

# Comparative Studies on Development Strategies to adapt for the Natural Disasters due to Climatic Change in Thailand

## Introduction

According to the *Intergovernmental Panel on Climate Change (IPCC)* defines “Climate Change” as a statistically significant variation in either the mean state of the climate or its variability, persisting for an extended period (typically decades or longer). Climate change may be due to natural internal processes or external forcing or to persistent anthropogenic changes in the composition of the atmosphere or in land use”. The *United Nations Framework Convention on Climate Change (UNFCCC)* defines “climate change means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over a comparable time periods”.

Thailand hosted an International Panel on Climate Change summit in 2007, while the government started to promoting reduction in greenhouse gas emissions as the cause of climate change. The important effects of climate change in Thailand included higher surface temperatures, floods, droughts, severe storms, sea level rise, and impact of rice production due to changing overall growing conditions such as rainfall distribution, temperature level and increasing types of rice enemy. It seems that an increasing trend of temperature with 0.1-0.3 °C per decade accounted for over 10 per cent of rice yield will be declined. Adaptations can help to reduce harmful climate change impact in Thailand. Therefore, there is a need to study about strategies of adaptation to climatic change.

## Background

This policy oriented research aims to contribute to implementation of appropriate adaptation strategies for climate change in developing countries. With focus on rice production and mitigation of natural disasters, the research aims to provide a framework for implementation of adaptations for climate change. With case studies in four Asian countries including Sri Lanka, Philippines, Vietnam, and Thailand and through joint programs with institutions in those countries, it aims to build a modeling system comprising of a weather forecast model and impact assessment models to assess impacts at local scale. The research project would analyze several feasible adaptation measures to minimize the risks of damages and losses caused by climate change and propose approaches to identify optimal strategies. In the long-term, it aims to improve capability to mainstream adaptation measures in national development plans.

## Workshop Structure

The main theme of this workshop assesses local impacts due to climate change, and proposes the appropriateness of remedial measures in relation to national development plans for flood risk reduction and responses to rice yield change.

The mainstream adaptation measures will be proposed as are following:

1. Flood hazard reduction (UNU to convene)

2. Flood model (Chulalongkorn University to convene)

3. Rice model (Khon Kaen University to convene)

Discussion of the above themes will take one day on 22 February 2010 at Chulalongkorn University. The total number of participants will be around 6 persons as invited from the governments, universities, research institutions/organizations, and NGO's representing flood hazard reduction and climate change issues on rice yield production.

## **Program Schedule:**

### **National Workshop on**

### **“Adaptation to climate change in Agriculture and Water Sectors in Thailand”**

Jointly conducted by UNU-ISP, Chulalongkorn University, and Khon Kaen University

22<sup>nd</sup> February 2010, Bangkok, Thailand

#### **Workshop Schedule**

<b><i>Day plan</i></b>	<b><i>Particulars</i></b>
9.00-9.30 AM	Welcome address and Signing Ceremony (UNU-CU and KKU) Objectives and expectations Workshop Agenda <i>by Dr.Srikantha Herath, Senior Academic Programme Officer, United Nations University, Institute for Sustainability and Peace</i>
9.30-10.0 AM	Presentation “Overview on assessment of climate change impacts by using modeling” <i>By Dr. Sucharit Koontanakulvong, Department of Water Resources Engineering, Faculty of Engineering, Chulalongkorn University</i>
10.00 -10.15 AM	Tea and coffee break
10.15-10.45 AM	Presentation from Dr.Sucharit’s invitation
10.45-11.15 AM	Presentation from Dr.Sucharit’s invitation
11.15-11.45 AM	Discussion
11.45-01.00 PM	Lunch
01.00-01.30PM	Presentation “Impacts of climate change on rice production in Thailand” <i>By Dr. Krirk Pannangpetch, Department of Plant Science and Agricultural Resources, Faculty of Agriculture, Khon Kaen University</i>
01.30-02.00PM	Presentation from Dr.Krirk’s invitation
02.00-02.30PM	Presentation from Dr.Krirk’s invitation
02.30-03.00PM	Discussion
03.00-03.30PM	Closing