

## **2. Globalization and environmental governance: a case study of Thailand\***

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## 1. Introduction

Thailand's development strategy has been based on rapid economic growth led by industrialization and export expansion. The 1960s were a period of import substitution policies. Export promotion policies were introduced in the 1970s and expanded ever since. It is in the mid-eighties that Thailand, together with other Southeast Asian countries such as Malaysia and Indonesia started to bring about a greater export orientation and to substantially liberalize capital movements. The export sector, which since then has experienced double-digit annual growth rates for years, is the principal engine of growth of the Thai economy. Thus, the period starting from the mid-eighties can be regarded as the start of Thailand's involvement in current processes of economic globalization. This period registered a spectacular surge in Thailand's international trade and investment (see Tables 1 and 2).

Data based on the significance of trade and foreign direct investment (FDI) to the economy for 1980 and 1993 (Dunning, 1997: 20) give an indication of the extent to which Thailand can be said to be globally involved. The FDI to GDP ratio (stock) of Thailand was 1.5 for 1980 and 5.9 for 1993; the trade to GDP ratio was 23.5 for 1980 and 29.7 in 1993, which rank Thailand respectively 19th and 8th, from a set of data covering both developed and developing countries<sup>1</sup>.

Thailand's involvement in globalization processes is also illustrated by its participation in negotiations of various international and regional trading arrangements. Thailand has commitments to over 40 WTO agreements and decisions in areas of trade in goods, trade in services, intellectual property, and trade-related rules (Thailand Ministry of Commerce). Thailand is also signatory party to the ASEAN Free Trade Area (AFTA), which aims at removing tariff and non-tariff barriers to intra-regional trade.

The rapid economic growth resulting from industrialization and export promotion has generated new financial resources, access to new technologies, products and services that enhanced capabilities to prevent and limit environmental risks associated with economic growth. Income and education levels have been substantially increased, living standards have risen and, despite persistent inequalities, poverty has been significantly reduced. All these factors have contributed to economic and social welfare of the Thai people.

On the other side, industrialization and greater involvement in international trade and finance have resulted in the depletion of resources, higher levels of air and water pollution and deforestation.

Before the 1970s, industrial or chemical pollution did not cause alarming environmental problems in Thailand. As the Thai economy experienced structural changes, the source and scale of pollution and

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<sup>1</sup> The FDI to GDP ratio (stock) is calculated by inward + outward investment divided by GDPx2. The trade to GDP ratio is calculated by exports + imports divided by GDPx2.

resource depletion were altered, causing critical environmental problems. These changes, both in the economy and the environment have been stimulated by Thailand's increasing involvement in processes of economic globalization.

In Thailand, as in the other developing countries having successfully exploited opportunities provided by globalization of the world economy, facing negative environmental effects of globalization does not mean opposing the economic forces behind globalization per se. Rather, the approach consists in trying to minimize negative environmental effects of globalization by means of regulatory innovation, greater public awareness and promoting a more environmentally responsible business attitude. Even in the aftermath of the 1997 economic crisis, Thai leaders have remained committed to a free-market economy, as Thai prime minister made it clear in his address to the East Asian Economic Summit in October 1999.

Thailand's integration into the global economy has brought about new challenges and opportunities to the environment and the way in which Thai people deal with environmental problems. In this process, environmental governance systems have been altered in terms of the institutions, the actors involved in, and the instruments of governance. While some of these changes were initiated since the early 1960s-1970s, others may be considered as a direct response to economic globalization. The purpose of this study is to analyze the process and result of such changes.

For that purpose the following questions are addressed:

1. How have processes of economic globalization through trade and investment impacted the environment in Thailand?
2. Which market and policy failures are associated with Thailand' involvement in processes of economic globalization and how do they affect environmental issues?
3. How have environmental governance systems changed as a result of environmental challenges and opportunities brought about by economic globalization?
4. Are the present environmental governance institutions and mechanisms effective to deal with environmental problems associated with processes of economic globalization?
5. What has been the impact of the Asian economic crisis on environmental governance systems in Thailand?

## **2. Economic globalization and the environment in Thailand**

International trade and investment are the two main channels of Thailand's integration into the global economy. Both have been facilitated and fostered by globalization trends in the world economy. The expansion of Thai exports, which made a substantial contribution to economic growth was attributed to the country's commercial and industrial policies, world income and demand growth, and the orientation of investment (Akrasanee N, Dapice D. and Flatters F., 1991: 15).

Table1 Change in the value of Thai total exports and imports 1984-1990 (Million of Bath)

Year	1984	1985	1986	1987	1988	1989	1990
Total exports	175,237	193,366	233,383	299,853	403,570	516,315	589,813
Total imports	245,155	251,169	241,358	334,208	513,114	662,679	844,448

Source: Thailand Economic Information Kit, June 1992

Table 2 Net flow of FDI by Thailand's major investment countries\* 1984-1990 (Million Bath)

Country	1984	1985	1986	1987	1988	1989	1990
Hong Kong	351.8	649.0	955.7	796.2	2,794.5	5,715.7	7,507.6
Japan	2,588.1	1,534.0	3,049.0	3,268.7	14,607.6	18,761.6	27,820.5
Singapore	1,121.3	(1,21.9)	403.1	535.3	1,572.0	2,748.1	5,909.4
U.S.A.	3,733.2	2,387.5	1,293.7	1,815.7	3,184.7	5,220.3	5,844.2

Source: Thailand Economic Information Kit, June 1992

\* Equity and loans from parent or related companies, including capital funds of foreign commercial banks.

Strong linkages of Thai economy with the internationalization of trade and production together with growth focusing development strategies resulted in rapid structural changes in the economy, with the industry share of GDP largely outpacing that of agriculture (Table 3). Such changes have altered the origin, scale and consequences of environmental problems.

Table 3 Structural change of Thailand's economy 1975-1995

(%of GDP)	1975	1985	1994	1995*
Agriculture	26.9	15.8	10.5	10.9
Industry	25.8	31.8	37.0	37.6
Manufacturing	18.7	21.9	28.5	29.2
Services	47.3	52.3	52.5	51.5
Average annual growth	1975-84	1985-95	1994	1995*
Agriculture	4.1	2.9	4.2	3.3
Industry	8.3	13.2	11.2	11.3
Manufacturing	7.6	13.7	12.0	12.3
Services	6.6	9.2	8.1	7.8

Source: World Bank, International Economics Department, 1996.

Note: \* estimates

In the following sections, some of the modalities of Thailand's involvement in processes of economic globalization are considered with their environmental implications. The issues include intensive export-oriented agriculture, fishing, aquaculture, forestry and industrial production.

### **Agricultural export expansion**

For many years, agriculture has received strong support from government. The reason lies in Thailand's comparative advantage in agricultural exports, and also because the majority of the labor force works in that sector. The share of agriculture in the national budget varied between 7.4 and 10 percent, making it the third-largest sector of government budget allocations, after education and national defense since 1961

(Yamada J, 1998: 6).

Since the 1970s, agriculture in Thailand has been labor-intensive and export-oriented. Agricultural products have thus been the major export products, making Thailand the world's largest exporter of frozen shrimp, canned seafood, tapioca and canned pineapple. Over time, concerns for competitiveness in international markets led to greater specialization in the production of value-added agricultural products.

The expansion of Thailand's agricultural exports was supported by the strong agribusiness industry. In the 1970, when it was felt that Thailand started to lose comparative advantage and world market share in staple food crops, a new policy was introduced consisting in diversification of production, based on technology and capital-intensive processing. The policy of diversification targeted oilseeds, horticulture, tree crops, livestock, and aquaculture. In 1972 and 1977, the Board of Investment revised investment promotion acts to promote capital-intensive processing. Soon after, the agribusiness industry grew so fast that crops and food manufacturing combined came to account for one-half of the non- service sector of the Thai economy (Christensen S. R., 1992: 4).

During the 1970s and 1980s, the shift in agriculture to commercial crop production has been followed by increased use of machinery and chemical fertilizers and pesticides. The result was increasing pollution of Thailand's main rivers (Nicro S.and Apikul C., 1999: 104). The use of chemical fertilizers and pesticides not only causes water pollution, but also poisoning due to exposure of farmers and consumption of agricultural products containing pesticides exceeding safety limits. Competition for water resources intensified, with the agriculture sector consuming more than 80 percent of all available surface water. Mismanagement of water supplies for irrigation contributed to an expansion of saline soils, particularly in northeast Thailand.

Agricultural growth as also been supported by an expansion in the area of land under cultivation from 36 per cent to 41 percent between 1980 and 1994 (World Bank, 1998: 102). The expansion of land under cultivation is a major contribution to deforestation. Together with commercial logging and population pressure, it caused a continuous decline in forest cover since 1961 to a critically low level, with 329,000 hectares continuing to be lost annually (mostly in watersheds), or an annual reduction of 2.6 percent of the forest cover (FAO, State of the World's Forests, 1997).

### **Fishery and aquaculture**

The fishery sector is another aspect of Thailand's export base, which took a heavy toll on the environment. Thailand is the world's leading exporter of seafood. Increased world market share of fishery products led to much pressure on fishery resources, resulting in a continuously declining rate of fishery output from 18.6 in the first half of the 1970s to 2.45 per cent during the fifth five-year plan (1982-1986). During the sixth five-year plan (1987-1991), depletion of marine resources reduced fishery output so much that the government has started to effectively enforce fishery regulations to ensure sustainable yields for both present and future

generations. To reduce the pressure on marine fisheries while sustaining a high level of yields, the government has been encouraging the expansion of freshwater fish farms to offset declining marine catches.

Shrimp farming has been one of the greatest contributors to growth of the seafood processing industry. By the 1990s, shrimp farms in Thailand covered nearly 65,000 hectares with a total production of about 170,000 to 180,000 tonnes. Intensive shrimp farming was fuelled by high prices of shrimp in international markets, generating high income for farmers. For the government, it is a source of foreign earning since most shrimps are exported. Thailand is today the world's leading exporter of cultured shrimp. According to the World Bank, Thailand earns more than US\$1 billion annually from the cultured shrimp trade. About 80% of farms are small-scale and constitute an important source of income to many communities. As both producers and the central government have an interest in increasing revenue generated from shrimp exports, policies to address adverse environmental effects of shrimp farming have been low on the policy agenda, until resulting water pollution and other forms of environmental damage came to threaten the output.

