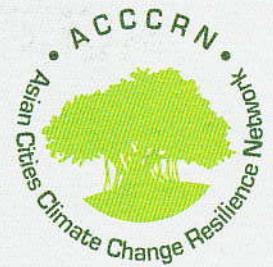


Asian Cities Climate Change Resilience Network



ACCCRN - Thailand



Chiang Rai City



มูลนิธิสถาบันสิ่งแวดล้อมไทย
Thailand Environment Institute Foundation

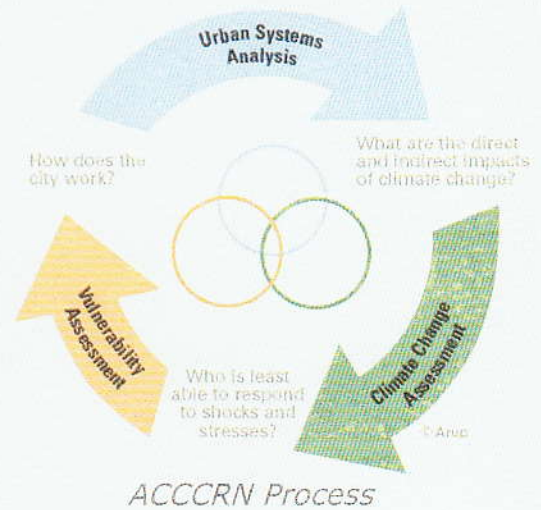
THE
ROCKEFELLER
FOUNDATION



www.thaicity-climate.org
www.acccrn.org

What is ACCCRN ?

ACCCRN is a network of cities in *Thailand, India, Indonesia and Vietnam* which was launched in January 2009 and is supported by the Rockefeller Foundation as part of a US\$59 million, 7-year climate change resilience initiative. The objective is to help selected cities develop climate change risk and vulnerability strategies that will be followed by the development of a range of resilience-building interventions such as climate-resilient housing and more effective water management. ACCCRN began rolling out tangible projects on the ground in late 2010 and many initiatives are now underway. ACCCRN involves 18 partner organizations.



ACCCRN in Thailand



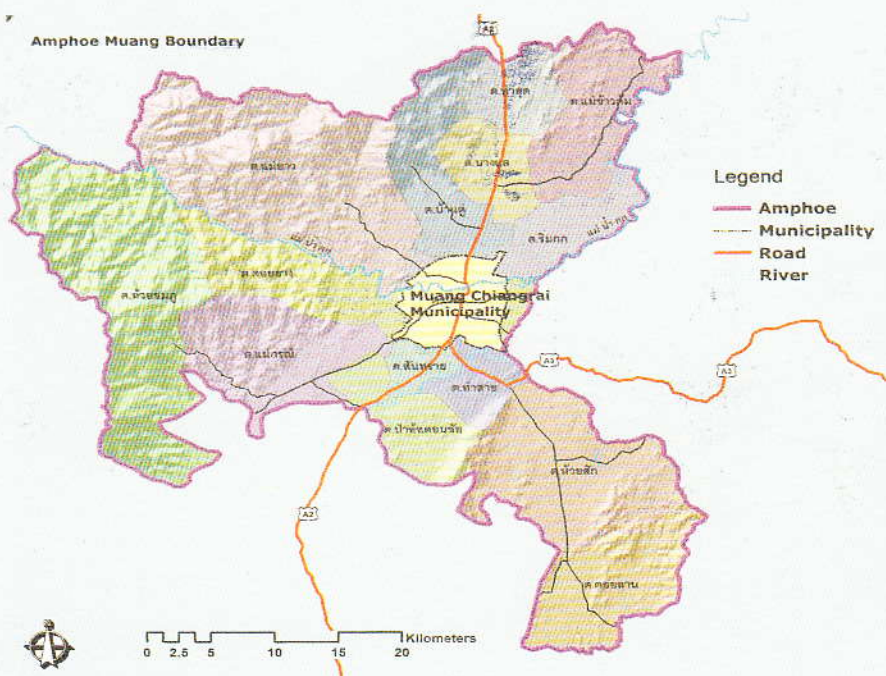
Map of Thailand marking Chiang Rai & Hat Yai

Over the last few decades, Thailand has undergone considerable urbanization. The effects of climate change including higher surface temperatures, extreme weather events and changes in rainfall pattern put Thailand's large agricultural and food sector at risk. In addition, sea-level rise and seawater encroachment increase flood risks and threaten to submerge coastal areas. The 2011 flood disaster that inundated a number of provinces in the north and central parts of Thailand for several months and parts of the capital city of Bangkok for several weeks, causing over US\$ 45 billion in economic damages, has brought into focus the significance of the impacts of urbanization and climate change for governments and policy makers at all levels.

