



IMPACT OF SPECIAL ECONOMIC ZONES ON FISHING COMMUNITIES

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Rayong Province, a pivotal national energy hub boasting widespread gas pipelines, gas separation terminals, LNG import infrastructure, oil refineries, and power plants, is currently grappling with the profound consequences of special economic zones. Over the last three decades, these zones have cast a shadow on the livelihoods of local fishing communities.

In 2018, the Thai Government established the Eastern Economic Corridor (EEC), which aligns with their goal to attract foreign investment. The EEC covers three eastern provinces of Thailand – Chonburi, Rayong, and Chachoengsao – with a total area of 1,326,400 hectares. Included in the economic corridor is the Map Ta Phut Industrial Estate in Rayong Province, which was established in the early 1990s with an initial area of 960 hectares before being expanded to 2,100 hectares. It comprises two main parts: industrial estate and industrial seaport.¹ The industrial estate hosts 142 factories for petrochemical, chemical and fertilizer, oil, energy, iron, steel, rubber, plastic, and leather.²

Rapidly developing, the government and investors consider Map Ta Phut industrial Estate a model that other countries can emulate, but it is also known for its toxic environment. Over the past 30 years, the surrounding communities have been suffering

several socio-economic, environmental, and health problems. In particular, the fishing community is one of the most impacted communities from the operation of the factories and the seaport.

ENVIRONMENTAL IMPACTS

Water pollution

Water resources in the area around the industrial estate were found to be contaminated with metallic elements.³ Water samples tested from 25 public ponds in Map Ta Phut indicated the presence of hazardous levels of toxic substances. The report from the provincial health office in Rayong Province confirmed the contamination of drinking water with iron, lead, manganese, and chloride. Since only two communities have access to public piped water, over 22 communities have to pay much higher costs for buying drinking water.⁴

In just 10 years, Rayong Province experienced two oil spill crises. In 2013, an oil pipeline leaked while receiving crude oil from a tanker, resulting in a spill of 50,000 liters.⁵ Nearly a decade later, in 2022, a massive 400,000-liter oil spill occurred.

Oil spill incidents have devastating impacts on the marine environment, not only from the spill itself but also from the treatment process. In



In addition, the immediate effects on marine animals are often evident. Animals coated in oil can be killed by poisoning or suffocation. Moreover, oil can affect food sources of marine life, making them less available or of poorer quality. As a result, animals that survive may continue to suffer long after the oil leak.⁶

Lamom, a community leader in Paknam, stated, "The two oil spills that happened and the use of chemical dispersants to clean the seawater resulted in the death of several sea animals."

Land reclamation from the sea and breakwater

The Map Ta Phut deep seaport spans an area of 160 hectares, consisting of 88 hectares of foreland and 72 hectares of hinterland, with a total quay length of 2,229 meters.⁷ The reclamation of 160 hectares of land from the sea is part of the ongoing expansion of the industrial estate. During this process, residents said that the soil was deposited without implementing measures to prevent mud and rocks from washing into the marine environment.

Ma Nope, an activist from the Clean Energy Network, commented, "Land reclamation from the sea and the construction of breakwaters destroy the coastal environment that serves as a refuge and habitat for newly born marine animals."

SOCIAL IMPACTS

Decrease in income

Despite promises to improve the lives of local people, the income levels for local fishermen have significantly decreased. The disruption of fisheries and mariculture activities, coupled with the substantial economic loss, are often among the most severe consequences during oil spills. Public health concerns due to the detection of contamination likely resulted in the withdrawal of produce from the market. The loss of market confidence may also lead to price reductions or rejection of seafood products by commercial buyers and consumers.⁸

"The prices decreased because many people didn't want to buy seafood. They were worried about contamination," shared Lamom on the impact of an oil spill on livelihood.

With the reclamation of land from the sea, the activity causes the fishing areas to shrink, further impacting the income of fishermen. This forces them to travel more hours and distance, resulting in increased fishing costs. This has a direct and adverse impact on the income levels of fishermen.

"The fishing area has decreased compared to before. Currently, only about 30% remains," said Ma Nope.

Health issues

In 2003, Thailand's National Cancer Institute revealed that rates of cervical, bladder, breast, liver, nasal, stomach, throat, and blood cancers were highest in Rayong Province, where Map Ta Phut is located. Particularly during the two oil spill crises, the fishing communities experienced severe health impacts.⁹

Oil contains elevated levels of toxic chemicals, including mercury, benzene, and other Polycyclic Aromatic Hydrocarbons (PAHs). Exposure to oil spills can lead to dangerous

effects on human health, such as sore throat, sore eyes, cough, runny nose, nausea, headache, respiratory tract problems, and even mental stress disorders. People who consume seafood may also be exposed to traces of toxic chemicals, and swimming on beaches with high levels of oil poses a threat.

Mr. Lamom said, "When the seawater quality is poor, it can cause rashes or skin diseases."

Conflict of interests

Since Map Ta Phut Industrial Estate was established, fishermen reported an increased number of cargo ships in the sea. While waiting to receive cargo, the ships drop anchor in the fishing grounds where local fishermen usually go. This situation has raised concerns among the local residents, who feel that their fishing rights are being violated. As a result, there is a decline in the quantity of fish caught and increased competition among residents for revenue.

Loss of interest in fishing

Individuals residing in coastal areas face the risk of people losing interest in pursuing traditional fisheries as a livelihood source due to the impact of development projects. Lamom expressed his concern: "Due to the declining fish population, coupled with environmental pollution, many young people are reluctant to pursue traditional fishing as a source of income. I worry that this livelihood will disappear in the near future."

Community movement

To ensure their voices are heard and to request compensation for the impacts of factories in the area, the Paknam community registered their fishing activities with the local authorities. They also organize community meetings to discuss action plans for issues that arise.

In 2013, in an effort to hold companies and local authorities accountable for the oil spill, the Paknam community gathered more than

400 fishing boats around the Map Ta Phut port. Additionally, they attended court hearings to demand compensation related to the oil spills. Ma Nope emphasized, "The most important thing is to foster unity between the local government, communities, and companies so that they recognize the need to coexist as a community, much like in their own homes."

CONCLUSION

Development projects have adverse effects on both the environment and the well-being of local communities, with the fishing sector bearing a disproportionate burden. Local fishermen are advocating for the assurance of their rights, emphasizing the preservation of their land, traditional livelihood, and a sustainable environment for the next generation. In pursuit of these objectives, they seek collaborative efforts with local authorities and corporations to formulate mutually beneficial solutions that foster economic advancement without marginalizing any segment of the population.

***Disclaimer:** This paper represents the opinions of the authors based on their interviews with the community members during the EarthRights School learning field visit in 2023. This paper does not represent the position or opinions of EarthRights or any of the organization's staff. The authors bear responsibility for the accuracy of content in this paper.*

Sources:

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⁶ <https://theprint.in/environment/this-is-the-science-behind-how-incidents-of-oil-spills-damage-our-environment/752394/>

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⁹ <https://www.nytimes.com/2009/12/19/world/asia/19thai.html>