Intensive shrimp farming relying on the use of chemicals and antibiotics has caused profound environmental damage, which has rendered large areas unusable. In the two coastal provinces of Samut Sakhon and Samut Songkhram the area under shrimp culture has dropped by more than one half since 1990, due to severe water pollution. It is estimated that about 16,000 hectares of shrimp ponds throughout the country have been abandoned and can no longer be used (ASEAN Secretariat, 1997a: 103). Indonesia and Vietnam also experienced similar unsustainable practices.

The development of shrimp farming has not only caused water pollution, it has also largely reduced the total area of mangrove in Thailand by more than 50% since 1960, when the total area was estimated to have covered approximately 360,000 hectares. The rate of removal has been estimated at 4,000 ha/year between 1960 and 1975, rising to 6,300 ha/yr. between 1975 and 1980 and doubling to around 13,000 ha/year between 1980 and 1986 (Aksornkoae et al., 1993). The remaining area of mangrove vegetation was estimated to be 174,000 ha in 1991. It is estimated that only 6 percent of the 1961 mangrove forest cover remains.

Table 4 Changes in natural resources 1970-1994

Indicator	Unit of measure	1970-75 (latest single year)	1980-85 (latest single year)	1989-94 (most recent estimate)
Area	thou. Sq. km	513.12	513.12	513.12
Density	pop. per sq.	80.60	99.64	111.76
Agricultural land	km	33.71	40.28	42.28
Change in agricultural land	% of land area	2.00	2.62	0.00
Agricultural land under irrigation	annual %	14.05	18.57	20.37
Forests and woodland	%	..	178.88	127.36
Deforestation (net)	thou. Sq. km % of change, 1980-90	..	..	3.34

Source: World Bank, International Economics Department, 1996.

### **Manufactures exports**

Over the years, the export base has shifted from heavy reliance on agriculture to manufactures, less than 3 percent of exports in 1960, to a situation where over 80 percent of its exports are manufactured goods. Throughout the late 1980s and early 1990s, Thailand's exports have increasingly included electrical products, integrated circuits, and computers and their components.

Manufacturing grew sharply at an approximate rate of 10 percent per year since 1960. In 1993, manufacturing accounted for more than 24 percent of the national income and accounted for 64 percent of exports, making it the nation's largest sector. The increase in manufacturing is generally associated with higher level of pollution intensity as it is estimated that "manufactures" account for about half the environmentally-sensitive goods (Adams, J., 1999: 69). In Thailand, in the 1970s and 1980s, more than half of the total manufacturing GDP was generated by polluting industries (Kritiporn P., Panayotou T., Charnprateep K., 1990: 12).

The increase in manufacturing share of economic activities was followed by increased water and air pollution. Textile, food processing, metal fabrication, plastics and chemical industries, which constitute the leading industries, are major sources of water pollution (Table 5). Toxic and organic pollutants generated by factories are mostly responsible for water pollution. As the number of factories increased, water problems have become more acute. Between 1969 and 1989, the number of water polluting industries increased from 159 to 20,221 (Kritiporn P. and al., 1990: 13).

Table 5. Major Water Polluting Industries in Thailand, 1992

	BOD loading (tones/year)	Percent of total BOD loadings	Number of factories
Textile	49,000	41.0	2,000
Food	48,000	40.0	3,000
Fabricated metals	9,000	7.0	5,000
Plastic product	3,000	2.0	2,000
Electrical products	2,000	2.0	154
Chemical products	2,000	2.0	559
Paper & paper products	2,000	1.0	44
Glass & glass products	1,000	1.0	28
Machinery	1,000	1.0	200
Industrial chemicals	1,000	1.0	78
Transport equipment	839	1.0	114
Beverage	394	0.33	24
Total	119,000	100	12,000

Source: TEI, 1994. In ASEAN Secretariat: 1997: 117.

Hazardous waste generation also increased as a consequence of rapid industrial growth, reaching 1.9 million tons per year in 1990. Industry's share of hazardous waste has doubled to 58 per cent in a decade.

### **International investment**

Foreign direct investment also played an important role in the integration of Thailand into the world economy. An open and liberal investment regime combined with government promotion policies has triggered Thailand's attractiveness to foreign investment.

The boom of FDI occurred in the mid-eighties. In 1988, the net flow of FDI increased for more than 200 per cent while that of portfolio investment increased by more than 400 per cent (Daniere, A.: 1991: 5). For instance, it was estimated that in 1987, the investment from Japan exceeded the cumulative Japanese investment in the preceding 20 years (Bello, W.: 1997: 5). Thailand benefited from the appreciation of the Yen following the Plaza Accord of 1985 and escalating labor costs in the newly industrializing countries of Singapore, Hong-Kong, Taiwan and Korea. Japan, Hong Kong and the United States are the largest foreign investors in Thailand.

A large part of FDI is concentrated in the industrial sector, which accounted for about 60 per cent of FDI in 1987 and 1988. Most projects are in machinery, transports products, electronics, electrical products, textiles, toys, watches and jewelry. Many of the investors are small-to-medium-sized companies that supply larger Japanese companies (Akrasanee N., Dapice D., and Flatters F., 1991: 9-10). This may have important implications regarding environment, particularly industrial pollution, as small- and medium-sized companies are said to be major contributors to pollution.

Since 1985, foreign investment has shifted from import substitution to export orientation, with 80 per cent



of FDI projects being directed to the export sector. Manufacture accounts for the highest share of exports from foreign corporations, followed by agricultural products and fisheries products (Bank of Thailand, see Appendix 3). These three sectors have much contributed to resource depletion, water and air pollution.

The contribution foreign investment may have had in the export expansion and, consequently its environmental effects should not however be overestimated, since the FDI to export ratio was rather low. Even for the growth of manufactured export, which accounts for a large part of pollution intensive goods, the contribution of foreign investment was estimated at only 10 per cent in 1989 (Akrasanee N, Dapice D. and Flatters F., 1991: 22). It however can be assumed that the ratio has risen in the 1990s.

Thailand's increasing integration into the global economy in terms of trade and foreign investment has not only created additional environmental problems. It has also favored access to environmentally-sound products and technologies. The removal of barriers to imports allowed Thailand's imports to increase substantially, especially after 1987 (refer Table 1), which also means greater chance for access to foreign products.

It is estimated that in 1988, "clean" industries accounted for 21.1 per cent of Thailand's total manufacturing, while "dirty" industries accounted for 13.4 per cent. These were respectively 28.2 per cent and 15.7 per cent in Malaysia (1989), 22.0 per cent and 12.8 per cent in Indonesia and 13.8 per cent and 21.0 per cent in the Philippines (1989) (Brandon C. and Ramankutty R., 1993: 182). Such figures suggest that despite Thailand's integration into global production networks, the majority of industries have remained "clean", though there is no statistical evidence on how globalization might have contributed to that.

Besides, "globalization" of the Thai economy has contributed to greater revenues for the government and corporations, making them able to raise their environmental expenditures, though it might be hard to determine the net contribution of economic globalization relative to other factors. In 1987, government spending on environment was less than 0.24 per cent of GNP. In 1997, it was estimated at 0.8 per cent of GDP, making it the third highest among Southeast Asian countries. It is expected to reach about 1.1 per cent of GDP in the year 2003 (see Appendix 3).

Income levels rose, together with education and access to health care (Table 6). These in turn have fostered a greater awareness and care about environmental problems.

Table 6 Poverty and social change 1970-1994

Indicator	Unit of measure	1970-75 (Latest single year)	1908-85 (Latest single year)	1989-94 (most recent estimate)
Poverty (Upper poverty line headcount index)	% of pop. US\$	30 390	23 810	13 2,210
GNP per capita				
Education (Gross enrollment ratios)	% school age pop.	83	96	98
Primary	% school age pop.	26	30	37
Secondary	Per 1000 Live births	65	44	36
Mortality (infant)	Years	60	65	69
Life expectancy		5.7	3.7	5.3
Expenditures on social security	% of total gov't exp.	25.0 69.0	67.3 56.0	.. ..
Access to safe water	% of pop.	16.0	70.0	85.3
Urban	% of pop.	..	30.0	59.0
Rural	% of pop.			
Access to health care	% of pop.			

Source: World Bank, International Economics Department, 1996.

### 3. Globalization, market and policy failures and environmental governance

Environmental degradation may be a result of market failures associated with processes of economic globalization per se, and the lack of effective policy intervention. According to the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the environmental crisis in Asia may be mainly a result of market and policy failures, neglect and institutional weaknesses (ESCAP, 1995).

Many of the environmental problems in Thailand have, in one way or another been created or exacerbated by market failures associated with processes of economic globalization on the one hand, and government and policy failures on the other. Market failures occur when markets do not properly value and allocate environmental assets with the result that market prices for goods and services do not reflect their full environmental costs. Intervention failures occur when public policies fail to correct for, create or exacerbate market failures (OECD, 1994).

In Thailand, as in other Southeast Asian countries, the pricing systems in international markets have facilitated non-sustainable exploitation of the resources (Parnwell M. J.G. and Bryant R. L., 1996). High demand and high prices for resource-based products in international markets have been associated with increased deforestation, overexploitation of fishery resources and unsustainable shrimp farming practices in Thailand. For example, a study by the Thailand Development Research Institute has found that an increase in the (real) price of cassava root by one stang per kilogram results in the loss of 18 thousand rai of forest. In other words, a 10 percent increase in the price of cassava brings about a 16 percent increase in forest loss. Thus rising prices for cassava explains much of the deforestation that occurs in Northeast Thailand over the

past 15 years to 20 years (TDRI, 1990: 29).

Because international markets provide no mechanism for the internalization of environmental costs of production and trade of resources, adequate state intervention is crucial in ensuring that environmental assets are properly valued. The forms of intervention may include resource-based taxes and other measures reflecting the cost of environmental damage resulting from the exploitation of resources. It is only recently that such environmental taxes have been considered in Thailand, as part of recovery measures from the East Asian economic crisis.

Regulatory and institutional weakness are also part of the problem. In fact, more than market failures, government and policy failures have been a cause of exacerbation of many of the environmental problems brought about by processes of economic globalization in Thailand. The National Economic and Social Development Board (NESDB) has clearly admitted that economic and financial liberalization happened in the absence of sound and effective supervision.

Government incentives, tax exemptions and facilitated access to land and water have resulted in costs of production that do not reflect the cost to the environment, especially in resource-based activities. In the pulp and paper industry, which is regarded as producing environmentally sensitive products and causing water and land usage problems, government policies have supported over-investment and over-production of commercial tree plantations. Since the early 1970s when *Eucalyptus camaldulensis* came to be known as adaptable to Thailand, its cultivation has increasingly grown out of pressure by the industry and support from government (Lohmann L. 1996: 36). In Thailand, the land ownership system gives the Royal Forest Department legal jurisdiction over approximately 40 per cent of the country's surface in the form of National Reserve Forests (NRFs). Under such arrangement, the government has been able to take control of the land and often allow their commercial usage at rates that were estimated at little more than 5 per cent of normal market rates (Lohmann L, 1996: 38).

