommended areas for further study include looking at each of the environmental problems in more depth and focusing on how each individual problem contributes to regional instability. Another way to approach the environmental issue in Indonesia would be from a more global perspective, rather than an Indonesian-centric perspective. This would involve exploring how Indonesia interacts with and impacts the global environmental movement and how well they follow the international regulation and treaties they have signed up to.

Notes

¹ John McBeth, "El Nino Gets Blamed," *Far Eastern Economic Review*, 9 October 1997, Vol. 160, No. 41, 80.

Appendix A

National Level Institutional Framework for Environmental Management¹

Central Ministries

- Industry
- Forestry
- Public Works
- Ministry of Home Affairs
- Agriculture
- Mines and Energy
- Communications and Transportation
- Health

Environmental Agencies

- State Ministry for the Environment (MLH)
- Environmental Impact Management Agency (BAPEDAL)
- Environmental Studies Centers Network (BKSPL)
- Government sponsored and Non-Profit Research Agencies
- Private Sector/Non-governmental Organizations (NGOs)

Other Key Agencies

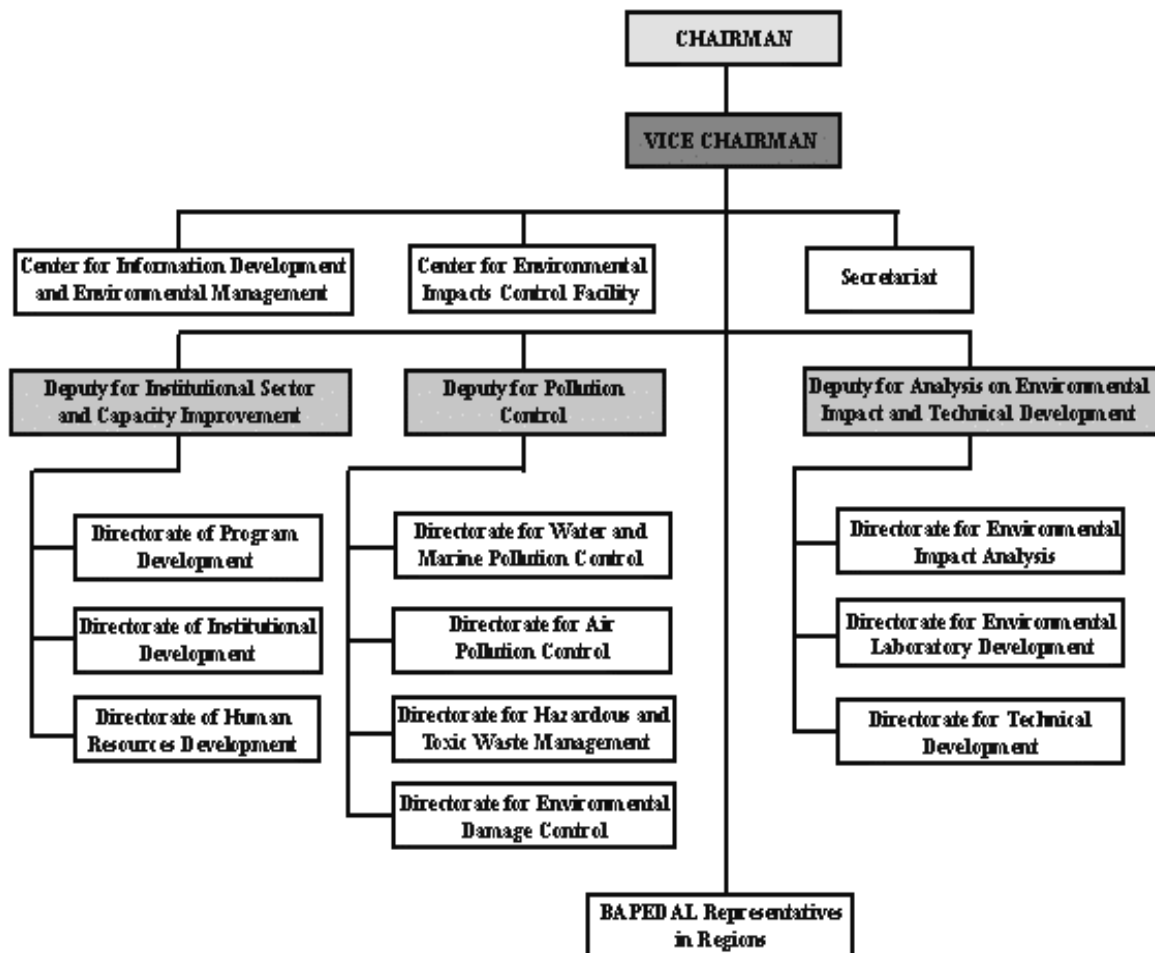
- State Planning Agency (BAPPENAS)
- Central Bureau of Statistics (BPS)
- Mapping Agency (BAKOSURTANAL)
- Land Management Agency (BPN)
- Technology Assessment Agency (BPPT)
- Various regional-level institutions mirroring the national-level institutions

Notes

¹ The World Bank, 180.

