

IMPROVING THE RESILIENCE OF THE AGRICULTURE SECTOR TO CLIMATE CHANGE IMPACTS (IRAS)

Background

Lao PDR has a predominantly agricultural economy with 80 per cent of people involved in some form of activity related to agriculture. However, people often face food insecurity, with over 30 per cent 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 a 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 risk to socio-economic development in Lao PDR, with the potential to increase the vulnerability of the rural poor. Recent analysis of the impacts of climate change for the Mekong sub-region as a whole indicate short periods of significant flow increase in the wet season and long periods of low and decreasing flow in the dry season.



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

Project Summary

- Duration: 2012- October 2015 (closed)
- Geographic coverage: Savannakhet and Xayaboury Provinces
- Focus area: Environment and Energy
- Implementing partners: National Agriculture and Forestry Research Institute (MAF)
- Website: www.la.undp.org/content/lao_pdr/en/home/operations/projects/environment_and_energy/IRAS.html

Major climate hazards include flooding caused by heavy rainfall which can also lead to flash floods in mountainous areas. Droughts during extended dry seasons degrade soils and affect fertility and lead to lack of water which affects crop productivity, as well as the nutritional status of poor households. More recently, typhoons have struck in the south of the country bringing widespread damage to rural infrastructure with effects on rural development, agricultural production and food security.

Activities

Working in one drought prone province in the south and one flood prone province in the north, this project worked on reducing the vulnerability of farmers to extreme flooding and drought events through the introduction of an applied ecosystems-based approach to agriculture. The project engaged at several levels. At the community and farmer levels it promoted a combination of new and traditional climate resilient cropping methods; at provincial and district levels it strengthened the skills of planners, policy makers and extension workers; and on the national level it helped to introduce 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 have been systematically compiled, documented and assessed on the basis of global and regional climate change models. This information can be used to analyze agricultural land-use planning in flood- and drought-prone areas and to develop alternative land use plans for different climate scenarios.

Based on the results of this analysis, climate risk projections can be integrated into a comprehensive national database for flooding and drought hazards and vulnerabilities to be established by the project. A system for the collection, distribution, and use of climate-related risk information at the national, district, and local levels promotes the sharing of project knowledge both within Lao PDR and in the greater Mekong sub-region. This contributes to underpin both of the other key project outcomes.

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

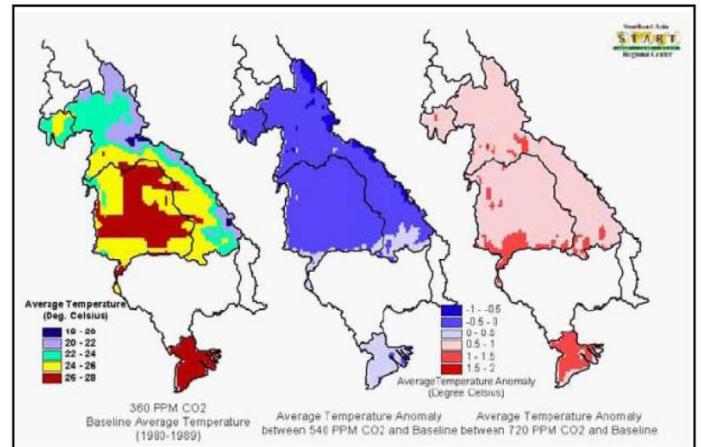
The project built the capacity of sectoral planners and policy makers in the National Agriculture and Forestry Research Institute and Ministry of Planning and Investment to understand and plan for projected climate change impacts on agricultural production. Climate risks have been integrated into agriculture and land use planning policies and strategies, helping to demonstrate the practical value of a comprehensive national database on climate risk. Capacity development activities engaged provincial 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. Diversified and adaptive agricultural practices

Community-based agricultural adaptation measures have been 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 have been made available to communities through the introduction of "Climate Change Training and Adaption Modules" that cover the most common agricultural practices related to key crops.

These modules contain a range of measures including training, ongoing technical advice and small scale physical water management facilities. The modules have also assisted

communities to develop village level disaster preparedness plans tailored to specific needs on the ground. Specific project implementation plans have received continuous extension support and monitoring over a period of 24 months to learn from results achieved.



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

Observed and expected Impacts

The completed project achieved a significant and measurable reduction in food insecurity among targeted households who, as a result of the project, have been actively implementing climate adaptation measures. These adaptation measures have been visible through monitored increases in agricultural productivity.

The project helped to successfully establish a policy and operational framework for climate resilient agriculture in Lao PDR with focus on the agriculture sector. This framework will allow relevant policy and strategies to be enhanced on a regular basis based on improved climate risk information.

The project has also ensured that the capacities are in place from national level to the farming community in applying climate information in very practical ways that make a difference to farmers and rural livelihoods.

Funding

- Project budget: USD 4,445,450
- Project funding source: GEF/LDCF
- Project co/financing: USD 12,163,998

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