

## Summary of Proceedings of the 1990 Year-End Conference

### *"Industrializing Thailand and Its Impact on the Environment"*

In less than 30 years, Thailand has been transformed from a subsistence agrarian economy into a rapidly industrializing country—a rare accomplishment among developing countries. The country's rural natural resources—land, water, and forests—have made indisputable contributions to the country's industrialization and economic growth. Yet, it is widely recognized that Thailand's future economic growth may be threatened by a dwindling resource base unless more efforts are made to protect and conserve its environment.

While rapid urban growth has been making a major contribution to Thailand's economy, that same growth is placing a major burden on the physical, environmental, and social infrastructure. Air and water pollution are growing rapidly, and the traffic congestion in the Bangkok Metropolitan Region is among the worst in the world. The demand for water in the rapidly growing suburban areas far exceeds the available municipal supply, and the resultant groundwater pumping has led to serious ground subsidence.

Thus, Thailand's accelerating industrialization and its consequent impact on the country's natural resources and environment is one of the most important policy issues facing the country today. Recognizing the need to thoroughly examine all the issues involved in addressing this dilemma, the Chai Pattana Foundation and the Thailand Development Research Institute co-organized this year's conference as a major forum for discussing the conflict between industrialization and the environment.

The conference's 733 participants included representatives from private industry, government and state enterprises, academic institutions, NGOs, international agencies, and the media. This year, participants were gratified and indeed honored by the presence of HRH Princess Maha Chakri Sirindhorn, who presided over the conference's proceedings. In her opening address before the conference on Saturday, December 8, Her Royal Highness said:

*Development is not only measured by economic growth. Development also means good public health, appropriate education, wise use of natural resources, conservation of the environment and culture, equitable income distribution, job opportunities, and the freedom to choose one's own way of living. Even though Thailand has enjoyed rapid economic growth, our natural resources have been used unwisely. Deforestation, conflicts in land use, and water scarcity are major problems. Pollution is plaguing our cities. These problems must be solved, and development in the future must be carefully planned. Because of the large scope of environmental problems, every citizen must cooperate and participate in both preventing and solving these problems before they become even more severe.*

Prior to the conference, a team of Thai and international researchers undertook a large-scale research effort resulting in the publication of eleven conference papers (publication codes: Y90A-Y90K) that detailed their findings and policy recommendations. These papers were distributed to all participants prior to the beginning of the conference. The conference itself was structured around the main themes of this research. The following article summarizes the proceedings of this important conference and some of the recommendations and policy implications that were drawn from it.

### **SESSION 1 Global Environmental Issues and Their Impact on Thailand**

Chairperson:  
*Mr. Anand Panyarachun*

Chairman  
The Federation of Thai Industries

Presenters: *Sir Ninian Stephen*

Ambassador for the Environment and former Governor-General, Australia

*Mr. Benjamin Bassin*

Director-General

Finnish International Development Agency

*Mr. Jim MacNeill*

Director

Institute for Research on Public Policy, Canada

*Mr. H. J. Shields*

Managing Director

Shell Company (Thailand)

The panelists introduced several global environmental issues that are being widely discussed, such as global warming and depletion of the ozone layer. The emphasis was on cooperation among sectors, both nationally and internationally.

It was agreed that any preventive measures for arresting these global problems must take into consideration the economic development of individual countries—particularly developing countries, who are less able to mobilize financial and technical resources. However, some measures such as energy conservation have been viewed as a viable means to mitigate environmental problems and yet sustain economic development. Many international organizations have supported negotiations to reduce global greenhouse gas emissions, which will be one of the most important issues to be discussed at the United Nations Conference on Environment and Development (UNCED) in Brazil in 1992.

The panelists also shared the experiences of some countries such as Finland, Australia, and Canada and the role of multinational corporations in dealing with environmental problems.

## **SESSION 2 Natural Resources for the Future**

Chairperson: *Dr. Sumet Tantivejkul*

Secretary-General

Chai Pattana Foundation

Presenters: *Dr. Dhira Phantumvanit*

Director

Natural Resources and Environment Program, TDRI

*Dr. Vute Wongwacharakul*

Research Fellow, TDRI

Discussants: *Dr. Prawase Wasi*

Chairman

Local Development Institute

*Dr. Ajva Taulananda*

Group Vice President

Charoen Pokphand Group

Dr. Sumet's introductory statement indicated the significance of taking environmental quality into consideration when natural resources are utilized.