Appendix B

Environmental Impact Management Agency (BAPEDAL) Organizational Chart¹



Notes

¹ Environmental Impact Management Agency, no date, n.p. On-Line, Internet, 15 December 1997. Available from: <http://www.bapedal.go.id>.

Appendix C

Courses Taught In Environmental Impact and Management¹

Curricula for AMDAL Courses:

- Basic AMDAL Course
- AMDAL Authors
- AMDAL Evaluation

Curricula for Courses on Environmental Impact Control:

- Water pollution Control
- Air Pollution Control
- Toxic and Hazardous Waste Management
- Marine and Coastal Pollution Control
- Wastewater Management
- Environmental Law Enforcement
- Control of Environmental deterioration
- Environmental Audits
- Evaluation development and implementation of Courses and training on Environmental Impact Control
- Preparation of Modules of cases studies for appropriate solutions to Environmental problems

Other Courses In Environmental Impact Control:

- Basic Water Pollution Control
- Basic Hazardous Waste Management
- Advance Hazardous Waste Management
- Liquid Waste Management
- Environmental Task Force
- Air Pollution Control
- Sea Pollution Control

Notes

¹ “Human Resources Development in Environmental Impact Control,” Environmental Impact Management Agency, no date, n.p. On-Line, Internet, 15 December 1997. Available from: <http://www.bapedal.go.id/profile/programs>.

Appendix D

RULES AND REGULATIONS REGARDING ENVIRONMENTAL IMPACT MANAGEMENT¹

1. Act Of The Republic Of Indonesia No. 4 Of 1982 Concerning Basic Provision For The Management Of The Living Environment
2. Government Regulation Of The Republic Of Indonesia Number 20 Of 1990 Concerning The Control Of Water Pollution
3. Government Regulation Of The Republic Of Indonesia Number 51 Of 1993 Regarding Environmental Impact Assessment
4. Government Regulation Of The Republic Of Indonesia Number 19 Of 1994 Regarding Hazardous And Toxic Waste Management
5. Decree Of The Minister Of State For The Environment Of The Republic Of Indonesia No. Kep-10/MENLH/1994 Concerning Cancellation Of Decrees Of The Minister Of State For Population And The Environment No. 49, 50, 51, 52, 53/MENKLH/6/1987
6. Decree Of The Minister Of State For The Environment Of The Republic Of Indonesia No. Kep-12/MENLH/3/994 Concerning General Guidelines For Environmental Management Procedures And Environmental Monitoring Procedures
7. Decree Of The Minister Of State For The Environment Of The Republic Of Indonesia No. Kep-13/MENLH/3/1994 Concerning Guidelines For Membership And Working Procedures For AMDAL Commissions
8. Decree Of The Minister Of State For The Environment Of The Republic Of Indonesia No. Kep-14/MENLH/3/1994 Concerning General Guidelines For The Preparation Of Environmental Impact Assessment
9. Decree Of The Minister Of State For The Environment Of The Republic Of Indonesia No. Kep-15/MENLH/3/1994 Concerning Establishment Of An Environmental Impact Assessment Commission For Integrated/Multisectoral Activities
10. Decree Of The Minister Of State For Environment Of The Republic Of Indonesia No. Kep-42/MENLH/11/1994 Regarding General Guidelines For The Implementation Of Environment Audits
11. Decree Of The Head Of The Environmental Impact Management Agency Of The Republic Of Indonesia No. KEP-056 Of 1994 Concerning Guidelines For The Determination Of Significant Impact

Notes

¹ “Rules and Regulations Regarding Environmental Impact Management,” Environmental Impact Management Agency, no date, n.p. On-Line, Internet, 15 December 1997. Available from: <http://www.bapedal.go.id/env/policy>.

Appendix E

Southeast Asia Environmental Emergency Situation Report No. 8¹

Ref: DHAGVA - 97/0873

DISASTER SITUATION

1. In September-November 1997, parts of several countries in South East Asia, including Malaysia, Singapore, Brunei, the Philippines, Thailand, and Indonesia, were affected by heavy air pollution, primarily caused by exceptionally large-scale forest fires in Indonesia.
2. According to official information, by now most of the forest fires in Indonesia have been extinguished. Scattered and sporadic rains have been falling throughout the archipelago, including the length of Sumatra and Kalimantan, the two islands subject to the worst and the longest-standing forest fires. The monsoon wet-season has started and is expected to also extinguish any peat-bog fires that are smoldering underground.
3. Based on national data, it is understood that the haze impacting on neighboring countries has cleared due to changes in wind direction and the significant reduction in the total number of fires burning. The ASEAN National Tourism Organization recently issued a joint advisory announcing that Brunei, Malaysia, the Philippines, Singapore, Thailand and Indonesia are totally clear from smoke.

