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Notes on Sustainable Energy and the Pak Mun Saga¹

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Does a hydropower dam generate sustainable energy? What do we learn from the Pak Mun Dam saga in terms of sustainable energy development program? In this short essay, I will use the case of the Pak Mun Dam project in Ubon Ratchathani province, Northeast Thailand as the focal point to discuss the discourse of sustainability. Focusing on the energy sector, I argue that sustainability operates within a framework of power struggle. Politics and power struggles among involved parties can never exclude from the sustainable development process. I believe that the most crucial struggle in any sustainable development effort is the struggle to define what sustainability is. From whose perspective is sustainability defined and judged? At what cost should sustainability be maintained?

Sustainability has been one of many keywords in the international development scenes in the past few decades. The discourse of sustainability in diverse development sectors, including energy, assumes that any development planning and activity should continue to function after its implementation. Sustainability indicates longevity and endurance. It usually emphasizes on a healthy quality of surrounding environment, involved communities, and individual beneficiaries. However, the most important aspect of sustainability should be centered on rights, especially rights of those involved communities and people to their resources and livelihoods. Local communities should also be able to exercise their rights to participate in the transparent decision-making process. Many development practitioners, especially those from the NGOs, argue that sustainability is the fundamental concept to enhance people's active involvement in running development projects as well as to empower local organizations. Without sustainable goals and strategies, development efforts would resemble a simple charity program.

The Pak Mun Dam is built on the Mun River, 5.5 km upstream from its confluence with the Mekong in the province of Ubon Ratchathani, in Northeast Thailand. The dam is classified as roller compacted concrete with a maximum height of 17 meters and total length of 300 meters. The reservoir has a surface area of 60 square km at normal high water level of 108 meters above the mean sea level (MSL) and a capacity of 225 million cubic meters. The Electricity Generating Authority of Thailand (EGAT) built and operates the dam as a run-of-the-river hydropower plant. The final cost tally by EGAT in 1999 was 6.507 billion baht (US\$ 260 million) (see The World Commission on Dams 2000:1).

¹This paper is prepared for the International Conference on Energy Sector in Transition: Asian Perspective for Sustainable Energy Development, organized by the Thai-Danish Cooperation on Sustainable Energy, October 25-27, 2000, Ubon Ratchathani, Thailand. *Do not quote without prior consent or permission. All opinions and views appeared in this paper are exclusively mine.* The author is an instructor in the School of General Education, Institute of Social Technology, Suranaree University of Technology, Muang District, Nakhon Ratchasima, Thailand 30000 (pattana@ccs.sut.ac.th).

When the Pak Mun Dam project was conceived in late 1980s, there was no place of sustainability in the energy-hungry minds of EGAT and the Thai government. Planners and decision-makers predicted huge energy demand in next few decades as the country was undergoing rapid industrialization and urbanization in the 1980s and 1990s. Building more hydropower dams and power plants was their top priority to fulfill the country's energy demand. It is apparent that EGAT's Pak Mun proposal was highly supported by their key donor and long-time ally, namely, the World Bank. When the cabinet approved the Pak Mun project in 1989, it marked not only the beginning of oppositions from local villagers dwelling along the river banks, but also raised questions concerning EGAT and Thai Government's vision toward this energy development program both in domestic and international development communities.

In a report prepared by the International Rivers Network (IRN), an US-based NGO, the Pak Mun project was formulated as early as in late 1970s under the World Bank-guided strategy. EGAT and SOGREAH, a French engineering firm in early 1980s conducted a number of feasibility studies. In 1981, EGAT hired Thai company, TEAM Consulting Engineer, to conduct a feasibility on the project based on a 112 m Full Supply Level (FSL) with the dam located 4 kilometers from the Mekong at the Kaeng Tana Rapids. Findings from this study revealed that more than 4,000 households would have to be resettled and compensated and the project was temporarily put on hold. However, results from another feasibility study and a social and ecological impact study by SOGREAH and TEAM completed in mid 1980s had convinced EGAT and the Thai government that the Pak Mun project was still viable. This time the project site was shifted from Kaeng Tana 1.5 kilometers upstream to Ban Hua Hew and the 108-m FSL was recommended. The Thai cabinet approved the revised project in May 1990 and the construction commenced in early 1991 (Sharma and Imhof 1999).

