

LAO PDR: Improving the Resilience of the Agriculture Sector to Climate Change Impacts

Issues:

Lao PDR has a predominantly subsistence agricultural economy with 80% of people involved in some form of agricultural activity. However people face widespread food insecurity, with over 30% of the population experiencing seasonal shortfalls in rice, the staple crop. This insecurity is a significant dimension of poverty and vulnerability and is linked, according to analysis provided by the World Food Program in 2007, to range of factors, including loss of access to natural resources, sudden increases in food prices and increasing incidence of flooding and drought. Climate change is emerging as a significant additional risk to development in Lao PDR, with the potential to increase the vulnerability of the rural poor. Recent analysis of the likely impacts of climate change for the Mekong sub-region as a whole indicates



Figure 1: People in Lao PDR are vulnerable to the changing climate because they are so dependent on natural resources for their livelihoods.

significant increases in maximum monthly flows together with significant decreases in minimum monthly flows (up to 40%). Major climate hazards include flooding caused by heavy rainfall leading to dangerous flash floods in mountainous areas. Droughts during extended dry seasons undermine soil

fertility and lead to water stress which affects crop productivity, as well as the nutritional status of poor

Project Summary

- Country: Lao PDR
- Project Budget: \$4,445,450
- Project Funding Source: GEF/LDCF
- Project Co-Financing: \$12,163,998
- Project Period: 2011-2014
- Implementing partners: National Agriculture and Forestry Research Institute (MAF)
- Target area: Savannakhet and Xayaboury Provinces

households. More recently typhoons have struck in the South of the country bringing widespread damage to rural infrastructure with effects on food security.

Actions:

Working in one drought prone province in the South and one flood prone province in the North, this project is reducing the vulnerability of farmers to extreme flooding and drought events through the introduction of an applied ecosystems based approach to agriculture. The project is engaging at several levels. At the community and farmer level it is promoting a combination of new and traditional climate resilient cropping methods; at the province and district level it is strengthening the skills of planners, policy makers and extension workers; and the national level it is introducing a climate risk information system as a basis for comprehensive long term planning for climate risks.

1. An improved national knowledge and information base on climate change and its impacts

Existing climate hazard and vulnerability information for agricultural production is being systematically compiled, documented and assessed on the basis of global and regional climate change models. This information will be used to analyze agricultural land-use planning in flood- and drought-prone areas and develop alternative land use plans for different climate scenarios. Based on the results of this analysis, climate risk projections will be integrated into a comprehensive national database for flooding and drought hazards and vulnerabilities to be established by the project. A functioning system for the collection, distribution, and use of climate-related risk information at the national, district, and local levels will promote the sharing of project knowledge both within Lao PDR and in the greater Mekong sub-region. Most importantly it will contribute to and underpin both of the two other key project outcomes.

2. Increased awareness and understanding of planners, extension works and producers about climate risks in the agriculture sector

The project will build the capacity of sectoral planners and policy makers in MAF, WREA, MPI, NLMA, NDMO to understand and plan for projected climate change impacts on agricultural production. Climate risks will be integrated into agriculture and land use planning policies and strategies, helping to demonstrate the practical value of a comprehensive national database on climate risk. Capacity development will also engage province and district level agricultural officers, extension workers, farmer cooperatives and local stakeholders, for example by ensuring that climate risk projections and low-cost adaptation options are introduced into training programmes and learning activities provided by extension workers to local farmer groups.

3. Investments in diversified and adaptive agricultural practices

Community-based agricultural adaptation measures will be piloted in selected communities to promote the diversification of crops, the introduction of drought- and flood-resilient crop options, resilient farming methods and low-cost water conservation/irrigation technologies. These measures will be made available to communities through the introduction of "Climate Change Training and Adaption Modules" (CCTAM) that cover the most common agricultural practices related to key crops. These CCTAMs contain a range of measures including training, ongoing technical advice and small scale physical investments. They will be used to help communities to develop village or Kumban level 'implementation plans'

tailored to specific needs on the ground. The implementation plans will receive continuous extension support and monitoring over a period of 24 months to ensure that results are delivered.

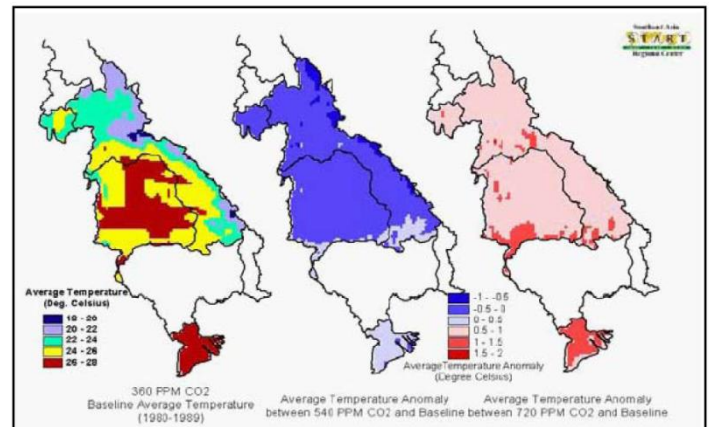


Figure 2: Average temperature in the lower Mekong River Basin (baseline simulation) and future changes under increasing CO2 concentrations.

Expected Impacts

The project is in its inception phase. It anticipates achieving a significant and measurable reduction in food insecurity among targeted households who, as a result of the project, will be actively implementing climate adaptation measures. These adaptation measures will be visible through clear increases in agricultural productivity.

The project expects to successfully establish a policy and operational framework for climate resilient agriculture in Lao PDR with applicability at national level. This framework will allow relevant policy and strategies to be updated on a regular basis based on improved climate risk information.

The project will also ensure that the necessary capacities are in place from national level to the farm gate in applying this information in practical ways that make a difference to people's livelihoods.

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