4. The health impacts of the forest fires, haze and prolonged drought have been significant. Indonesian health officials estimate that the health of some 20 million of the country's people has suffered over the course of the past few months. The Ministry of Health is in the process of compiling statistics related to the number of reported cases of upper respiratory tract infections from August until November 1997. Other illnesses that have been aggravated or caused by the smoke include conjunctivitis, asthma, bronchitis, eczema, and skin and eye ailments.

5. Neighboring countries are also reporting on the health consequences of several months of smog. The Singapore Ministry of Health reports that the number of respiratory, skin and eye ailments rose nearly 14 percent from August to October 1997. Malaysia is reporting similar figures, although little data is yet available for November/December 1997.

6. There are many economic, environmental and social costs associated with the forest fire disaster that remain to be calculated. For example, preliminary estimates from the Ministry of Forestry indicate that some 165,000 hectares of forests have been destroyed; however, these figures are only until October 1997. Furthermore, the economic costs are only beginning to surface, and a complete understanding of consequences may not be reached for several months to come.

7. In this respect, the State Ministry for the Environment has begun to work with other government agencies and organizations to assess the economic, environmental and social costs of the forest fire disaster and their potential policy implications. Systems and procedures will need to be improved, and early warning systems developed in regions

throughout the archipelago in order to ensure that Indonesia does not experience a reoccurrence of this year's disaster.

8. Long-term meteorological forecasts suggest that the monsoon season may be very short and with unusually low rainfall, which would contribute to an early dry season next year.

9. In this connection, it is important for the national authorities to be in a state of readiness, with suitably trained local personnel, before the onset of the next dry season, which is anticipated to commence around March 1998.

National Response

10. The Indonesian authorities have taken steps to respond to this emergency, by involving professional fire fighters, military personnel, forest rangers, police officers and local volunteers. Relevant Governmental bodies, scientific establishments and NGOs have taken part in fire fighting operations. National efforts were coordinated by the National Disaster Management Coordinating Board (BAKORNAS PB).

11. The Government of Indonesia declared a national emergency and, while not formally appealing for international assistance, confirmed that it would welcome such assistance, especially in the field of fire fighting.

12. Based on the improved situation, the Indonesian Minister of Environment has requested the Chairman of the National Disaster Management Coordinating Board (BAKORNAS PB), at the end of November 1997, to withdraw the National State of Emergency, which has been in effect in Indonesia since September 1997. While the authorities are continuing to monitor the forest fire situation, national attention is now

shifting to the health-related consequences of the prolonged dry season, the monsoon season and related issues such as possible flooding and the outbreak of diseases.

International Response

13. It is recognized that primary responsibility to deal with the emergency lies with the Government, and that international assistance would supplement national efforts. At the same time, taking into account the exceptional proportions of this disaster, international help has played an especially important role.

14. A summary of contributions for Indonesia reported to DHA by donors, is given below.

United Nations System:		US Dollars
DHA	Dispatch of an UNDAC team	+
	Emergency grant	50,000
UNDP	Forest fire impact assessment and mitigation project	200,000
UNICEF	Provision of 21,650 face masks	20,000
	Procurement of ARI drugs for children in Sumatra and Kalimantan	++
WHO	Cash	200,000
	Purchase of High-Volume Air Respirable Particle Samplers	++
	Provision of health advisors	++
IGO's:		
EUROPEAN UNION	Technical assistance, including 4 basic fire fighting packages	363,028
OPEC	Cash through DHA	200,000
Governments:		
AUSTRALIA	Cash	720,000
	Cash for Water bombing	720,000
	Provision of two tractor water-bombing planes	++
	Cash	211,276
	12 ground fire fighting packages, plus training	++