The government has cooperated and even subsidized the industry, at times due to linkages between eucalyptus-growing firms, bureaucrats and political parties (Lohmann L, 1996: 38). Government incentives to investors in eucalyptus plantations, in particular duty exemptions on imported machinery and raw material as well as tax exemptions offered by the Board of Investment favored eucalyptus over other crops, and may have contributed to perpetuating vested interest in the extension of areas opened for plantations. The existence of personally vested interests in parts of government agencies resulted in weakening government ability to enforce good governance principles.

Governance structures also failed to make full use of resources outside the government apparatus. Centralization of power in the hands of central agencies limited participation of local communities and independent organizations in the process of governance. As the NESDB mentions, "economy and politics

were still highly centralized. Decision-making authority was still concentrated in the central government, and public sector played a key role in administration, planning and budgeting. Local agencies had limited authority in fiscal administration, resulting in ineffective and unresponsive deliveries of development projects". Excessive centralization prevented civil and independent organizations from fully realizing an effective contribution to environmental governance through informal regulation, pressure on government and business for greater environmental concern.

#### **4. How globalization affects environmental governance systems in Thailand?**

##### **4.1. Environmental governance actors/institutions**

Globalization has not affected the basic structure of environmental governance institutions, with the nation-state remaining at the center of environmental policy formulation and implementation. What is changing however, is the relationship between the state and other social stakeholders in respect to the prevention and resolution of environmental problems. Much of the change that occurred in this respect in Thailand resulted from internal democratization processes, changing perception and objective of environmentalism in the businesses, NGOs and civil society, than processes of economic globalization per se. Greater awareness and concern about environmental degradation generated policy reactions, as civil organizations went out to pressure government and business on environmental issues.

##### **4.1.1. National institutions**

Traditionally, environmental governance structure in Thailand has been a top-down model whereby the government sets environmental regulations and ensures their implementation. This approach to environmental governance was easily acceptable, especially as regulatory instruments were essentially formal, relying on laws and regulations. The 1979 Environmental Act gave a central responsibility for environmental affairs to the National Environmental Board (NEB). The NEB acted as advisor to the Prime Minister on environmental policy but was lacking the power to implement environmental management.

In 1992, the 1979 Environmental Act was revised with the adoption of the Enhancement of National Environment Quality Act. The 1992 Environmental Act spreads environmental authority between three agencies within the Ministry of Science, Technology and Environment (MOSTE): the Office of Environmental Policy and Planning (OEPP), the Pollution Control Department (PCD), and the Department of Environmental Quality Promotion (DEQP). Under the 1992 Environmental Act, the NEB is a policy and planning body composed of ministers and experts from economic, social and environmental streams under the chairmanship of the prime minister.

Since the adoption of the first national development plan in 1961, development policies have tried to manage the environment while pursuing rapid industrialization and high economic growth, which resulted in environmental issues being relegated to a secondary position on policy agenda. The failures of government institutions to adequately manage problems of resource depletion, deforestation, and increasing air and water pollution brought about by rapid industrialization and export expansion, led to increasing calls for

greater public participation in the management of resources.

#### **4.1.2. Globalization and the resistance of environmental NGOs in Thailand**

For many years, NGOs in Thailand have been operating in a rather unfavorable environment, due to the hierarchical and centralized governance culture in Thailand. The top down mechanism of decision-making in the public sector has been rather suspicious about attempts by independent groups to initiate alternative development strategies and there was no formal recognition of the right of NGOs to participate in the formulation of policies, including environmental policy. Nevertheless, NGOs have been very active in countering the negative effects of rapid economic growth and forces of economic globalization as they affected the life and working conditions of rural people.

The role of NGOs in environmental governance was provided for in the seventh national development plan. The enactment of the 1992 Environmental Act gave greater impetus and a stronger legal foundation to the role of NGOs in the governance structure. It offered NGOs a breakthrough in the decision-making process on issues pertaining to the environment. Besides awareness raising, information dissemination and assistance to people, NGOs may take part in the governance process by conducting study and research on issues of environment protection and conservation of natural resources and bring to government agencies their viewpoints and suggestions based on the outcome of such study and research. For example, Thailand Environmental Institute, a non-governmental research organization, has been very active on policy-oriented research, policy advice to the government, and the implementation of environmentally related projects.

The 1992 Act (Section 7) requires NGOs seeking to influence environmental projects and activities of the government to register as "environmental NGOs." Such a registration provides NGOs with rights under the '92 Act such as obtaining EIA information or presenting compensation claims. As a registration incentive, "environmental NGOs" are entitled to receiving support and assistance from the government, such as project grants from the Environmental Fund (Section 8).

There now are approximately 173 environment-related NGOs, of which 93 are registered with MOSTE (MOSTE, 1997, cited in Nicro S. and Apikul C., 1999: 101). NGOs are found in greatest number in Northeast Thailand, which is the least developed region, followed by the North. They are in limited number in the South, which is regarded as the richest part of the country (Pfirrmann C, and Kron D., 1992).

Originally, NGOs in Thailand have been striving against the growth focusing strategy of development policies and poverty in rural areas. Over the years, official development strategies focusing on economic growth supported intensive export-oriented agriculture, intensive fishing, and commercial logging by foreign and domestic firms, which extended increasingly in rural areas. Business expansion not only resulted in overexploitation of resources and destruction of the natural environmental, but many other social problems including increased debts for the farmers and land speculation. (Pfirrmann C, and Kron D., 1992: 13).

The negative environmental consequences resulted in threats to local communities' access to land, water, marine and forest resources. As these environmental problems came to be increasingly regarded as a major cause of social and economic problems of rural people, an increasing number of NGOs started to tackle issues of resource depletion, deforestation, access to resources which affect the life of Thailand large rural population.

NGOs' response strategies have consisted in opposing the negative social and environmental consequences of rapid economic growth, and the way it altered living and working conditions of the people. A study on environment and NGOs in Thailand revealed that Thai NGOs consider that many of the problems in the rural part of the country are caused by the government's export oriented policy, which badly affect working and living conditions of Thai farmers (Pfirrmann C, and Kron D., 1992: 71).

In this context, the strategy of Thai NGOs has initially been opposite to government policies regarding rural development and environmental policy in rural areas. Against growth-oriented economic expansion and the encroachment of big businesses in rural areas, NGOs have tried to promote sustainable use and management of resources that ensure self-sufficiency for rural people without damaging the human and natural environment.

In the southern part of Thailand, NGOs have been calling attention to the destruction of mangrove forests caused by the prawn farming industry and have supported small fishermen in the Gulf of Thailand in their struggle against trawlers. NGOs have promoted the cultivation of rubber in mixed plantation, following traditional methods and the principles of agro-forestry among farmers, as an alternative to the agro-industrial latex production. In northern Thailand, NGOs have been promoting community forestry and the concept of integrated farming. They emphasized self-subsistence and the production of diversified cash crops, as an alternative to capital-intensive modernization of agriculture which, in the long term, put farmers in a situation of dependency on fluctuating market forces (Pfirrmann C, and Kron D., 1992: 19).

On various issues, government and NGOs development strategy conflicted. Considering agricultural policy for example, in the 1970- 80s, the Thai government tried to promote agribusiness by taking advantage of investment from national and foreign firms to serve as a bridge between the farmers, the state and the market (Christensen S. R., 1992). NGOs rather advocated agricultural methods that would ensure self-reliance and self-subsistence of small-scale farmers.

Government-NGOs approaches again clashed on the issue of Thai reforestation policy. The government had introduced large-scale eucalyptus plantations, relying on investment by firms in the pulp and paper industry. The result was rising conflicts about access to land and water, the alteration of rural people's traditional use of forest resources for daily needs and the development of other crops that farmers traditionally cultivated.

In recent years, a more constructive relationship has been emerging, as NGOs were admitted as partners in social and economic development issues. Recent changes in Thai legal system may help enhance government-NGOs collaboration. The 1992 Environmental Act allows Environmental NGOs to raise their voice not only to point to damages, but at the stage of project evaluation, by giving them access to information on projects' environmental impact assessment reports. It can therefore be expected that NGOs' strategies will move from mere opposition to government and business, to positive input in the process of decision-making on activities and projects presenting risks to the environment.

#### **4.1.3. Civil Society and local communities**

The foundations of people's right to participate in environmental management and preservation have been laid down in the Enhancement of National Environmental Quality Act of 1992. The 1992 Act contains three types of rights for enhancing people's participation in environmental governance: the right to be informed of measures relating to the environment; the right to lodge complaints against violators of laws relating to pollution control or conservation of natural resources; and the right to receive compensation for environmental damage.

Even before the enactment of the 1992 Act, local communities have been particularly active in countering the forces of business expansion. Whereas resistance by NGOs consists in assisting local farmers and fishermen in their struggle against large-scale agribusiness, tree planting or fishing by export-oriented domestic and foreign firms and promoting more sustainable resource management in rural areas, local communities' reaction to the negative environmental and social impacts of economic globalization has been mostly in the form of direct complaints to local government institutions, and often went on through sporadic movement of revolt and attacks against the interests of targeted firms and government institutions.

There appears to be a difference in the objective and form of resistance between local communities in rural areas and those in urban areas. People in large cities tend to react to perceived adverse environmental impacts of industrialization such as air and water pollution, noise, etc. because of their effects on human health. Another factor driving public reaction in urban cities is that rising income and education level leads to a desire for greater environmental quality. In urban areas, however, environmental quality is hardly being translated into clearly identifiable individual or group interest, strong enough to induce organized forms of action.

On the other side, in rural areas, adverse impacts of business expansion are not simply regarded in terms of environmental damage; they threaten the very subsistence of the people by affecting their access to factors of production. This double dimension makes people's opposition in rural areas more pronounced than in urban areas.

The way local communities, villagers and farmers have resisted globalization forces has been driven first by consideration of how the expansion of commercial agriculture, forestry, fishing and aquaculture has negatively affected their right of access to production factors (e.g. land, water, forest). The more conflicts have arisen in regard to access to resources, the more local communities have opposed local and foreign corporations practices as well as government policies. It can be said that pure environmental concerns have rather been of secondary concern, except when communities had strong level of education, awareness about environmental risks and relative income level, which is not often the case in Thai rural areas.

