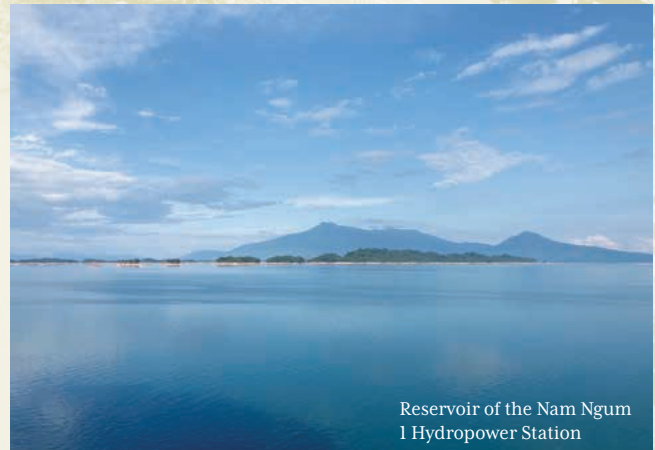


International Cooperation for Climate Change Action (Energy and Disaster Prevention) in the Lao People's Democratic Republic and the Republic of the Philippines

International cooperation in climate change action is crucial. Here, we introduce a cooperation in clean energy power trade in the Lao People's Democratic Republic (hereinafter, "Laos"), and the Pasig-Marikina River Channel Improvement Project, a flood control project in the Republic of the Philippines (hereinafter, "the Philippines"), which are ongoing initiatives by the Japan International Cooperation Agency (JICA).

(Text: Morohashi Kumiko)



Reservoir of the Nam Ngum 1 Hydropower Station

The issue of climate change is an urgent global challenge that should be addressed beyond borders, and JICA is also strengthening its support to various countries in response to this problem. One such initiative is a clean energy power trade in Laos, aiming to mitigate the impacts of climate change. Laos is abundant in hydroelectric resources, with hydropower accounting for approximately 80% of the total installed

capacity of power generation facilities. JICA aims to develop the necessary policy frameworks and organizational capabilities to sustainably facilitate power trade to neighboring countries while ensuring a stable domestic power supply. These initiatives encompass a comprehensive approach, including the dispatch of power policy advisors, improvements in power quality, enhancements to power utility management, and the development of an integrated energy master plan geared towards achieving a carbon-neutral society. We spoke with JICA expert Shibata Kuri about past activities and future hopes.

“Japanese Official Development Assistance (ODA) has been consistently providing clean energy development cooperation to Laos since the 1960s, yielding results in various forms, including the construction of hydropower plants, the introduction of the first grid-connected solar power generation and the formulation of power system master plan,” explains Shibata. “In the future, it will be significant to continue our efforts

capacity of power generation facilities. JICA aims to develop the necessary policy frameworks and organizational capabilities to sustainably facilitate power trade to neighboring countries while ensuring a stable domestic power supply. These initiatives encompass a comprehensive approach, including the dispatch of power policy advisors, improvements in power quality, enhancements to power utility management, and the development of an integrated energy master plan geared towards achieving a carbon-neutral society. We spoke with JICA expert Shibata Kuri about past activities and future hopes.



Above: Development Partners Coordination Meeting sponsored by Electricite Du Laos



Below: Officials headed by Minister from the Ministry of Energy and Mine in Laos visit a pumped storage hydropower plant by JICA's Invitation Program to Japan



Left: The Pasig-Marikina River embankment, which was completed through a river channel improvement project supported by Japan

Right above: Example of technology transfer in construction quality control of concrete structures through collaboration between Japanese and Filipino engineers

Right below: Project manager from DPWH in the Philippines (right) with Yamaguchi (left)


towards expanding sustainable power trade to neighboring countries, alongside ensuring a stable domestic power supply. We hope to continue utilizing Laos' ideal advantages and potential with abundant water sources and renewable energy. This includes activities that contribute to the supply of Laos' clean energy to neighboring countries."

In the Philippines, JICA has been supporting flood control measures in the Manila metropolitan area since the 1970s. This includes providing assistance for projects such as the construction of the Manggahan Floodway, the development of a flood control master plan, and the Pasig-Marikina River Channel Improvement Project. These initiatives help mitigate the impacts of climate change. JICA expert Yamaguchi Masahiro, who is stationed at the Philippines Department of Public Works and Highways (DPWH) to carry out projects on-site, shared insights with us.

"The Pasig-Marikina River is one of the most important rivers in the Philippines, and its coastal areas downstream serve as the political and economic hub. However, due to its geographical characteristics, the region has frequently experienced flooding," comments Yamaguchi. "The construction of the Manggahan Floodway, redirecting upstream floods to Laguna Lake, has significantly reduced the flooding impact on the downstream Manila city area. Currently, as part of further flood control initiatives, there are plans to continue the improvement of the middle reaches of the river and construct flood diversion facilities directing excess water to Laguna Lake."

The simulation of flood damage caused by Typhoon Ulysses in the Manila metropolitan area in 2020 estimated that the effects of previous projects contributed to reducing damage by approximately 85%.

"The significant contribution of long-term proactive

investment in flood control, resulting in substantial damage reduction, is a source of pride," says Yamaguchi. "Japan's advanced technological expertise and high-quality construction have been validated through river channel improvement projects, fostering a high level of trust. We hope to continue contributing to the international community in the field of disaster prevention through Japan's technology in the years to come." 

Reference: 1

Examples of JICA's International Cooperation Projects for Electricity in Laos

- **Project on Power System Master Plan**
Term of cooperation: June 2017 to March 2019
Outline: Laos relies significantly on electricity exports harnessing its abundant hydropower resources, serving as a major pillar for its industry. However, due to a nearly fourfold increase in domestic electricity sales over the past decade, there is an urgent need for further power development in the country. In this cooperation project, a master plan was formulated, considering the electricity demand within the country and neighboring nations. This plan contributed to ensuring stable domestic electricity supply and facilitating electricity transactions with neighboring countries.
- **Nam Ngum 1 Hydropower Station Expansion Project**
Term of cooperation: Since June 2013 (signing of loan agreement)
Outline: In Laos, there has been a rapid increase in electricity demand in the central region, including the capital area, posing a challenge for domestic power development to meet the growing needs. In this cooperation project, support was provided for the expansion of one generating unit at the Nam Ngum 1 Hydropower Station near the capital. This contributed to the expansion of the country's stable electricity supply.

Reference: 2

Example of JICA's International Cooperation Project for Flood Control in the Philippines

- **Pasig-Marikina River Channel Improvement Project (Phase 4)**
Term of cooperation: Since January 2019 (signing of loan agreement)
Outline: In the Philippines, the Manila metropolitan area, being a coastal lowland, is susceptible to the impact of typhoons, causing significant damage to the economy and social activities due to frequent flooding. In Phase 4 of this cooperation project, efforts are being made to mitigate the flood damage in the central part of the Manila metropolitan area by implementing improvements for the Pasig-Marikina River, constructing a movable weir (Marikina Weir), and implementing non-structural measures against flooding. This is in response to the significant human and economic damage caused by the tropical storm Ondoy in 2009.

Reference websites

- <https://www.jica.go.jp/oda/project/1600282/index.html>
- <https://www.jica.go.jp/oda/project/LS-P7/index.html>
- <https://www.jica.go.jp/oda/project/PH-P271/index.html>