CANADA	Co-funding (50 per cent) of a regional forest fire project aimed at establishing a long-term regional wild fire response strategy, information system and action plans	719,424
	Dispatch of 2 forest fire control specialists to assist the Indonesian National Environmental Impact Management Agency	53,956
	10 basic forest fire fighting packages (estimated cost without transportation)	266,187
	Four fire fighting experts	82,733
CHINA	Supplies/goods	120,000
FINLAND	Dispatch of fire-fighting/management expert	24,500
	Fire fighting equipment (pumps, engines etc) (1 Peat fire fighting package)	32,000
FRANCE	Dispatch of 3 fire-fighting experts	++
GERMANY	Dispatch of fire fighting experts	++
	Provision of one UNDAC team member	++
	Provision of training for 100 armed forces personnel in East Kalimantan	58,139
JAPAN	Cash	77,500
	Dispatch of a 6-member disaster relief team	145,193
	Provision of 300 portable fire extinguishers, plus transport	147,372
	Water cannons	144,781
	Provision of relief goods: 50 portable fire pumps, 300 portable fire extinguishers, 50 portable megaphones, 50 portable transceivers, plus transport	623,470
	Dispatch of a 43-member disaster relief team (II), monitoring by helicopters	1,874,072
REP. OF KOREA	Cash	100,000
MALAYSIA	Dispatch of 1,257 fire fighters to Sumatra and 196 firefighters to West-Kalimantan and medical personnel as well as ground fire-fighting instruments (and aircraft for cloud-seeding)	++
	Provision of three C-130 planes	++
NEW ZEALAND	Cash through DHA (partly for Irian Jaya)	128,205
NORWAY	Provision of one UNDAC team member	++
	Cash through (partly for Irian Jaya)	141,242
	Protective clothing and boots through DHA	149,882
RUSSIAN FEDERATION	Dispatch of 3 fire-fighting experts	17,000
SINGAPORE	Provision of one C-130 plane	++

SWEDEN	Dispatch of one UNDAC member	++
	Dispatch of one fire-fighting expert	48,355
	Provision of one UNDHA delegate (relief coordination expert) for a period of 2-3 months	33,240
	10 basic fire fighting packages, 10 peat fire fighting packages, plus trainers and transport	121,409
SWITZERLAND	Provision of one UNDAC team member	++
THAILAND	Fire-fighting equipment. Provision of 10-persons fire-fighting team	49,453
UK	Cash through DHA (partly for Irian Jaya)	90,000
	Provision of two UNDAC team members	++
	Provision of one UNDHA delegate (fire fighting expert) for a period of 2-3 months	40,000
USA	Cash through DHA	25,000
	Deployment of three C-130 aircraft to provide aerial support to fire fighting operations, plus medicines, water purification, relief items and transport	5,000,000
	Provision of satellite data on active-fire areas	++
Private Organizations:		
CALTEX P.I.	4 million heavy duty respiratory masks	++
Other Organizations		
Asian Disaster Preparedness Centre	Dispatch of 1 expert	++
Chamber of Commerce of Taiwan	100,000 masks	++
	Cash	57,143
TOTAL		13,054,560

++ = value of contribution not specified

15. DHA has been serving as a channel for cash contributions to be used during the immediate relief phase. Funds are spent in coordination with relevant organizations of the UN system, and DHA provides donor Governments with written confirmation on the utilization of funds contributed.

UNDAC ACTIVITIES

16. On 27 September 1997, a United Nations Disaster Assessment and Coordination Team (UNDAC) was urgently dispatched to Indonesia, at the request of the United Nations Resident Coordinator. It was tasked to ensure close links between national and international relief coordination efforts, and assess needs for international assistance in connection with this disaster. The UNDAC Team has been working in Indonesia, in close cooperation with the UN Resident Coordinator, the competent national authorities, local donor country representatives, UN agencies, and relevant international non-governmental organizations.

17. The UNDAC Team left Indonesia on 18 November 1997, but two DHA delegates remained in Jakarta, until mid-December 1997, to provide further support to the UN Resident Coordinator and the Indonesian Government, as required.

18. UNDAC mission report was released at the end of November 1997, and disseminated among the donor community, relevant UN agencies and international organizations as well as the Indonesian authorities. Copies of this report are available at DHA on request.

19. This is the last situation report on this disaster unless there are unforeseen developments. DHA Relief Coordination Branch, and its Joint UNEP/DHA Environment Unit, will stay in touch with the Indonesian authorities for any possible assistance, which may be required at a later stage.

Telephone number: +41-22-917-1234.

In case of emergency only: +41-22-917-2010

Desk Officers: Mr. Vladimir Sakharov, Head, Joint UNEP/DHA Environment Unit,
(Direct tel: +41-22-917-11 42);

Mrs. Sabine Metzner-Strack, Asia and Pacific Desk (Direct Tel. +41-22-917 21 44);

Mr. Rudolf Mueller, Asia and Pacific Desk, (Direct Tel. + 41-22-917 31 31),

DHA Relief Coordination Branch.

Press to contact: Ms. M. Moulin-Acevedo, direct tel: +41-22-917-2856. Telex: 41 42 42

dha ch

Fax: +41-22-917-0023

E-Mail: info at dha.unicc.org

DEPARTMENT OF HUMANITARIAN AFFAIRS

Notes

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