The case of eucalyptus planting offers an example of conflict of interest driving resistance to large business projects. The interest of the pulp and paper industry and the government (or part of government agencies) in massive planting of eucalyptus clashed with that of small-scale farmers involved in the planting of fruit and other crops or using the forest' resources for their daily needs.

Citizens and local communities' pressure over government institutions and business at times succeeded in inducing policy adjustment in the government sector, efforts at pollution control and better environmental performance by firms. In 1987 Shell proposed to plant some 125 square kilometers of eucalyptus in Eastern Thailand. After strong public opposition, which led to various scandals, the government was forced to delay the approval of the project, which Shell eventually had to abandon in 1990. In another case, pressure by local people out of controversies over pollution releases which have damaged local fishing livelihoods resulted in a loss of 141 production days to Phoenix's pulp mill between 1992-4 and led to difficulties for other pulp investors with licensing authorities (Logmann, L., 1996: 42).

Community pressure has also succeeded in inducing pollution abatement efforts by firms, particularly in rural areas. A study on the existence and impact of informal regulation found that 9 out of 26 firms surveyed reported they had experienced pressures and complaints from local citizen group concerning plant pollution, and that they undertook significant abatement efforts afterwards (Table 7). This suggests that informal regulation proves to be more effective in rural areas where polluters can easily be identified than in large cities (Hartman R.S., Huq M. and Wheeler D., 1995).

Table 7 Abatement activity by country and presence of local pressure (informal regulation)

Pressure	Country				Total
	Indonesia	Thailand	India	Bangladesh	
0	12.7	19	11.2	5	11.1
1	19	30	18.2	8	19.8
Total	14.6	26.3	14.3	5.7	14.5

Source: Harman, Huq and Wheeler, 1995: 17

Note: 1: The plant was subjected to localized pressure to abate observed pollution; 0: otherwise



Local communities have been an instrument of informal regulation not only vis-à-vis government and private corporations, but also in the management of resources under their own control. Following community forestry principles, villagers have since 1940 set regulations to protect the forest “Pha Nam Cham” against commercial logging in Ban Thung Yao, Lamphum province in northern Thailand. A “forest conservation agreement” was agreed upon in 1953 whereby limitations on mining or digging, cutting down of teak or other trees in the forest were set together with sanctions of violations in the form of fines (Pfaffmann C, and Kron D., 1992: 31-32).

One observation that can be drawn from the evolution of community resistance and informal regulation in Thailand is that small and poor farmers are often vulnerable to the power of control by giant firms. Often, farmers short-term material needs eventually prevail over long term sustainable use of resources. In the case of eucalyptus planting, after failures of the approach consisting in dispossessing small farmers of their land, the pulp and paper industry turned to contract farming arrangements whereby farmers are encouraged to plant eucalyptus on their own land, pulp firms promising to buy their harvest. Such an option allowed them to avoid organized resistance and, actually created a state of dependence of farmers on investors for the needed materials and seedlings. Most of the time, farmers run into debt and are obliged to sell their land at derisory prices (Lohmann, L. 1996: 42).

To this, one needs to add the fact that people in rural areas are under different social and economic conditions, and are not affected by economic globalization in the same way. While many are being removed from their land or are seeing their crops negatively affected by commercial plantations such as eucalyptus, some wealthy farmers, though in very limited number, have seen in intensive export-oriented agricultural production, logging, and aquaculture an opportunity to raise their income. This clearly indicates that local resistance to globalization may only be a complement, not a substitute to government’s responsible and effective intervention to balance the various interests of large business organizations and small farmers with the need for environmental preservation.

Much conflict could be avoided and a constructive partnership between government, business and local communities forged through a preemptive approach integrating local communities that might be affected by economic activities in their area at the stage of project development.

The 1992 Environmental Act has made steps in this direction by providing people with the right to access to information concerning their environment, lodge complaints and receive compensation when environmental degradation occurs.

#### **4.1.4. Business**

Globalization has generally induced two directions in business behavior. At first, most corporations have tried to resist environmental regulation out of concerns for keeping production costs low and maintaining competitiveness. In Thailand, enterprises have often tended to ignore environmental regulations because of

the high costs of compliance, or because the standards set were simply too stringent for the majority of firms to comply with. This has been facilitated by weak enforcement mechanisms.

Over time, regulations became stricter, including more precise standards and mechanisms to evaluate the level of compliance as well as measures sanctioning their violation. The 1992 Enhancement of National Environmental Quality Act provides such example of mechanisms to verify compliance with environmental standards and sanctions of their violation. This has contributed to fostering better environmental performance.

As a complement to formal regulation, public pressure has been an important factor in inducing greater business responsibility in addressing pollution problems.

There is a greater perception of sound environmental management practice and production process as a source of comparative advantage, which led to a growing interest in the ISO 1400 and ISO 9000 standards. Such a perception is being fuelled the rising preference of consumer markets for environmentally clean products.

The increasing importance of the market for environmental products and services is another important factor. The present gap between local production and the total market size for environmental products and technologies (see Table 8) constitutes a strong incentive for attracting environmental firms in Thailand. In fact, foreign corporations have been taking an active role in the introduction of clean production technologies, pollution abatement technologies and efficient strategies in the use of resources. The privatization of environmental infrastructure and delivery of environmental services opened the way to greater private sector involvement in wastewater treatment. Presently, leading U.S. consulting firms already have a strong presence, as are the Japanese environmental technology suppliers. UK and French firms are very active in the water sector. In the electricity sector, in Thailand as in other Southeast Asian countries, the development of private power plants has introduced new technologies for environmental management, for improving efficiency with new gas turbine and combined cycles, and for using low-quality coal and gas (Albouy Y. and Bousba R. 1998).

Table 8 Market for Pollution Control Equipment (POL) in Thailand (Million U.S. \$)

	1997	1998	1999
Total market size	1200	1500	1200
Total local production	45	45	40
Total exports	20	23	18
Total imports	1000	1370	750

Source: Trade compliance Center, 1999

This is being facilitated by government’s policies towards greater business participation, particularly in the

development of environmental infrastructure. Most of recent legal and regulatory changes in Thailand have dispositions regarding private sector participation. For example, the 1992 Environmental Act associates private contractors under a system of licensing in the construction and operation of wastewater treatment facilities. Following revisions brought to the eighth national development plan, Thailand's NESDB banks on private finance as a source of funding for a large share for public expenditure in the coming fiscal years.

Thailand's government has also introduced various incentives to stimulate business involvement in resources management and pollution control. The "Environment Fund" established under the 1992 Act provides loans to enterprises having a legal duty to install an on-site facility for the treatment of polluted air, wastewater or waste disposal or any other equipment for the control, treatment or elimination of pollutants generated by their activities. The benefit of such funding is extended to entities licensed to undertake business as a Service Contractor to render services of wastewater treatment or waste disposal. Government has lowered tariffs on assembled imports for pollution control equipment to five percent or less; provided tax incentives to new overseas industrial investors; and provided low cost loans to local manufacturers to purchase equipment through a Green Fund administered by the Industrial Finance Corporation of Thailand (IFCT).

In a move to institutionalize the process of business participation in environmental governance, Thailand Environmental Institute initiated the Business Council on Sustainable Development (TBCSD). TBCSD gathers business leaders from various sectors in Thailand. The objectives of the TBCSD are to promote the concept of "Sustainable Development" amongst business leaders and through business leadership. The activities consist in disseminating information on sound environmental management practices to the business community and the general public.

There, however, are cases where government attempts to make use of businesses for environmental purpose resulted in accentuating environmental degradation and social conflicts. In the context of the reforestation policy, the government associated private companies in the planting of eucalyptus. Business involvement in the reforestation programme has been the source of various scandals and protests by farmers, the public and NGOs. The reforestation policy, which was supposed to serve environmental purpose, actually turned to be more of a commercial activity. The profit-seeking pulp and paper firms pressured the government to provide subsidies and credit to certain enterprises or industries. Such collusion between government and the private sector resulted in hampering government's ability to enforce good environmental performance.

#### **4.1.5. Regional and international cooperation**

Many of the challenges brought about by globalization require responses beyond the capacity of the nation-state. International cooperation is therefore an essential complement to national efforts. In Thailand, various donor countries, regional and international organizations have been involved in addressing industrial pollution and resource depletion problems. Most cooperation agencies' involvement is in the form of

projects.

The Asian Development Bank is involved in the construction of wastewater treatment plants in Samut Prakarn province. Danish Co-operation for Environment and Development (DANCED) has supported in co-operation with the Federation of Thai Industries (FTI) a Project on Promotion of Cleaner Technology in Thai Industry. The project has been initiated by Thailand Environmental Institute and is specifically aimed at small and medium scale industries (SMEs) such as electroplating and food industry sectors, which are the major polluting sectors of Thai industry. The projects expect to strengthen capacity building and industrial audit activities. It has resulted in the establishment of a Cleaner Technology Information Center at Thailand Environmental Institute. The European Union is promoting a participatory approach to environmental management and clean-up in Samut prakarn in Bangkok metropolitan region (ASEAN Secretariat, 1998: 59-64).

Table 9 List of cleaner production-related projects and programmes in Thailand

Project/programme	Agencies involved
Industrial Environmental Management Programme (IEMP) (1990-1995)	US-AID, Federation of Thai Industries (FTI), Industrial Environmental Management Programme (IEP) Project Office
ASEAN Environmental Improvement Project (AEIP) Berger International	U.S.-AID, Chemstar Laboratories, Louis
Environmental Advisory Assistance to the Agro-industry Phase 2 (1991 -1994) Phase 3 (1994-1997)	GTZ, Chualonkorn U., Division of Industrial Works (DIW), KMITT (Prince of Songkla University.)
Project on Industrial Pollution Control-Applications for Small and Medium Size Industries (1991-1997)	CDG-SEAPO (Germany), Chulalongkorn University., Chiang Mai University., AIT, DIW
Demonstration Research on High-Efficiency Residual Oil Combustor	New Energy and Industrial Technology Development Organization (Japan) Kawasaki Heavy Industries, Ltd, DEPD
Demonstration and Implementation of Cleaner Technologies and Wastewater Treatment in the Tannery Sector in Thailand (Jan 1995-Dec 1997)	UNIDO, Tanning Organization, DIW
Promotion of Cleaner Technology in Thai Industry (1995-1997)	DANCED, TEI, FTI, Energy Conservation Centre of Thailand
Programme in Industrial Pollution Reduction in a Specific Locality in Thailand (1996-1998)	European Commission, TEI, Regional Institute of Environmental Technology (RIET) (Singapore)
Implementation of the TBCSD Sustainable Development Approaches (Mai 1995-Feb 1996)	Thailand Business Council on Sustainable development, TEI

Source: ASEAN Secretariat 1998: 63

In 1997, a “Code of Conduct for Shrimp Farm Operation” project was launched, which aims at developing a code of conduct and incentive package to encourage the adoption of environmentally sustainable shrimp

farming practices in Thailand. The project relies on market pressure to create greater demand from Japanese importers for Thai shrimp cultured in environmentally friendly conditions. The projects involves the Ministry of Agriculture and Cooperatives (MOAC) of Thailand and the World Bank as a neutral broker, to help reconcile competing interests within and outside government and facilitate the involvement of Japanese stakeholders and international experts.

