



## Improving Local Awareness of Climate Change Risks in Samut Sakhon Province, Thailand

### Key Findings:

- **Samut Sakhon province in central Thailand is already experiencing a multitude of impacts from climate change such as intense tropical storms and floods.**
- **The Tha Chin and Kalong subdistricts in Samut Sakhon province are unprepared for climate disasters such as floods. The most vulnerable groups are women, older people and those with physical difficulties.**
- **Improved climate change communication strategies should be developed to equip local communities with appropriate knowledge to make decisions for adaptation when climate-related disasters occur in the future.**

### Introduction

Climate change is already having a multitude of impacts on the tropical cyclone-driven climate of Samut Sakhon province, one of the central provinces of Thailand. Storm events in the last few years such as tropical cyclones NOCK-TEN and NALGAE, caused heavy rainfall and floods, and affected many areas in Samut Sakhon. The floods affected or damaged 102,352 households, 5 main roads, 30 bridges, 3 hospitals and 12 schools had seriously been damaged (Bureau of Disaster Prevention and Mitigation in Samut Sakhon, 2012).

Furthermore, the disastrous floods in Bangkok in October-November 2011 raised the water level in the Tha Chin River as huge water flows drained down from the northern areas of Thailand and severely impacted the Tha Chin and Kalong subdistricts in Samut Sakhon.

It is estimated that by 2050, local mean temperatures will rise by 1.20-1.90 C and mean precipitation will rise by 2-3 percent around Bangkok Metropolitan Region that includes Samut Sakhon; the sea level in the Gulf of Thailand could rise by up to 0.29 metres (JBIC, 2008). Tropical cyclones occur regularly in Samut Sakhon and are likely to increase and become more intense in the future. These disasters will pose significant impacts on agricultural production, particularly rice, fruit and salt production. These challenges will place a high burden on the Thai government to assist affected people, especially vulnerable groups.

## **Assessing climate change risks in Samut Sakhon**

At present, most of the affected inhabitants from the Tha Chin and Kalong subdistricts in Samut Sakhon live in small and compact housing areas with most people's living standards below the poverty line. Housing tends to be single floor houses, so flood impacts are significant. During the last floods, one-third of the total affected people experienced more than a half-meter inundation for at least three days. The economic damage from flooding mainly impacted the agricultural sectors in these two subdistricts mostly due to the crop and aquaculture losses and halting of business activities.

Most people in the Tha Chin and Kalong subdistricts were unprepared for these climate disasters and experienced significant negative impacts especially the vulnerable groups such as women, old people and those with physical difficulties. This suggests that improved climate change communication strategies should be developed to equip local communities with appropriate knowledge to make decisions for adaptation when climate-related disasters occur in the future.

To address these issues, the SUMERNET project titled "Communicating Water-Related Climate Change Risks to Improve Local Adaptation in the Deltas of the Mekong Region" conducted research in three countries in the Mekong region simultaneously: Vietnam, Cambodia and Thailand.

In Thailand, the main objective of this project was to understand how different stakeholders in Tha Chin and Kalong subdistricts in Samut Sakhon province perceived the different types, levels and sources of water-related climate change risks and uncertainties. The development of effective communication models on water-related climate change risks with the participation of local stakeholders was conducted to promote shared learning and to strengthen local adaptation capacity.

The field survey undertaken by the project investigated how different stakeholders perceived the climate change risks such as floods and saline intrusion. The local people's knowledge and awareness about climate risks was also examined.

## **Communication models of climate change risks**

Communication models developed by the SUMERNET research teams in Vietnam, Cambodia and Thailand aimed to encourage the local community to take short- and long-term measures to adapt to climate change. These measures included:

- Short-term: Strengthen houses structures, stock up on food, clean water and medicine, and improve security.
- Long-term: Take part in strengthening the dyke system, change crop types and cropping timing, use recycled energy such as biogas, solar cells.

Three risk communication models were developed and disseminated to local communities: video clip, SMS, and “talking farmers”, a series of posters using a “farmer” to explain climate change issues. The communication models developed under this project were tested to determine the most useful and effective tool for people to learn about climate change risks and to design adaptation strategies. The communication models are found to be really suitable in these two subdistricts based on the local context and situations in terms of floods. Moreover, the research team also went door-to-door to discuss climate change risks with households.

### Policy recommendations

- In the future, climate change risks are expected to intensify every year while local people are still mostly unprepared in terms of adaptation measures and strategies. Thailand’s government agencies should undertake measures to build greater awareness about the climate risks among the vulnerable populations especially in coastal and low-lying areas.
- The SUMERNET project’s communication models should be replicated for use in other communities or subdistricts within the country facing similar climate change risks.
- Thailand’s government institutions such as the Department of Disaster Prevention and Mitigation, Ministry of Water Resource and Meteorology, Ministry of Environment and other concerned local authorities including the involved NGOs can redesign these two communicating models to match their local contexts.

### Notes

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