



## Life and Nature

### Strengthening the adaptive capacity and resilience of rural communities using micro-watershed approaches to climate change and variability to attain sustainable food security in Cambodia

#### Background and Development Context

Cambodia as a nation is heavily reliant on agriculture with the majority of the population rural smallholder farmers. Cambodia is extremely vulnerable to climate change and currently has low adaptive capacity to address changing climate conditions and impacts.

According to the Cambodia National Adaptation Programme of Action (NAPA), climate change poses a significant threat to agriculture and food security. The report states that in recent years the country has experienced more frequent severe floods and droughts. Those most affected are vulnerable Cambodian farming communities living on the edge between hunger and survival. NAPA reports that over 80 percent of households already suffer from agricultural water shortages, while 54 percent of households suffer from health and hygiene related water shortages.

Rice production has always dominated Cambodia's agriculture sector, and is now at great risk. It relies heavily on water, and mainly on two sources: upstream inflows from the Mekong River and monsoon rainfall.

As climate change alters rainfall patterns and intensities, both sources are now in jeopardy. Between 1998 and 2002, nearly all agricultural losses were traced to water events. Floods contribute 70 percent of rice production losses and drought 20 percent.

Changes in farming systems coupled with increased deforestation rates and agriculture encroachment in the upper reaches of watersheds greatly reduces vital ecosystem services such as temperature regulation, water quality and retention, erosion control, and flood and drought severity reduction for farmers, whose livelihoods depend on water for survival. Against this backdrop, thousands of farmers across the country are not prepared to defend themselves from climate change crisis nor do they have the skills and tools needed for integrated ecosystem management. Without sustainable water and land use management, these farming communities are at risk of becoming food insecure as climate change advances.

A healthy ecosystem/watershed level approach to land and water management is critical to the survival and food security of Cambodia's rural poor.

#### Project Objectives and Approaches

To improve the lives of thousands of farmers, this project addresses Cambodian efforts to mitigate and adapt to climate change in rural communities.

Participatory approaches include development of watershed management plans in all target landscapes, with assistance to replant vegetation and trees among streams, rivers, and forested areas, as well as building small scale water retention and irrigation structures. Through Farmer Field Schools, resilient and climate adaptation agriculture practices are taught to farmers





## Stakeholders and Beneficiaries

The five year project contributes to capacity building for ministries and institutions working on climate change adaptation policy, agriculture, and food security. At the national level there is a need to increase policy and practices to address the nexus between climate change and food security.

At the field level the project will help to improve the lives of over 1 957 farming families in the provinces of Siem Reap, Kampong Thom, Ratanakiri, and Preah Vihear in sustainable micro-watershed management as well as introducing resilient and best adaptation practices.

Existing farmer groups such as Farmer Water User Groups and Community Fish Refuge Committees will directly benefit from this project.

## Donors and Partnerships

The project is funded by the Global Environment Facility for a total budget of USD 5.2 million. As the project contributes to the Government’s NAPA, the MoE is FAO’s main implementation partner. FAO also collaborates very closely with the Ministry of Agriculture, Forestry and Fisheries, on all agriculture activities and with other concerned institutions to ensure the success of the project.

The Asian Development Bank (ADB) is a key collaborating and co-financing partner. This project complements the ADB’s “Tonle Sap Poverty Reduction and Smallholder Development” project in the four provinces around Cambodia’s largest fresh water lake, the Tonle Sap.



to become more food secure and less vulnerable to climate change.

As female headed households are even more susceptible to the impacts of climate change, the project provides support to women to combat climate change through creating alternative livelihoods and focused trainings to build skills in climate change adaptation.

The pilot sites present a variety of landscapes, land uses, forested and protected areas. This variety allows the project to demonstrate adaptation improvements and generate lessons that may be applied nationally and scaled up. The project sites cover a total of 59 455 hectares.

## Project Expected Achievements

In collaboration with the Ministry of Environment (MoE), FAO will provide the expertise and implement activities to reach the following of five outcomes:

*Outcome 1: Climate change adaptation integrated into national agricultural and food security policies and planning*

*Outcome 2: Participatory integrated micro-watershed management reducing climate impacts on natural resources and agriculture*

*Outcome 3: Climate resilient agricultural practices promoted, demonstrated and sustained through farmer field schools*

*Outcome 4: Climate resilient alternative livelihood options targeting women piloted and sustained*

*Outcome 5: Monitoring and Evaluation (M&E) and information dissemination*