According to the IRN report, the first round of the protests began in March 1989, when villagers demanded information concerning the project. Villagers, teachers, academics, NGOs and students formed the "Opposition to the Pak Mun Dam Committee," which began to campaign against the project on social and environmental grounds. Protest escalated in 1990, when 2,000 villagers from five districts demonstrated against the project at the Ubon Ratchathani Province city hall for 3 days. In early 1991, 12,000 residents signed a petition to the World Bank and the Thai Prime Minister asking that the project to be canceled, and numerous letters were sent from villagers and NGOs to the World Bank expressing concerns about the lack of baseline studies, the potential impacts on fisheries, lack of consultation, inadequate compensation, and possible health impacts. The World Bank Board decision was postponed in September 1991 due to this opposition. In October 1991, the Board visited Thailand and met with representatives of the Thai government, EGAT and villagers, who told the Board that they did not want the dam. On December 11, 1991, the World Bank approved a \$23 million loan for the Pak Mun Hydropower Development Project (see Sharma and Imhof 1999).

Villagers continued to demonstrate against the on-going construction during 1991 and 1992. In February 1993, realizing that they would not be able to stop construction, villagers started demanding compensation for project-related losses. They faced harassment and intimidation by security forces, yet their protests have continued until

today. Construction was completed in mid-1994 and the World Bank closed the project on March 31, 1995.

Villagers staged protest after protest since the project completion. In 1994, after months of protest, EGAT agreed to compensate villagers for their occupation loss as the dam severely destroyed their fishing grounds. This was the first time ever that EGAT has accounted for the social compensation, besides land and related damage costs. They decided under pressure to pay 90,000 baht each to all 3,955 protesting families. However, the process to pay money to the villagers was not simple and smooth as promised by EGAT and the Thai government. In 1996, the Assembly of the Poor, a villagers' organization and its allies of those affected by dams and other government-funded development projects in Northeast Thailand, was formed. This organization was very instrumental in expressing villagers' voices and struggles until the present (October 2000). They established *Mu Ban Mae Mun Mun Yuen* (literally, the long-lasting Mun River village), a permanent resident or protesting camp on the Pak Mun Dam site. There are more than 2,000 residents of this village. Their latest protesting series was staged in front of the government house in Bangkok, demanding solutions to their losses of land, occupation, and proper compensations (see Wandee Suntivutimete 2000:82-107).

The Pak Mun Dam generates hydropower energy in the eyes of EGAT. Is its hydropower energy sustainable? The Pak Mun Dam's full generating capacity was estimated at 136 megawatts. This amount of energy should be sufficient for the rapid energy demand in the Northeast region. However, many critics countered that EGAT overestimated overall energy demand in order to justify its Pak Mun Dam proposal. They made illogical calculation in their investment in hydropower dam projects, including the Pak Mun Dam. Following are reasons why I argue that the Pak Mun Dam project is hardly considered a sustainable energy source.

First, costs exceed benefits. The Pak Mun Dam is one of the prime examples. The project was "a drain on the authority's finances, with a cost overrun of over 70%. And outstanding claims for compensation" (Sharma and Imhof 1999:1). In addition, Kasian Techapira (2000:6) points out that, based on the 1996 World Bank report, the Pak Mun Dam should generate electricity at least \$28 million per annual (or 12% of its \$233 total investment cost) for 8 consecutive years, in order to make profit out of this enterprise. In contrast, a recent study by Thailand Development and Research Institute (TRDI) states that currently Pak Mun Dam has generated only \$7 million per annual. This huge difference simply reads: the Pak Mun Dam is losing daily in economic terms. Kasian roughly estimates the loss at 2.3 million baht per day or 69 million baht per month, or 840 million baht per year (see also Ryder and White 2000:A5). On the first count, the hydropower project in this case is far from economically sustainable.

Second, the Pak Mun Dam almost completely destroyed the Mekong-Mae Mun river ecosystem and fish culture of the villagers. A number of studies by EGAT and the Department of Fisheries was much controversial and criticized by both domestic and international academic community, because they ignored the possible extinction of species of local flora and fauna. Some even questioned research techniques and integrity of EGAT-funded ecological studies, especially those concerned with fisheries and

effects on local fishing communities (Sharma and Imhof 1999). More than 2,000 people have been affected by the drastic reductions in fish populations upstream of the dam site. The dam has blocked the migration of fish and a \$1 million fish ladder, promoted by the World Bank's fisheries experts as mitigation measure has proved useless (IRN 2000). In short, hydropower dams, as demonstrated in the case of Pak Mun Dam, are not environment-friendly. They are indeed destructive threats to the river environment and human ecological system.

Third, series of protests and tales from struggling villagers affected by the Pak Mun Dam in the 1990s can be seen as consequences of an unsustainable hydropower dam project. Fishing grounds were taken away, so did their permanent livelihoods. History, culture, and memory connecting to the river were disrupted. Many local communities were disintegrated as villagers were to be resettled. Most of them witnessed their families and communities disintegrated. Individual senses of identity suddenly became problematic. I would argue that the Pak Mun Dam has never sustained or created peaceful families and communities, which were affected by its presence. Villagers certainly see it as a devilish embodiment of the country's mal-development project.