The presenters stressed the need for Thailand to preserve and protect its forest cover areas and to accelerate reforestation without depriving some 8-9 million farmers living in forest reserves of their means of

livelihood, thereby further exacerbating social conflict.

The provision of clearly understood and secure property rights over the land and of income-generating alternatives were considered crucial. It was noted that large private plantations in forest reserves bring only limited benefits to local people and can lead to conflicts between investors and local farmers. At the same time, small plantations have not proved to be privately and socially profitable. If the government wants to encourage community forestry, it has to ensure the participation of local people as well as support from non-governmental organizations (NGOs).

Regarding water resources, it was pointed out that Thailand is faced with the problem of water allocation as a result of urbanization and the expansion of tourism and of industry in general. The presenters recommended that water should not be provided free-of-charge or be subsidized for use in any sector. Water should be priced at the full cost of long-term supply, including the cost of necessary infrastructure and the opportunity cost of rain water. Water rates should be progressive, with lower rates charged for small users.

It was proposed that social sustainability should be considered an important element of sustainable development. A lack of public awareness of the need for environmental conservation could obstruct proper resource management.

The private sector's role in raising the quality of life of farmers via agricultural market mechanisms was stressed as well.

### **SESSION 3 Mineral Resources Development and Its Environmental Implications**

Chairman: *Dr. Sippanondha Ketudat*  
President  
National Petrochemical Corp., Ltd.

Presenters: *Dr. Theodore Panayotou*  
Fellow, Harvard Institute for International Development  
*Dr. Quanchai Leepowpanth*  
Research Fellow, TDRI

Discussants: *Mr. Chadab Padmasuta*  
Department of Mining, Chulalongkorn University  
*Mr. Darnp Tewthong*  
Chairman  
Mining Industry Council

Dr. Sippanondha opened the discussion by raising the challenging question of what should be the optimum level of mining and environmental quality.

The presentation's main emphasis was on identifying the problems that the mining industry is facing and the idea of establishing an environmental fund contributed to by miners. The problems of the mining industry include the declining price of minerals as well as conflicts over land use (trade-offs between mining areas and forest conservation). The proposed solutions included the reform of the concession policy to increase incentives for exploration, the restructuring of the royalty structure to reflect the true profitability and environmental impacts of each mineral, and the establishment of an environmental fund and bond mechanism to ensure land reclamation after mining.

The discussants proposed that the merits of the mining industry should not be overlooked since it has made an important contribution to economic growth. Development of the mining industry and the environment should not be a none-or-all trade-off. While the idea of an environmental fund was impressive, it could face operational problems when implemented. Past experience in coping with mining and environmental

problems indicates that the government has not paid adequate attention to solving the root cause of the problem.

### **GOVERNMENT AND PUBLIC RESPONSES:**

TDRI's conference has drawn many policy recommendations from research conducted during the previous twelve months. Many of these recommendations have been well received and supported by the public and have been adopted by government agencies. This is due to the Institute's practice to consider policy research as a process during which users—either in government or the private sector—will be invited to review the practical aspects of each study and policy analysis before it can be finalized.

The government has considered lowering the lead content in fuel in order to mitigate air pollution problems. One of the most recent changes in the government's energy policy is the rescheduling of phasing out leaded gasoline. Reduction of the lead content in gasoline to 0.15 mg/liter will be effective in 1992, and mandatory retail sales of unleaded gasoline will be started on September 1, 1993. The government also took further action on CO (carbon monoxide), NO<sub>x</sub> (Nitrogen Oxides), and hydrocarbon control by scheduling the enforcement of the utilization of catalytic converters on new cars beginning on September 1, 1992.

In the conference, TDRI advocated the idea of establishing an environment fund for cleaning up industrial pollution. In concert with the idea, the Industrial Finance Corporation of Thailand (IFCT) has agreed to provide low-interest loans for industrial pollution treatment projects. Each project's loan limit is set at 20 million baht. IFCT has committed a 300 million baht fund for this purpose. The objective of this low-interest loan is to control and prevent industrial pollution from exceeding the safe limit.

