Industrial Pollution in Thailand
A Case of Eastern Seaboard Development and Japanese Aid and Investment

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Institutional Introduction (1)

• CAIN was established in late 1997 with its active role as an independent NGO watchdog focusing on Thailand’s industrial policy and its impacts.
• It is a development of the Toxic Chemical Campaign Committee (TCCC) which was set up in response to the 1991 chemical warehouse fire at Bangkok’s Central Port (Klong Toey Port)

Chemical Warehouse Explosion at Bangkok’s Central Port (Klong Toey Port) on March 2, 1991

Over 20 chemicals officially disclosed were caught into fire but suspiciously there were over 3,000 chemicals stored at the warehouses. The fire fighters spent at least 3 days to extinguish the chemical fire. The toxic fume was blown several kilometers away. Over 5,000 of urban poor people living in the Klong Toey slum communities were exposed to the toxic chemicals and got severely health damages.

Official Report:
- 642 houses burned down (a house received 3000 yen for compensation)
- 6,417 people become homeless
- 4 immediate dead (A family received 60,000 yen for compensation)
- 43 seriously wounded
- 1700 chemical-exposed patients
- 499 women patients are pregnant
- 30 million baht loss of the residential property
- 40 million baht loss of Port Authority of Thailand’s property
**Eastern Seaboard (ESB) Development Program**

ESB Program was first introduced during the 5th National Economic and Social Development Plan (1981-1984), when Thailand started changing its economic development strategy from import-substitution to export-led industrialization.

ESB is the comprehensive plan for developing Thailand’s eastern region to be the main industrial zone for the export-led industries, creating new jobs to alleviate high unemployment situation in the country.

It is the largest regional development project to date that has ever been implemented in Thailand.

Main components of the plan:

1. Natural Gas Pipelines from the Gulf of Thailand and Gas Separation Plants at Map Ta Phut, Rayong Province;
2. Map Ta Phut Industrial Seaport and MTP Industrial Estate Area in Rayong, for petroleum refining plants, petrochemical, other downstream industries, iron & steel, and power plants
3. Laem Chabang Deep Seaport and Laem Chabang Industrial Estate for light industries in Chon Buri Province
4. Chacheongsao Industrial Zone for light industries in Chacheongsao Province
5. Huge infrastructure and transportation networks

**Japanese Aid and Investment in ESB**

- Japan Government has been the key supporter for ESB since early 1980s to 1990s.
- JBIC offered Overseas Development Assistance (ODA) focusing on the industrial development of Map Ta Phut and Laem Chabang with objectives of:
  - Develop Map Ta Phut for heavy petrochemical complex,
  - Develop Laem Chabang with a new international commercial port, and an industrial estate
  - develop water resources for these two areas
  - construct railway and highway networks for meeting the transport needs.
- 27 ODA loans for 16 projects since early 1980s
- Total amount of ODA (end of fiscal year 1998) is 178,768 million yen
JAPANESE ODA - SUPPORTED PROJECTS IN ESB

- Map Ta Phut area
  - Map Ta Phut Industrial/Urban Complex Project
  - Map Ta Phut Industrial Port Project
  - Gas Separation Plant Project
- Laem Chabang area
  - Laem Chabang Port Project
  - Laem Chabang Industrial Estate Project
- Five Water Resource Development & Water Pipeline Projects
- Three Railway Projects
- Three Road Projects

Laem Chabang Industrial Estate and its Deep Seaport in Chonburi Province

An Oil refining Plant located close to the Laem Chabang Industrial Estate in Chonburi Province

A Coal Fire Power Plant in the Map Ta Phut Industrial Estate

A Complex of Petrochemical and downstream factories in Map Ta Phut Industrial Estates

A Case of Industrial Pollution at the Map Ta Phut Industrial Development Area Rayong Province

Negative consequences on environment, natural resources, people health and local livelihood caused by the industrial development under the Eastern Seaboard Development
Over 70 large factories of Petrochemicals, chemicals, plastics, fertilizer, oil and gas refining, iron and steel, coal fire power plants.

The Worst Foul Smell had been broken between 1997-98. There were hundreds of students and teachers from the Map Ta Phut Phungitayakarn Secondary School being hospitalized urgently. The school has finally been moved five km away in 2003.

Almost 20 Volatile Organic Compounds (VOCs) were detected in 1999 by the Environmental Promotion Agency and 7 oil refining plants and chemical factories were temporarily shutdown.

Severe contamination of rain water. The sample was collected from the Islam community in Rayong, close to the Map Ta Phut Industrial Estates, ESB area, (2001).

Well water contamination. A sample shown was collected from Takuan community in Rayong, close to the Map Ta Phut Industrial Estates, ESB area, (2005).

Local crops have been damaged. The residents believe it is because of the acid rain related to the air pollutants released by hundreds of stacks which the public officials strongly dismissed this claim.
Industrial Waste Dumping near a hill at Plutaluang district in Chonburi province (1998)

Illegal Toxic waste water disposal and industrial garbage dumping by unidentified trucks usually occur in the ESB region.

Waste water illegally released to the public area close to the Koidh community, Rayong province (28 November 2003)

The first toxic waste secure landfill inside MTP IE, operated by GENCO

Oil spill traces and toxic contaminated beaches near TPI complex

The second largest petrochemical complex in Rayong run by TPI group
Severe coastal erosion caused by land reclamation of the MTP IE, Rayong

Nhong-laeb community, Rayong

Beautiful sand beaches have been destroyed for tens kilometers long

The Worst Hit of Drought after decades long happening in eastern region of Thailand from late 2004 to late 2005

Nong-Plalai Reservoir with over 10% of water supply remain

Dok Krai Reservoir

Klong Yai Reservoir

Klong Yai Reservoir under construction to supply water to industries

Sufferings of local fishermen

When environment is changed their livelihood is changed.

Number of the patients classified by diseases

Source: Map Ta Phut
Worker Abuse and Occupational Health Problems in ESB

Eastern Seaboard Development Program

Thai government officials view:
The most successful industrialization program in Thailand

Thai NGOs or civil networks view:
The most visible example of serious environmental and health impacts in Thailand’s development experience