## **4.2. Environmental governance instruments**

### **4.2.1. Command-and-control**

How environmental governance instruments cope with new environmental problems brought about by trade-led industrialization is critical, particularly for rapidly industrializing economies. While the ideology in favor of state retreat from economic activities is dominant in Thailand, there is a growing consensus about the need for greater involvement in social issues to offset the negative social and environmental effects of the globalization of the Thai economy. Since 1992, the government has introduced new environmental regulations and strengthened existing ones. The basic approach of CAC consists in setting standards, which are enforced by central or local government agencies, and sanctioned through fines and other penalties.

One important step that has been made consists in the introduction of a long term approach to environmental management, with the adoption of a 20-year Environmental Quality Promotion Policy, implemented through a 5-year Environmental Quality Promotion Policy Plan. Besides, some areas have been designated Environmentally Protected Areas and Pollution Control Areas in order to prevent any further environmental degradation.

The following section reviews how command-and-control approach to regulation has evolved and to what extent changes have been related to globalization processes.

### **Resource conservation**

The greater access to international markets and high world demand and prices has caused an overexploitation of Thailand's natural resources. Preventing further deterioration of the resource base has therefore been a focus of government policy responses. The overexploitation of natural resource is not only causing environmental problems. It is also associated with various social conflicts regarding access to and use of such resources.

The 5-year Environmental Quality Promotion Policy Plan sets the following targets towards a sustainable management of natural resources:

- To prevent further deterioration and to accelerate rehabilitation of degraded natural resources, to serve as the basic resources for the sustainable development in the future;
- To coordinate use of and reduce conflicts over natural resources, to minimize the impacts of resource use, ensure overall balance of the ecosystem; and
- To support the participation of all parties, including local organizations, NGOs and the public at

large, in natural resources management and administration for their sustainable use (MOSTE, 1997: 35, cited in Nicro and Apikul, 1999: 103).

#### Box 1 Selected Resource Conservation Regulations

\*Forest Act of 1941 (as amended)  
\*Fishery Act of 1947 (FISHA)  
\*National Forest Reserves Act of 1960  
\*Wild Animal Protection and Reserves Act of 1961 (WAPRA)  
\*National Parks Act of 1961  
\*Minerals Act of 1967  
\*The Enhancement and Conservation of National Environmental Quality Act of 1992  
Source: ASEAN Secretariat, First ASEAN State of the Environment Report, Jakarta, ASEAN Secretariat, 1997

#### **Water pollution**

Water pollution is one of the most critical environmental problems in Thailand. Many of Thailand's major rivers including the Chao Phraya, Tha Chine, Mae Klong and Bangpakong rivers have suffered serious pollution problems from organic degradable and toxic substances generated by industrial waste, chemicals used in agriculture, business services domestic waste. Although economic activities are contributing to water quality degradation, domestic waste remained the major source of pollution, when measured in terms of total biochemical oxygen demand (BOD) in Bangkok (Nicro, S and Apikul C., 1999: 104-105).

The issue of water pollution has been brought to the political agenda mainly by the media, often echoing concerns voiced by local community groups living around polluted areas (Nicro, S and Apikul C., 1999: 106). Informal regulation (pressure by local communities) has been determinant particularly in cases where polluting industries were clearly pinpointed.

Government policy responses to increasing water pollution problems mainly consisted in adopting new or additional water pollution control regulations which set water quality standards, require the establishing of water treatment facilities by government and/or pollution point sources and promote waste minimization.

#### Box 2 Selected Water Pollution Control Regulations

\*The Navigation in Thailand Waters Act of 1913 Providing for Marine Pollution Control  
\*The National Environment Quality Act of 1992  
\*The Factory Act of 1992 Regulating the Establishment and Operation of Factories including Pollution Control  
\*Ministerial Regulation No. 2 (1992) Providing Control on the Quality of Effluent Discharges  
\*The Public Health Act of 1992 Regulating Effluent for Public Safety  
\*National Environmental Board (NEB) Notification No. 8 of 1994 on the Classification of Surface Water and Prescribed Quality Standards  
\*NEB Notification No. 7 of 1994 on Regulations of Standards for Sea Water Quality  
Source: ASEAN Secretariat, First ASEAN State of the Environment Report, Jakarta, ASEAN Secretariat, 1997a

The 1992 Environmental Act provide for the establishment of water quality standards relating to the

following:

- (1) Water quality standards for river, canal, swamp, marsh, lake, reservoir and other public inland water sources according to their use classifications in each river basin or water catchment;
- (2) Water quality standards for coastal and estuarine areas,
- (3) Groundwater quality standards.

Water pollution control strategies have included preemptive measures consisting in regulating the choice of production technologies prior to plant establishment and operation. The 1992 version of the Factory Act, in particular sets safety and pollution control requirements that firms have to meet prior to establishment and operation.

One problem limiting compliance with water quality standards is that the cost of operating water treatment facilities is sometimes too high, resulting in firms installing the required facility while actually refraining from operating them (Nicro S., and Apikul C., 1999: 105).

This has led to innovative approaches particularly in the direction of small and medium size enterprises (SMEs) combining formal regulation with incentives-based mechanisms for the use of collective water treatment facilities. The Environmental Fund that has been established under the Enhancement of National Environmental Quality Act of 1992 (Section23) provides loans to private enterprises for the installment of water and waste treatment facilities.

### **Air pollution**

Command-and-control approach to regulation has been and remains the major policy instrument addressing air pollution problems in Thailand. Government efforts are directed towards the setting of standards regarding the emission of polluted air, or other pollutants, in the form of smoke, fume, gas, soot, dust, ash, particle or any other form of air pollution into the atmosphere. Regulations put the responsibility to reduce or eliminate pollutants on the owner of the pollution source point. The 1992 Environmental Act requires the establishment of an on-site facility for air pollution control able to meet designated air quality standards and provides for a monitoring system.

#### Box 3 Selected Air Pollution Control Regulations

- \*Ministry of Industry Notifications Nos. 2 (1993) and 4 (1971) Regulating Factory Emissions
- \*Ministry of Science, Technology and Environment Notifications under NEQA of 1992 that Control Various Types of Emission of Polluted Air or Pollutants
- \*Ministerial Regulation No. 2 under the Factory Act (FA) of 1992 that Regulates Factory Emissions within Standards Levels
- \*Ministry of Science, Technology and Environment Notification under the NEQA of 1992 that Establishes Vehicle Noise Standard

Source: ASEAN Secretariat, First ASEAN State of the Environment Report, Jakarta, ASEAN Secretariat, 1997a

Besides formal regulation, Thai government has been trying to use trade measures such as reduced import

tax and duties to facilitate the import of clean technology in Thailand.

### **Toxic and hazardous substances**

Freer trade has rendered the movement of toxic and hazardous substances easier. One of the responses to rising concerns about the danger of toxic substances, was the amendment and replacement of the Toxic Substances Act of 1967 by the Hazardous Substances Act of 1992. The Act of 1992 sets criteria for import, production, transportation, consumption, disposal and export of toxic substances to prevent danger to human, animals, plants, properties or the environment. The Act regulates also the use of pesticides and toxic substances in various sectors including agriculture and industry. Since 1992, the Department of Agriculture has prohibited 23 types of hazardous substances (ASEAN Secretariat, 1997a: 106).

#### Box 4 Selected Hazardous Waste Regulations

- \*The Notification of the Ministry of Industry No.25 1988 (BE 2531) Issued under the Factory Act 1969 (BE 2512)
- \*The Public Health Act of 1992 (BE 2535)
- \*The Hazardous Substances Act of 1992

Source: ASEAN Secretariat, First ASEAN State of the Environment Report, Jakarta, ASEAN Secretariat, 1997a

### **Addressing pollution by small-and medium-sized enterprises (SMEs)**

The difficulty of pollution abatement in Thailand is that the industrial sector is dominated by small and medium enterprises SMEs. Local and foreign SMEs account for the majority of industries. Half of the 51,500 registered industries are SMEs. These enterprises are generally not keen at investing in pollution abatement, as their small size makes the installation of such facilities costly, in relation to the small size of the waste generated. However, as SMEs represent a large majority of industries, their waste combined turns out to be important quantities of waste.

As SMEs operate mainly in the food processing, fabricated products and machinery fabrication, which account for a large part of the export sector, pollution control has tried to rely on least-cost of compliance strategies, which do not hamper too much competitiveness. The approach consisted in the establishment of common waste treatment facilities for firms with similar waste. One such plant has been contracted in 1988 to treat waste from around 200 SMEs. The facility was funded by the government and managed by a private contractor under a system bringing together in a contractual arrangement, potential polluters and the Ministry of Industry (ASEAN Secretariat, 1997a: 118).

### **Trade-related environmental regulations and standards**

International trade is probably the most significant channel of Thailand integration into the global economy. Over the years, Thailand has removed export tariff barriers to spur its export of agricultural products and



manufactures. Import barriers were also gradually removed to implement tariff reduction schedules under the GATT/WTO and the ASEAN Free Trade Area (AFTA). Non-tariff barriers such as quotas have been removed to some extent.

Despite trade liberalization, many substantive and procedural requirements have been put in place for environmental, health and safety purpose. These include requirements for licences prior to the import of items such as food products, raw materials, and industrial products. Some of these products fall in the category of controlled goods, where importation is limited due to reasons of health, security, or safety.

Thailand's import procedures contain various testing, labeling, and certification of certain items to protect health and safety. Two types of standards apply to the import and manufacture of products, which may present a risk to the human or natural environment. The "Standards Mark – compulsory" is displayed on products, local or imported, that are required by Royal Decree to be in conformity with a mandatory standard. The manufacture and import of such products are subject to licensing requirements. The "Safety Mark" is an additional mandatory standard applying to certain products attached with safety requirements. These products require a licence for their manufacture and/or import as in the case of those under compulsory standards. They bear the Safety Mark after demonstrating compliance. There currently are more than 1400 product standards, including compulsory standards developed by Thai Industrial Standards Institute (TISI), the national standard body for Thailand.

