Resilient investment decisions in Lao PDR

Impact Story

Making infrastructure resilient to natural hazards: Nam Khat 4 irrigation scheme in Phon Nham Village, Kasy District, Vientiane, Lao PDR.

Vientiane, Lao PDR – "Our rice production will definitely go up this year, as the irrigation scheme now has the capacity to water 45 hectares as opposed to 20 hectares previously," explains Mr. Vilay Ouanpaseuth, Head of Phon Ngam village, proudly.

As he talks about the enhanced capacity of the restructured dike in his district, he seems happy that the Nam Khat 4 irrigation scheme is a case in point of the Lao government's bigger initiative to make public infrastructure resilient to natural hazard.

Miles away, Mr. Acheu Laochoup, Head of Choulaosenmai village, is excited about a road repair work that ties his village to the country's national road network, and advances border trade with China. Some critical sections of the road are usually washed out by flash flooding or affected by landslides. It often leaves the villagers in a lurch to have a smooth access to basic services such as transportation, health, and education.

"We hope that with the recent slope stabilization and culvert improvements, the specific road patches would no longer be affected by floods or landslides," Mr. Laochoup says. He adds that with a safer road, villagers can travel by buses to health facilities, and children go to school regularly.

Country: Lao PDR
Duration: 2012–2016
Funded by: Ministry of Planning and Investment of Lao PDR under the World Bank's Policy and Human Resources Development Technical Assistance Program, financed by the Government of Japan

The Nam Khat 4 irrigation scheme and the landslide mitigation measures are outcomes of the technical skills and risk information that the government officials acquired during 2012–2016 under the program on *Mainstreaming Disaster and Climate Risk Management into Investment Decisions.* The World Bank's program was implemented under a grant provided by the Japan Policy and Human Resources Development Fund's Technical Assistance Program to Support Disaster Reduction and Recovery.

ADPC provided technical services to the Ministry of Planning and Investment, Ministry of Public Works and Transport, and the Ministry of Agriculture and Forestry.

Asian Disaster Preparedness Center
SM Tower, 24th Floor 979/69 Paholyothin Road, Samsen Nai, Phayathai, Bangkok 10400 Thailand
Tel: +66 2 298 0682-92 Fax: +66 2 298 0012 E-mail: adpc@adpc.net Website: www.adpc.net

Resilient landslide protection in Bountai District, Phongsaly Province, provides communities with safer access to public services.

A risk-informed national development plan

A landmark achievement of the project is the integration of policy guidelines on risk-sensitive investments into Lao PDR's 8th National Social and Economic Development Plan 2016–2020 (NSEDP). Although the recently completed 7th NSEDP (2011–2015) also required line agencies to integrate disaster risk and climate change concerns into sectoral development plans, the agencies lacked technical skills and information to put the plans into practice. The 8th NSEDP governs investments in the physical and social infrastructure of the country, and government line agencies are bound to follow related guidelines when investing in public infrastructure.

ADPC supported the Ministry of Planning and Investment to operationalize the mainstreaming of disaster risk reductioninto public infrastructure investment decisions at policy, planning and implementation level. The program ensued in carrying out risk assessment and developing guidelines for mainstreaming disaster and climate change concerns at the inception stage of projects. Sector-specific guidelines and multi-hazard risk information have been mainstreamed into the 8th NSEDP for a practical implementation of risk-inclusive investment plans.

Moving from 'what' to 'how' of mainstreaming

Accurate and quantifiable information about natural hazards is the key to making sustainable investment decisions. However, measureable data for developing risk-sensitive public infrastructure investment plans has not previously been available with the government. A general risk profile of the country, developed in 2010, provided a clear picture of the natural hazards and their overall impact on Lao PDR, but it wasn't quantifiable for precise investments.

"The knowledge gap in Lao PDR with respect to the assessment and demarcation of risks caused by natural hazards makes it difficult to effectively integrate disaster risk management into planning and rural housing development", says Mr. Aslam Perwaiz, Head of Disaster Risk Management Systems at ADPC. He adds that recent disasters in Lao PDR have been a wake-up call for the government to not only strengthen the existing building codes, but also to develop and implement land-use planning guidelines to reduce disaster risks.

ADPC developed procedures and guidelines to conduct multi-hazard risk assessments in the irrigation, rural housing, and transportation sectors. This was followed by carrying out national and provincial risk assessments, with a special focus on estimating the future impact of natural hazards and climate change on two of the most vulnerable districts of the country.

Lao PDR's transportation sector often suffers from landslides and there was a need to have reliable information about the level of landslide threat to road infrastructure and commuters. ADPC developed a landslide inventory framework for critical national and provincial roads, including a dataset providing in-depth information about hazard levels and potential disaster impacts on vulnerable routes. Consequently, the Ministry of Public Works and Transport is able to make informed investment decisions about revamping or constructing roads.

In order to enable government officials to efficiently use digital information, ADPC introduced the Geo-Node Risk Atlas web platform at the Ministry of Posts and Telecommunications' National E-Government Center for the management and publication of geospatial data. The risk atlas is a useful resource for line agencies to acquire quantifiable disaster risk data for developing risk-sensitive infrastructure. It also

Mr. Khamsay Nammavong, Head of Agriculture and Forestry Office of Kasy District hands over the Nam Khat 4 irrigation scheme to the farmer's representative.

hosts a landslide inventory map prepared by ADPC during the risk assessment of the road sector.

Based on the risk information and review of existing mechanisms, ADPC developed a series of practical measures to incorporate disaster risk into existing national strategies, policies, planning and budgeting, as well as sectoral public investment plans.

Building skills and engaging academia

The project provided an opportunity for Lao PDR's national and provincial officials to hone their skills in reading complex data and utilizing available guidelines to incorporate risk reduction measures into public infrastructure design. ADPC arranged technical training workshops for key ministries on safe construction practices, landslide management, investment planning, budgeting and mainstreaming disaster risk reduction into project cycle management. Over a hundred technical and management officials from national and local government agencies also learned about risk reduction practices and climate change adaptation with regard to resilient infrastructure.

Investing in education on disasters and climate change means a major step towards a safer future. Keeping this in mind, ADPC reviewed the existing curriculum of engineering courses being offered at the National University of Laos and developed modules on mainstreaming disaster and climate risk management into investment decisions.

Demonstrating the acquired skills

In a bid to test their technical capacities, government officials and private sector representatives took part in the slope stabilization and culvert improvement of the National Road 1B at four points in Phongsaly province as well as the construction of the Nam Khat 4 irrigation scheme in the province of Vientiane.

"It was very helpful for me to get a chance to participate in the monitoring of a pilot road construction project. The acquired knowledge and experience gave me confidence to implement similar construction works in the future," says Mr. Latsamy Chittabounty, a road engineer from Bountai district.

Local people of the project's target provinces are happy to have a better and safer infrastructure. Similarly, the government has tested the outcomes of the project by incorporating disaster and climate change concerns into infrastructure building and retrofitting. Engineers and other staff involved in the construction and monitoring of the pilot projects are better prepared to replicate similar investment decisions in the future.

May 2016
By Vidya Rana, Thanongdeth Insisiengmay, Aslam Perwaiz

Asian Disaster Preparedness Center
SM Tower, 24th Floor 979/69 Paholyothin Road, Samsen Nai, Phayathai, Bangkok 10400 Thailand
Tel: +66 2 298 0682-92 Fax: +66 2 298 0012 E-mail: adpc@adpc.net Website: www.adpc.net

www.adpc.net Asian Disaster Preparedness Center @ADPCnet