### **SESSION 4 Industrializing Thailand and the Impact on Its Environment**

Chairman: *Dr. Phisit Pakkasem*  
Secretary-General  
National Economic and Social Development Board

Presenters: *Dr. Dhira Phantumvanit*  
Director  
Natural Resources and Environment Program, TDRI  
*Dr. Tienchai Chongpeerapien*  
Research Fellow  
Energy, Infrastructure and Urban Development Program, TDRI

Discussants: *Dr. Chaianan Samudavanija*  
Professor  
Political Science, Chulalongkorn University  
*Dr. Prida Wibulswasdi*  
Vice-Rector  
King Mongkut's Institute of Technology, Thonburi Campus

Dr. Phisit characterized the structural change of the country in three ways: the country's transformation of traditional practices to the adoption of new technology; increasing migration to the city, particularly expansion of the Eastern Seaboard vicinity; and Thailand's increasing involvement in the world economy.

Presenters summarized TDRI's research in the area of environmental quality management. The conclusion was that deterioration of the environment as a result of the rapid expansion of industry, growth of the urban population, and the increase in the demand for energy has reached a critical stage, especially in the Bangkok Metropolitan Area. The evidence was the pollution load, which is steadily growing. This trend will

continue as the economy expands.

It was recommended that pollution controls should be incorporated into the national development plans. The "Polluter Pays Principle" and appropriate market mechanisms should be applied. Immediate action should be taken to alleviate Bangkok's air pollution problem. For example, controls over fuel oil and gasoline quality should be imposed. The study recommended that the government should promote lead-free gasoline utilization as soon as possible. This will expedite the installation of catalytic converters. The study also called for a reduction of SO<sub>2</sub> and NO<sub>x</sub> emissions from power plants.

It was pointed out that for solutions to environmental problems to be effective, a strong political will and an improvement of political systems were needed. It was also suggested that development of renewable and unconventional energy sources should be emphasized.

## **SESSION 5 General Discussion**

Chairman: *Dr. Ammar Siamwalla*

President, TDRI

The format of this session was that of open discussion for all participants. While there were many opinions voiced, three major points that were emphasized are as follows:

- **Villagers and Forest Reserves:** It was noted that the problem of forest encroachment is partly due to past government policies, which promoted export-oriented agricultural expansion. It is important to recognize that many of these villagers had lived in these forest areas long before the government announced its forest reserves policy. Thus, it is not appropriate to classify these villagers as encroachers. The government's encroachment policy should therefore focus on raising agricultural productivity, increasing farmers' incomes, and raising education levels rather than on relocating encroachers out of the forest reserves.
- **"Polluter Pays Principle":** It was noted that while this principle has been discussed for a long time, it has never been realized. In order to successfully implement this principle, a clear plan of action must be drafted, the right incentives (such as tax incentives) must be offered, and responsible organizations must be designated to carry out the policy.
- **Further Studies:** The following issues were suggested for further study.
  - A detailed study of the economic costs of environmental damage.
  - A study on the economic impact of the environment and sustainable development.
  - An environmental assessment of the government's economic policies.

## **CLOSING REMARKS**

Dr. Snoh Unakul, Chairman of TDRI, summarized the conference's results as follows:

*From the conference, it is clear that the issues of natural resources and the environment are every citizen's concern. Development cannot be sustainable without considering the environmental aspects. The "Polluter Pays Principle" must be used for solving environmental problems. The conference's proposals to set up an environment fund for general industry and an environment fund for the mining industry are based on this principle.*

*Because natural resources are limited, owners or users of these resources must pay in proportion to their possession or usage. The government can then use this income to further develop the country.*

*It is not sufficient to expect the government be solely responsible for preventing and solving environmental problems. Citizens, political institutions, the private sector, and non-governmental organizations must also cooperate and participate.*

Dr. Snoh also noted that the benefits obtained at this conference can be summarized by the following three points:

1. The Institute's research activities reported at this conference represented a cooperative effort among researchers from different disciplines such as environmental engineering and economics. Environmental conservation and economic development were given equal importance.
2. The research works were beneficial in terms of integrating data from different sources. Policy issues and recommendations were also clearly stated. Thus, with additional input from conference participants, these policy recommendations could be immediately used by policy makers.
3. The actual benefits of the research will occur only when the recommendations are adopted and implemented. This conference's purpose was to present guidelines for formulating policy. The next step must be a cooperative effort to implement the ideas and suggestions that resulted from this conference.

In officially closing the conference, HRH Princess Maha Chakri Sirindhorn said:

*The research works reported at this conference indicate that environmental problems will become more acute in the future. Immediate solutions to these problems must be implemented. The measures should include drafting appropriate environmental policies, creating public awareness, and developing clear and efficient action plans. By adopting the principle of sustainable development, growth can be sustained, and the environment can be saved.*

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