While phytosanitary and other safety standards help prevent and limit risks to the human or natural environmental, many environmental problems still incur from trade liberalization because of inadequate sectoral policies ensuring sound management practices. For example, negative environmental consequences of the expansion of Thailand's fishery and aquaculture exports, spurred by government liberalization policies and attractive world market prices, suggest that liberalization was not done in conjunction with adequate resource control and management practices.

Regional trading arrangements are one important aspect of Thailand's involvement in processes of economic globalization having some implication for environmental governance. Thailand is a member of the Association of Southeast Asian Nations (ASEAN) together with Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore and Vietnam. Thailand is, after Singapore and Malaysia, the third largest contributor to intra-ASEAN trade. In 1982 and 1993, Thailand accounted respectively for 8.1 and 15.0 of intra-ASEAN trade (ASEAN Secretariat, 1997b: 45).

In 1992, leaders of ASEAN governments approved a Thai proposal to establish the ASEAN Free Trade Area (AFTA). AFTA aims at reducing tariffs on most processed agricultural and industrial products traded among ASEAN countries, to zero to five percent by the year 2003.

AFTA has no direct provisions dealing with environmental issues, while many of the 15 commodity groupings targeted for liberalization are highly polluting (e.g. chemicals, fertilizers, plastics, cement, paper/pulp, leather, and rubber) and/or resource-intensive (copper cathodes and wooden and rattan furniture) (ASEAN Secretariat, 1994: 24). However, ASEAN has developed separately various programmes aimed at environmental protection including the 1994 ASEAN Strategic Plan of Action on the Environment, and cooperation is being undertaken in the areas of transboundary pollution and clean technologies.

In the absence of specific rules and procedures with binding effects in most of these arrangements, it is likely that national regulations will remain the main instrument for setting safeguards against the environmental risks that may be caused by a freer regional trade regime.

### **Environmental measures pertaining to foreign investment**

Thailand has one of the most open investment regimes in Southeast Asia. There are few restrictions to the entry of foreign investment. Under the Board of Investment (BOI) Announcement No.1 and 2 of 1993, activities eligible for investment promotion include: agriculture and agricultural products; minerals, metals, and ceramics; light industry; manufacture of metal products, machinery, and transport equipment; electronics and electrical industry; chemical industry, paper and plastics; services and public utilities.

FDI has contributed to traditional problems of water pollution and BOD. More importantly, it has brought about a serious problem of hazardous waste. This has been to some extent related to the investment promotion policy of Thailand Board of Investment (BOI). Kritiporn and al. (1990: 94) found that among BOI-promoted industries, the proportion of approved investment for hazardous waste-generating industries increased from 25 percent in 1987 to 55 percent in 1989. As neither pollution charges nor treatment fees were required at that time, the handling of such amount of hazardous waste was a burden on the government budget.

In the early 1990s, pollution and other environmental problems associated with foreign investment projects have started to be addressed seriously, through preemptive as well as end-of-pipe solutions.

The Factory Act, first adopted in 1969 and amended in 1972, 1975, 1979, and 1992 stipulates regulations for factory construction and operation, factory expansion, and safety requirements, which are administered by the Department of Industrial Works of the Ministry of Industry. The 1992 revision of the Act imposed strict controls on industrial pollution. Factories may need to complete licensing requirement before the start of operations depending on the risks envisaged activities may have on the environment and the degree of environmental protection deemed necessary. The more likely the output of a factory is to cause pollution, the more that type of factory is regulated.

The Factory Act gives to the Department of Pollution Control the authority to establish standards and criteria to control the operations of factories, specially the standards and methods to control the disposal of

waste, pollution or any contaminants caused from factory operation that impact the environment. The Department of Industrial Works has responsibility to ensure that when a licence is granted for the establishment of a facility, safety and environmental standards related to solid waste treatment, air and water pollution and hazardous waste are met. Such a proactive approach to pollution control has the merit of allowing efficiency gains, as the costs of building environmental control into new plants are much less than the cost of retrofitting pollution abatement equipment onto old plants (Repetto, 1995: 189).

While under the Factory Act, license is required before the setting up and operation of a factory, especially when the activities to be undertaken present risks to the human or natural environment, industries located in Export Processing Zones (EPZs) are likely to be exempted from applying for factory operating licenses. Such exemption may have significant environmental impacts considering that Thailand has many such EPZs. Moreover, many of the activities of industries operating in these zones are pollution-intensive.

Environmental impact assessments, which have been made mandatory under the Enhancement and Conservation of National Environment Act of 1992 (Section 46-51), are another instrument for environmental regulation of foreign investment projects.

Foreign investment incentives also started to be used as a means of directing foreign investment in the environmental sector. Under the BOI Announcement No.1 and 2 of 1993, environmental protection and/or restoration figure among activities that are given higher privileges.

It should however be mentioned that pollution control has been focussing on emissions control and is not directed at production process and product standards, except in some cases concerning the use of pesticides in industrial and agricultural production.

Just as trade, intra-regional investment within ASEAN is one feature of Thailand's integration into global production networks. While intra-ASEAN investment has been rather insignificant in the past, its share of total FDI inflows into ASEAN countries is growing.

Since the early 1980s, ASEAN countries have concluded nearly 30 investment-related agreements. Thailand is signatory of most of these agreements. In 1998, the Framework Agreement on the ASEAN Investment Area (AIA) was adopted, which aims at liberalizing foreign investment within and into ASEAN by opening up all industries for investment to ASEAN investors by 2010 and to all investors by 2020. Article 13 of the Agreement incorporates as general exceptions, the right for member countries to enforce measures necessary to protect human, animal, or plant life or health and safety. The practical implication of this disposition is that a country can raise environmental or human risks as a reason for not accepting investment projects from other countries, if the proposed projects present such risks.

The Agreement does not however explicitly outlaw measures relaxing domestic health, safety or environmental standards as a means of encouraging foreign investment, as the North American Free Trade Agreement (NAFTA) does. NAFTA (Article 1114) even provides for a procedure of consultation in case a party considers that another party has offered an encouragement to investors by relaxing domestic health, safety or environmental measures. The inclusion of such provisions would prevent a race-to-the-bottom scenario, considering that competition for foreign investment is rather fierce, even among the ASEAN countries.

### **Environmental impact assessment**

The Enhancement and Conservation of National Environment Quality Act of 1992 has provisions that specify the types and sizes of projects or activities which are required to prepare reports on environmental assessment. Such reports must provide indications of methods of mitigating adverse environmental impacts of the projects. Environmental impact assessment (EIA) requirements are to be fulfilled by both government and privately initiated projects. Projects that are required to obtain permission prior to construction and operation (for example under the 1992 Factory Act) must submit their application for authorization to the relevant authority and simultaneously EIA reports to the Office of Environmental Policy and Planning for review. EIA reports are prepared or certified by persons licensed as specialists in environmental impact assessment.

According to Thailand's 1994 state of the environment report, between June 1992 when the 1992 Act entered into force and December 1994, there were 782 projects for which EIA were submitted.

### **Regulatory enforcement**

A common problem in emerging economies is that standards may be fixed in laws and regulations, but not effectively enforced. In Thailand, regulatory enforcement has been rather weak in the past (Nicro S. Apikul C., 1999; ASEAN Secretariat, 1998). The effectiveness of enforcement is, in the final account, what makes environmental policies able to prevent and mitigate adverse environmental effects of economic activities.

In Thailand, primary responsibility for enforcing environmental standards lies in the Ministry of Science, Technology and Environmental (MOSTE) and the National Environmental Board.

Two main reasons can be identified as explaining failures in regulatory enforcement. The first has been attributed to the shortage of administrative staff carrying monitoring and enforcement tasks. While the number of factories has grown exponentially, the increase in the number of environmental staff has been insufficient. In 1990, the number of industrial plans registered in Thailand was 51,441, while the Department of Industrial Work, which had main responsibility for industrial pollution control only had 699. The ratio of staff to the number of registered factories was 1 to 100 (Kritiporn P. and al., 1990: 90-91). This suggests that environmental protection has evolved at a slower pace than the expansion of the Thai economy.

Financial limitations are another limiting factor. Thailand's budget for environmental protection has grown slowly compared to the rise of GDP. In 1987 Thailand spent less than 0.24 of GNP on environmental protection. While the GDP has grown by 25 per cent during the 8 years between 1982 and 1990, investment in public infrastructure has grown only 10 per cent (Phantumvanit D. and Panayotou T., 1990: 22). Thailand's environmental expenditure should not however be underestimated when compared to that of other developing Asian countries (See Appendix 3).

The 1992 National Environmental Quality Act (Section 80) has somewhat shifted the task of collecting information on environmental performance to the point sources of pollution, which are required to maintain daily operational records of their wastewater treatment, waste disposal, and air pollution control facilities. This may help ease the problem of the insufficiency of administrative staff.

The Act also entitles pollution control officers to conduct visits in factories and examine their operational records. Another important facet of the enforcement structure under the 1992 Act is that pollution control officers are given power to impose fines on violating factories and take legal action.

#### **4.2.2. Market-based instruments**

In Thailand as in other ASEAN countries, command-and-control approaches are being complemented by the use of market-based instruments (MBIs) such as eco-labeling, environmental charges/taxation (polluter pays principle) and incentives, environmental audits etc. MBIs have the advantage of not compromising the forces of economic expansion but rather use them to foster self-adjustment towards more efficient use of resources.

The recent emphasis on MBIs in Thailand is related to the internationalization of the practice and the relative ineffectiveness of command-and-control to induce environmental compliance. While MBIs have been introduced only recently in most developing countries, there are indications suggesting that in Thailand, they have been in use for quite a long time, though in a different form (Kriptiporn P. and al., 1990: 205-207). MBIs currently applied in Thailand include pollution charges, product and system standards, subsidies and environmental funds.

#### **Pollution charges**

The polluter-pays principle (PPP) was introduced by the 1992 Environmental Act. Its application is however limited to a system of service fee, levied on the use of public wastewater or waste treatment facilities.

The owner of a point source of pollution without an on-site facility for wastewater treatment or waste disposal is required to send such wastewater or waste to the central wastewater treatment plant or the central waste disposal facility in that area. A service fee is then levied. The National Environment Board, with the advice of Pollution Control Committee fixes the rates of the service fee, which varies according to the locality.