What EGAT and the Thai government have been trying to do in running the Pak Mun affairs from the beginning is to monopolize vision and definition concerning a sustainable energy development project. They had employed tactics and techniques of power to manipulate public opinion. They used forces against villagers. They ran series of expensive public relation campaigns. They hired highly respected research firms, think tanks, and scholars. They even paid local leaders and officials to work for them. Although the Pak Mun Dam project was completed, EGAT and the Thai government failed to assert their hegemonic view that the Pak Mun Dam generates sustainable energy in economic, ecological, and sociocultural terms. Reality shall speak for itself. Everything has turned against them, especially the persisting voices of the Assembly of the Poor.

The Pak Mun Dam project and its decade-long drama signify perhaps an end of the era of generating energy through the hydropower dams in Thailand. Experts, especially those from foreign funding agencies, NGOs, and even the Thai government, tend to realize the facts that hydropower dam is not the right solution to the overall energy demand. The Pak Mun Dam project has demonstrated over years the ugly side of hydropower dams. Costs exceed benefits in the hydropower energy development project. Ecological damages on the river systems are too disastrous. Oppositions to the project are not only from affected people and communities, but also from strong allies of domestic and international organizations. Political tactics employed by authorities do not seem to work against the rise of civil society demanding for transparency and good governance.

My overall view concerning this hydropower dam as an unsustainable energy source mirrors a stance adopted by villagers and NGOs (see Sompong Viengchan 2000; Kritsada Bunchai 2000). I could not see much of sustainable side of the Pak Mun Dam project. The Pak Mun Dam is just a showcase of the unsustainable energy development program. It was a clear example of destructive development efforts, especially to the local communities and livelihood, as well as the river ecological system. I would like to

quote what, I believe, echoes a vision shared by most villagers, academics, and NGOs in their efforts against authoritative, bureaucratic, top-down development programs in Thailand as follows: "Pak Mun is probably the last hydropower dam that EGAT will be able to build in Thailand, due to the huge opposition to dams that the Pak Mun struggle has galvanized." (Sharma and Imhof 1999:1)

A Brief Chronology of the Pak Mun Saga

- 1968 EGAT was founded under the World Bank's recommendation to the Thai government to form a national, state-owned power utility.
- 1978 A World Bank report set a strategy for developing Thailand's rural areas. This report was mentioned by EGAT as a catalyst for the first Pak Mun Dam feasibility study in 1980.
- 1980 EGAT and SOGREAH, the French engineering firm, completed an updated feasibility study of the Pak Mun project.
- 1981 EGAT hired Thai company, Team Consulting Engineers to conduct another feasibility study based on a 112 m Full Supply Level (FSL).
- 1982 SOGREAH, funded by the French government, conducted a more detailed study of the Pak Mun project.
- 1984 TEAM Consulting Engineers finished their feasibility study.
- 1985 SOGREAH concluded their study.
- 1989 First round of protests against the Pak Mun Dam began in Ubon Ratchathani province.
- 1990 EGAT relied on both studies by TEAM and SOGREAH to revise their proposal. The Chatichai administration approved the project on May 15, 1990. The estimated budget was 3,880 million baht, including a 1,940 million baht loan from foreign sources. The cabinet decision was made without public hearing, thorough environmental impact assessment (EIA) and social impact assessment (SIA). Protests against the dam project spread and heated up.
- 1991 Construction began in early 1991 prior to the final approval of the World Bank loan. The World Bank board held their meeting in Thailand and met EGAT and villagers' representatives. The Bank approved a \$23 million loan on December 11, 1991.
- 1992 Villagers continued to protest against the on-going construction of the dam.
- 1993 Villagers started to demand compensation for project-related losses, including land, resettlement, and fisheries.

- 1994 Construction of the Pak Mun Dam was completed in mid 1994, while series of demonstrations have persisted.
- 1995 The World Bank closed the project on March 31, 1995, but the Bank refused to publicly release the project completion report.
- 1996-1997 The Assembly of the Poor was formed after successive demonstrations. Banhan and Chavalit administrations agreed to compensate villagers, but their promises were canceled when Chuan Leekpai came to power in late 1997.
- 1999 More than 5,000 protesting villagers, organized under an umbrella of the Assembly of the Poor, established the protesting came at the Pak Mun Dam. Villagers from various parts of Northeast Thailand joined the Assembly of the Poor, expressing their problems caused by the different government development programs.
- 2000 Series of demonstrations continued both at the dam site and in front of the government house in Bangkok. One of latest demands from villagers included opened water gates, especially during the monsoon season, allowing fishes from the Mekong to migrate upstream. The drama of villagers' recent protests has still evolved as part of day-to-day political scene in Thailand, as they have vowed to fight for justice and proper solutions from the Thai government.

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