Sustainable Mekong Research Network

Policy Brief

Compelling Reason for Local Action: Climate Risk Reduction and adaptation in Lao PDR

Key Findings:

- **For small-scale, subsistence farmers in Lao PDR, climate risks pose a significant threat to food security as crop losses can occur during the mid-year dry spell and the late-season rainfall and floods.**
- **Projected temperature and rainfall in the years 2020, 2050 and 2080 would be statistically different from the 2012 level in Luang Prabang and Savannakhet provinces.**
- **In Luang Prabang, rice yield is expected to generally increase across ecozones and time periods while in Savannakhet, rice yield is also expected to significantly increase across ecozones in the dry season but significantly decrease in the wet season.**
- **Climate adaptation is a challenge for farmers who mostly have low educational attainment, limited source of livelihood, low rice productivity, and reside in areas that are highly exposed to climate risks.**
- **Local governments should also have the capacity to formulate and carry- out adaptation policies and programs to augment people's initiatives and provide adaptation options to improve farmers' resilience and adaptive capacity.**

Assessing climate risks for small-scale farmers in Lao PDR

Climate risks pose a significant threat to the food security and livelihoods of small-scale subsistence farmers in Lao PDR. The heaviest crop losses can occur during the mid-year dry spell and the late-season rainfall and floods. In recent years, greater variability in the amount and distribution of rainfall is also causing losses to agricultural production.

Thus there is an urgent need for establishing appropriate adaptation measures to address climate risks and its impacts on food security and the livelihoods of small-scale farmers. SUMERNET researchers from the National Agriculture and Forestry College in Laos conducted a study in two provinces of Luang Prabang and Savannakhet to determine the impact of changing climate on local rice production and the appropriate adaptation options that should be taken.

Through the use of climate projection models, the study found out that projected temperature and rainfall in the years 2020, 2050 and 2080 would be statistically different from the 2012 level. Temperature in 2020 will increase by about 0.02%, while in 2050 and 2080, it will decrease by about 0.01 to 0.06%. The amount of rainfall in Luang Prabang will increase slightly from 12 percent to 19 percent while in Savannakhet, it will increase significantly by 60 percent in 2050 and 2080.

The combined effects of these changes in temperature and rainfall on rice production differ by location, ecozones and cropping season. In Luang Prabang, rice yield is expected to generally increase across ecozones and time periods while in Savannakhet, rice yield is also expected to significantly increase across ecozones in the dry season but significantly decrease in the wet season. These projected impacts have to be addressed to prevent more severe crop losses that will directly affect the food security and livelihoods of large numbers of people. The local government units need to implement policies and programs that will cater to the specific needs of households to cope with climate risks.

Vulnerability and response strategies

Research results further show that farmers across ecozones have low educational attainment, limited source of livelihood, low rice productivity, and reside in areas that are highly exposed to climate risks. They mainly depend on farming for their livelihood, which makes it difficult for them to support their family in times when adverse climate events prevent them from performing farming activities. The majority of the farmers live along riverbanks so they are exposed to the risks of flooding and landslides. Moreover, membership in community organizations and participation in collective action are low and community mobilization is difficult. It can be noted, however, that farmers believe that climate change is not beyond their control but are induced by human activities and exacerbated by infrastructure that clogs waterways. The adaptive capacity of these households has to be enhanced by providing them knowledge and skills on appropriate adaptation options and supplementary livelihood opportunities to improve their resilience.

The current adaptation actions undertaken by the local governments include construction of dikes and placing sandbags along riverbanks to prevent and control flooding. In Savannakhet, only one district has an appointed officer who is responsible to watch and inform people about river overflow. There is no defined act that would mandate the local governments to incorporate climate risk reduction and management and climate change adaptation actions in local development planning.

The local government units are aware that solutions need to include the construction of weirs and water gates, and installation of pumps to drain out stagnant water but they lack the funds to build the infrastructure. They also do not have experts who are capable of incorporating planning for climate change adaptation (CCA) and disaster risk management (DRM) into local development projects.

High adaptive capacity is essential to enable farmers to effectively respond to climate risks and mitigate the impacts. Local governments should also have the capacity to formulate and carry-out adaptation policies and programs to augment people's initiatives and provide adaptation options to improve farmers' resilience and adaptive capacity.

Policy recommendations

These recommendations are intended for the local government offices at the provincial and district levels:

- Develop a policy framework and program of action for DRM and CCA to rationalize national and local programs, projects and related efforts and their financing.
- Emphasize climate change adaptation and disaster risk reduction and management in local development plans.
- Create an office or sub-unit that will focus on capacity building, training and education of farmers and communities on climate risks management and adaptation options, and coordinate with different government offices to develop location-specific adaptation and mitigation strategies.
- Provide training and seminars to raise farmers' awareness on climate change phenomenon and adaptation options to enhance their adaptive capacity.
- Implement projects to provide alternative livelihoods to augment farmers' income for periods when they cannot rely on farming.

Contact for more information:

Outhai Soukkhy
Deputy Director
Northern Agriculture and Forestry College, Lao PDR
Email: outhainafc@yahoo.com

Supported by:

SWEDEN

CDKN
Climate & Development Knowledge Network