The owner or possessor of a point source of pollution in the category of domestic household, that can be classified as a small-scale user is entitled to be exempted from the payment of service fees. The National Environment Board, with the advice of the Pollution Control Committee determines the conditions under which such exemption is granted.

Another indirect form of tax consists in a deposit-refund scheme whereby potentially polluting firms enter a contractual arrangement with the Ministry of Industry to deliver a specified amount of hazardous waste per year for treatment and disposal. The company deposits a fee that amounts to twice the estimated cost to treat the waste. The payment is subject to environmental audits. After delivery of the contracted amount of waste, rebates are returned with interest, if the amount of treated waste is lower than had been estimated.

While this scheme may encourage the use of waste treatment and disposal facilities, it may only have a limited impact in reducing pollution since the charges levied would only cover the cost of treatment and disposal.

### **Product and system standards**

Standard certification is used to certify that corporations' management, production processes and output are in conformity with specified standards. In Thailand, the Thai Industrial Standards Institute (TISI) has developed product certification standards and system certification standards. The product certification standards certify that a product has been manufactured in conformity with TISI standards. There are three types of standards: voluntary standards, compulsory standards and safety standards (compulsory). Each standard is assigned a mark, which is accordingly displayed directly on the product. Products to which compulsory standards and safety standards apply require licence for their manufacture or/and import. TISI has formulated standards for 24 product categories, including textiles, furniture, machinery, metal, food, agricultural products, plastics and rubber.

System certification marks are used on printed documents and advertisement media to indicate compliance of an organization with the respective system or scheme requirements. There are three types of system certification standards with corresponding marks. The Quality System Certification is given to organizations meeting the requirements of ISO 9000 and registered as certified firm by TISI. The Environmental Management System Certification is given to organizations which have been successful in the implementation of an environmental management system as prescribed by the ISO 14000 standards and have been certified by TISI. The Laboratory Accreditation Mark is given to a laboratory whose competence and compliance with ISO/IEC Guide 25 have been assessed and confirmed by TISI.

By the mid-1998, over 640 companies had been certified to be in compliance with ISO 9000 international standards for quality in design, production, installation and servicing, and fifty-five companies have already

received certification for ISO 14000 standards on environmental management (Trade Compliance Center, 1999).

### **Subsidies**

Subsidies have been provided in various forms to encourage the use of environmentally-friendly technologies and production processes. These include a discount from the Ministry of Finance applying to the standard tariff on imported capital equipment for end-of-pipe waste treatment technology. The government is considering extending the discount to clean process technologies.

The Industrial Finance Corporation of Thailand (IFCT), a semi-governmental organization, provides concessional financing for purchases of anti-pollution equipment, through an "Environment Portfolio" which loans amount to a total of about \$8 million annually (OECD 1994: 125).

Investment projects often entail high risks of environmental degradation, but they also have a strong potential for environmental quality improvement. To seize that opportunity, Thailand Board of Investment (BOI) (Announcement No.1 and 2 of 1993) gives special privileges to companies investing in activities concerning environmental protection and/or restoration.

### **Environmental funds**

Under the Enhancement of National Environment Quality Act of 1992, an Environment Fund has been established in the Ministry of Finance to provide *inter alia*:

- Grants to government agency or local administration for investment in and operation of the central wastewater treatment plant or central waste disposal facility, including the acquisition and procurement of land, materials, equipment, instrument, tools and appliances necessary for the operation and maintenance of such facility.

- Loans to local administration or state enterprise for making available air pollution control system, wastewater treatment or waste disposal facilities.

- Loans to a private person having the legal duty to make available and install an on-site facility of his own for the treatment of polluted air, wastewater or waste disposal or any other equipment for the control, treatment or eliminate pollutants that are generated by his activity or business undertaking. Such loans may be given to a service contractor operating wastewater treatment or waste disposal facilities.

- Aids or grants to support any activity concerning the promotion and conservation of environmental quality as the Fund Committee sees fit and with approval of the National Environmental Board.

## **5. The East Asian economic crisis and environmental governance**

The East Asian currency crisis started in Thailand in 1997 and rapidly spread through East Asia with critical economic, social and environmental consequences. Consideration of the economic crisis is important from the point of view of environmental governance as it reveals not only the economic, social and environmental

risks associated with processes of economic globalization, but also market and policy failures to set adequate safeguards against such risks. On the other hand, the crisis gives an opportunity to evaluate the capacity of environmental governance systems to respond to the environmental implications of unexpected changes in the economic and social conditions of a “globalized” economy.

### **5.1. Environmental and social implications of the crisis**

Most evaluations of the environmental effects of the crisis substantially vary in the short, medium or long term. A first look at the short-term effects of the crisis gives indication of slightly reduced pollution and pressure on resources. On the other hand, long-term perspectives and recovery strategies indicate an increase in pollution and resource depletion.

Considering air pollution for instance, the decline in economic activity is expected to reduce pollution loads and improve air quality in the short term. However, industrial pollution intensities may worsen because of the combined effects of higher pollution abatement costs and weakened regulatory control (World Bank, 1999a: VII). As growth resumes, greater environmental degradation may follow.

Despite the general decline in the export sector, strong variations exist between economic sectors. Resource-based exports are being increased to compensate for declining export of manufactures, due to rising production costs. Therefore, the expectation that the decline in total trade would lead to a lesser pressure on resources may be misleading.

In Thailand, the exports as a whole have decreased to 40 percent between July 1997 and July 1998, despite the stimulus of real depreciation (World Bank, 1998: 28). One reason for this, as pointed out by the National Economic and Social Development Board (NESDB), lies in stronger competition for labor-intensive industries from Indonesia, China and India, while technology-oriented goods have lost competitive edge to China and Malaysia.

While the volume of exports as a whole has declined, agricultural exports increased in volume at an average of 40 per cent, mainly to compensate for declining world market prices (World Bank, 1998: 31). Besides the devaluation of the Bath, increased agricultural production has been fuelled by a more intensive use of fertilizers. The relative profitability of export due to devaluation of the Bath has also favored export push of fishery products.

With a loss of competitiveness in various sectors combined with a declining capital inflows and an expected decrease in domestic savings, maintaining macroeconomic balance involves a combination of two options: cutting the level of investment and increasing the rate of natural resource depletion (World Bank, 1998: 103). In fact, many of governments’ policy measures in Thailand and elsewhere are leaning towards the second option.

In Indonesia, for example, the government is pushing for agricultural and fisheries export with the aim of



becoming the world's leading fishery commodity exporter. The government plans to provide fishers with low-interest credit as a means of spurring production (Dauvergne, P. 1999: 34). Indonesia is also expanding large-scale forest plantations, with the aim of becoming one of the world's top pulp and paper producers. Similar plans are set for the production of palm oil. The government is notably trying to overtake Malaysia as the largest producer of palm oil (Dauvergne, P. 1999: 37).

Thailand is putting greater emphasis on the development of agro-industry and processing industry. Support measures include plans to set up agricultural production zones and the provision of tax incentives and soft loans to processing plants located in such zones.

A range of other social problems having considerable environmental implications has emerged out of the crisis. In Thailand, open unemployment is said to have increased by 50 percent since the start of the crisis to 1.5 million in February 1998 and is expected to exceed 6 percent by year-end (World Bank, 1999b: 3). Unemployment among the newly-graduates was estimated to be as high as 41 percent, or 100,000 persons in 1997 (NESDB). Access to health care and education has decreased as public expenditure declined, and many parents in low-income families found themselves unable to support school fees.

The most vulnerable segment of society (e.g. the poor) and those social classes more dependent on market conditions have been particularly stricken. While East Asian countries had succeeded in reducing the number of people living under poverty from six in ten in the mid-1970s to two in ten in the 1990s (World Bank, 1999b: 1), the economic crisis has increased poverty and income disparities.

The result of worsening health, education and employment conditions is a weakening of the foundations of good environmental governance, as all these factors contribute to greater environmental awareness and care. Increased poverty may lead to a greater risk for unsustainable use of resources, as people become more dependent on natural resources.

## **5.2. How are environmental governance systems adjusting to the crisis?**

A preliminary observation is that at the same time that environmental problems are being exacerbated by the crisis and calling for public intervention, government capability to respond is being reduced. Most government funded environmental projects for 1998 and 1999 have been suspended. Budgets for 1999 have been frozen at 1998 levels. The NESDB predicts that, overall investment would decrease, following the government budget constraints. Investment in the next five years of the Eighth Development Plan is adjusted to Bt 10,614,210 million, or 36.6 percent of GDP, against 40.7 percent of GDP, worth 2,565,426 million during the Seventh Plan.

In the context of the crisis, a number of civil society groups have been advocating a return to self-reliant development strategies (Nicro S. and Apikul C., 1999: 97). However, economic reform policies adopted

under the direction of international financial institutions suggest that Thailand will be even more open to globalization forces through greater deregulation and liberalization of trade and investment, promotion of higher competitiveness, and privatization of state enterprises. Thailand has been relying on foreign capital for so many years that the sustainability of growth has been contingent to the sustainability of private financial flows in a cycle that some have called an addiction to capital (Bello W., 1997). It is unlikely that the Thai economy can afford to turn away from such capital, particularly at this moment.

The major question will therefore be whether economic and social safeguards strong enough to offset social and environmental risks will accompany this new entry into the global economy. Various measures have been introduced, which are expected to prevent future social and environmental crisis.

Measures being advocated in adjustment packages include the reduction of government subsidies; relative price adjustment to reflect full environmental cost; and the introduction of environmental taxes and fees; poverty alleviation and income generation schemes (World Bank, 1999a, Thailand Ministry of Finance, 1999).

Adjustment policies are taking the crisis as an opportunity to introduce economic and social policy reform that would benefit the environmental sector. Some of measures being undertaken are likely to have only short-term effects and may see a reversal as the economic environment improves. Others, rather structural in nature, have some potential for altering the economic use and the management of environmental resources in a sustainable manner.

For example, while maintaining export promotion policies, there are efforts to integrate counter-measures and limitations in sectors likely to suffer from further resource depletion. In that respect, some countries have introduced greater control and restrictions, such as Malaysia, which introduced plywood export restrictions to counter the risk of greater pressure on forest resources.

In Indonesia, the government has announced plans to reform forest policies, including limiting the size of concessions to 39,000 hectares, transferring licences obtained through corruption or nepotism to cooperatives, forbidding new forest concessions, auctioning revoked concession licences, and putting greater emphasis on community forestry (Dauvergne, P. 1999: 36).

Thailand is trying to reform the agricultural sector in a way that would reduce the use of chemical fertilizers and pesticides. Strategies in that direction include the combination of organic and chemical fertilizer, the cultivation of pollution-free vegetables and the use of biotechnology for increasing production efficiency (NESDB).

As part of the reform, a Social Safety Net program has been launched which is aimed at supporting job training and labor intensive projects, providing free medical treatment and improving rural health-care

facilities, and providing support to students whose families can no longer afford school tuition payments (Ministry of Finance, Thailand, 1999).

Some important measures were undertaken to protect poor and unemployed people. A Social Investment Project was approved in 1998 with a total estimated cost of US\$462.2 million. Funded by the World Bank, the Government of Thailand, the Overseas Economic Cooperation Fund of Japan, the United Nations Development Program, and the Australian Agency for International Development it is supposed to generate roughly one million months of jobs and an equivalent amount of training for the poor and unemployed. It is also expected to contribute to preventing further abuse of natural resources. Similar structural adjustment loans are being launched in other East Asian countries from regional and multilateral financial institutions.

Besides responses to short term impacts of the crisis, there have been more profound and long term structural changes, including in the area of environmental governance. First, the economic crisis has changed the perception of environmental problems and the social dimension in economic development planning and implementation. In the aftermath of the crisis, various revisions were brought to the Eighth National Economic Development Plan (1997-2001). One very important shift has been the introduction of a new development concept focusing on human-based development. Departing from earlier development plans' strong focus on economic growth, the Eighth Development Plan attempts to evaluate development from the perspective of human well-being, a concept that integrates all dimensions of the well-being of Thai people. The well-being indicators comprise 7 major components, namely health and nutrition, education, working life, family life, economic development, environment, as well as safety and governance.

The economic crisis has also fostered the idea of greater popular involvement in governance. In that regard, the Eighth Plan and its revisions introduced the concept of "popular governance", implying greater decentralization of responsibilities within the state apparatus and more participation of the private sector in the delivery of services.

The creation of a mechanism to contain conflicts arising between government and the people out of development and investment projects is now being implemented. In this respect, the setting of a neutral agency to negotiate conflicts between parties has been envisaged. For instance, the Peace Studies Institute, Khon Kaen University, played a role in containing conflicts with the local people opposing the construction of a gas pipeline by the Petroleum Authority of Thailand in Kanchanaburi Province.

Thai government and donors have supported many new community-level initiatives. The Social Policy Committee (SPC) has created the Pattana Thai Foundation to channel over 40 million baht in government funds to establish civic forums and community learning centers for planning, monitoring and evaluation. The Social Investment Fund launched in September 1998 by the Thai government, with the assistance of the World Bank, UNDP, and Australian Aid, provides grants to community-based organizations to

undertake investments designed and implemented by the community.

One observation that can be made from the economic crisis is that economic and social sectors that were heavily stricken were those that were more linked to, and dependent on economic globalization forces. Indeed, people in urban areas suffered more from reductions in income, expenditure and unemployment than those in rural areas. Business, wage and salary earners' incomes have declined by 21 percent and 8.6 percent since August 1997, compared with much smaller reduction in farm incomes (World Bank, 1999b: 4).

On the other hand, the repercussions of the crisis go far beyond actors and institutions directly at its origin, to the level of local communities. Most people in urban and rural areas are paying the price of high risks taken by investors and financial institutions, and failures of adequate government supervision. In that sense, the East Asian economic crisis as well as the environmental crisis that accompanies it reinforces the logic of wide public participation in economic and social governance.

### **Conclusions**

For many decades, Thailand's development strategy has been based on rapid industrialization relying on export orientation. Trade and investment have been expanding rapidly, generating high growth rates for many consecutive years. Government liberalization policies have been very supportive of this process. This enabled Thailand to take an active part in processes of economic globalization. Thailand's increasing integration into the global economy generated stronger concerns for competition and gaining new market shares in not only agricultural crops and fisheries, but also manufacturing and services industries.

In the context of economic globalization, many of Thailand's environmental problems have been altered or exacerbated in their origin, scale and effects. Air and water pollution and resource depletion have attained critical levels. As environmental degradation extended, low compliance and enforcement of environmental standards came to be more and more questioned. Despite the realization of negative environmental effects of Thailand's spectacular economic growth, environmental regulation and enforcement have been lagging behind the rapid pace of industrialization. Strong concerns for competitiveness and sustaining high growth rates have, for many years, led to the use of subsidies and other policy instruments generally seen as externalizing environmental costs, ineffective monitoring and implementation of environmental standards.

Government policies have tried to combine trade and investment liberalization with environmental protection. However, despite the introduction of environmental measures in overall trade and investment policies, pollution and resource depletion problems have persisted, which suggest that the instruments of environmental governance have evolved at a lower pace than Thailand's involvement in globalization processes. The adverse environmental consequences of export expansion in agriculture; aquaculture and industry indicate some failures in properly valuing environmental assets in accordance with the environmental costs of Thailand's export expansion.

In addition to the command-and-control approach to regulation, market-based instruments have been gradually integrated into governance instruments and globalization is likely to foster this trend.

While government has been rather slow in introducing environmental regulatory and institutional reform, public reaction through local communities and NGOs have gained importance in putting many of the major environmental problems brought about by globalization onto the political agenda. Since 1992, participation of people, NGOs and the private sector in environmental governance has been formally recognized and promoted in the constitution, development plans and various laws.

There is not sufficient information about the case for relocation of pollution-intensive industries from developed countries to Thailand, although many of foreign investment projects are in the manufacturing, heavy and high technology industries that support export-oriented sectors, and often generate high pollution. Certainly, the number of pollution-intensive industries in the total of FDI projects in the period up to 1989 suggest that foreign investment might have had substantial contribution to air and water pollution and hazardous waste generation. However, regulatory changes introduced from the early 1990s have brought about more effective means of preventing and mitigating the environmental risks of FDI projects.

In general, environmental standards have not been lowered in order to attract foreign investment. New environmental laws have been introduced and revisions were made to many other regulations, introducing stricter control on pollution and the use of resources. On the other side, the Board of Investment (BOI) offers numerous incentives to foreign investment projects, many of which are in polluting sectors. In recent years, however, many such incentives are being granted to projects bringing new technology to Thailand, and therefore may contribute to the establishment of least polluting production processes.

One emerging risk with regard to environmental standards pertaining to foreign investment lies in the increasingly fierce competition for FDI between Thailand, the other ASEAN countries and China. In the aftermath of the economic crisis, most countries are offering more attractive incentives to investors and have removed many of the performance requirements. For example, Thailand will allow 100% foreign equity ownership for manufacturing investment projects regardless of locations. Prior to the crisis, investment was encouraged in areas outside Bangkok, with among others, the objective of reducing the pollution intensity in Bangkok.

In order to avoid that competition for investment results in reducing prospects for better environmental standards, joint efforts at regulating trade and investment together with environmental protection should be promoted. AFTA and the AIA agreement offer forums for integrating environmental concerns into trade and investment liberalization policies that have not been fully exploited.

Structural adjustment policies being implemented under the IMF rescue package by advocating greater

deregulation, liberalization of trade and investment and privatization, are likely to further open Thailand to globalization forces. How current and future recovery strategies will incorporate the right social and environmental safeguards will be crucial in laying down new foundations for environmental governance.

As globalization proceeds and market forces take place, the role of the state is likely to diminish. Government intervention will nevertheless remain crucial in correcting market failures and ensuring that economic, social and environmental adverse effects of globalization are adequately mitigated. In particular, as limitations to foreign access to resources such as land ownership are being removed, government capability to intervene as arbiter in conflicts over the control of, and access to resources (land, water, forest, and capital) will most be needed. The success of such intervention will determine whether economic and social benefits brought about by globalization are equally beneficial to all, and make sure that benefits from strong business circles do not result in impoverishment of small or local communities. Otherwise, processes of globalization may simply be another vehicle perpetuating the poverty - environmental degradation cycle.

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Appendix 1 Thailand economic indicators 1975-1995

	1975	1985	1994	1995
GDP (billion U.S.\$)	14.9	38.9	143.0	167.2
Average annual growth	6.6	9.8	8.8	8.7
(%of GDP)	1975	1985	1994	1995*
Agriculture	26.9	15.8	10.5	10.9
Industry	25.8	31.8	37.0	37.6
Manufacturing	18.7	21.9	28.5	29.2
Services	47.3	52.3	52.5	51.5
Average annual growth	1975-84	1985-95	1994	1995*
Agriculture	4.1	2.9	4.2	3.3
Industry	8.3	13.2	11.2	11.3
Manufacturing	7.6	13.7	12.0	12.3
Services	6.6	9.2	8.1	7.8
Trade (million U.S. \$)	1975	1985	1994	1995
Total exports (fob)	..	7,120	44,650	56,036
Fuel	..	829	2,005	7,372
Rubber	..	..	738	1,765
Manufactures	..	2,920	30,222	36,461
Total imports (cif)	..	9,248	53,379	70,881
Food	..	348	2,525	2,920
Fuel and energy	..	2,696	6,544	7,731
Capital goods	..	2,598	24,904	29,333

Source: World Bank, International Economics Department, 1996

Note: \* estimates

Appendix 2 Foreign Enterprises Exports by Product Classification, Bank of Thailand (Million Bath)

	1995		1996		1997	
	Value	Growth (%)	Value	Growth (%)	Value	Growth (%)
Manufactured Products	1,151,371	24.8	1,151,365	0.0	1,489,468	29.4
Agricultural Products	160,314	23.7	167,131	4.3	183,987	10.1
Fishery Products	71,190	4.8	63,511	-10.8	72,234	13.7
Others	23,436	35.1	30,104	28.5	61,459	104.2
Total Exports	1,406,311	23.6	1,412,111	0.4	1,807,148	28.0

Source: Bank of Thailand

Appendix 3 Spending on environment (% of GDP) in selected Asia-Pacific countries

Country	1997	2003
China	<0.5%	government target 1.5%
India	less than 0.5%	0.5%
Indonesia	less than 0.5%	0.5-0.7%
Japan	1.8%	1.9%
Malaysia	0.9%	about 1.2%
Philippines	0.5%	0.9%
Singapore	1.2%	1.3%
South Korea	about 1.3%	1.6%
Sri Lanka	about 0.3%	0.5%
Taiwan	about 1%	1.3%
Thailand	0.8%	about 1.1%
Vietnam	0.1 - 0.2%	less than 0.5%

Source: Alliance for Environmental Technology

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