ACCCRN offers a new approach to address these new multiple stresses. *Chiang Rai and Hat Yai* were selected as pilot cities to implement urban climate change resilience initiatives.

Chaing Rai

- Chiang Rai city is located in Thailand's northernmost province of Chiang Rai, on the border of Burma and Laos
- Population of Chiang Rai province – around 1.2 million or 474,177 households (2011)
- Chiang Rai city is located on a floodplain on the Kok river basin
- Urbanization is exerting pressure on resources, in particular water supplies
- The city is expected to experience rapid economic growth and urbanization as trade corridors to Myanmar and China expand, AEC will increase trade and economic development activities
- Climate risks in Chiang Rai city include variable precipitation, warmer winter periods, seasonal shifts (extended dry periods, shorter cold periods)
- Rising temperatures, more variable rainfall, and water scarcity pose major risks for the city's agricultural sector



Key vulnerability



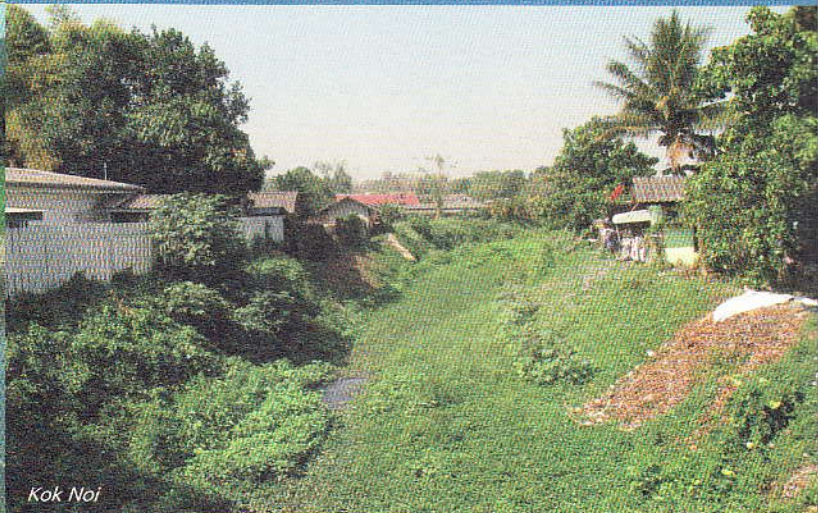
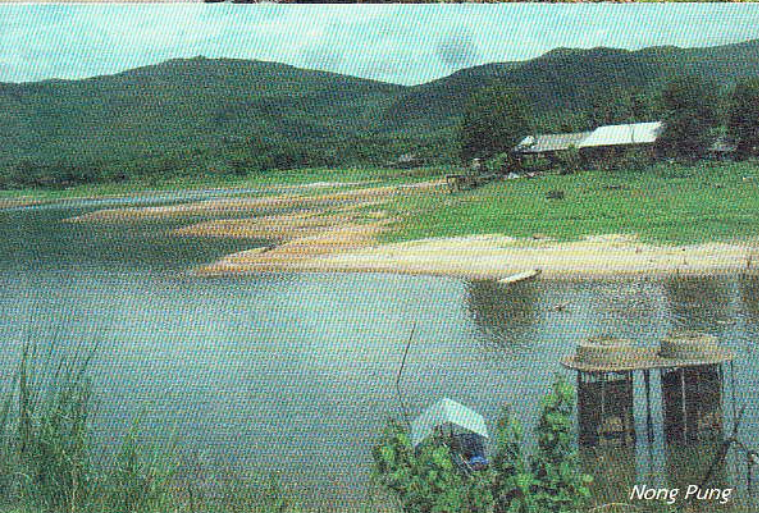
- Key issue – water resources – effects of climate change and urbanisation will be felt through water security across sectors
- Urban poor community with little access to water supply, in the face of climate change they are likely to experience increasing water insecurity
- Farmers without effective irrigation will experience water supply shortage, inconsistent water availability as water is diverted for urban communities and tourism industry
- Poor urban land use planning and rapid urbanisation will lead to reduced water retention areas, causing more frequent and severe floods



Chiang Rai ^{In}

Nong Pung Urban Reservoir

- Improving the water quality and landscape of the Nong Pung urban reservoir, which local residents and farmers can access for water and recreational purposes
- Conducting a biodiversity survey of aquatic plants and animals
- Raising awareness on the urban reservoir among school children and local residents



Kok Noi Urban River

- Ecosystem strengthening through restoration of a section of the Kok Noi River, which will serve as an extension of the natural drainage infrastructure of the city and provide green space
- Feasibility study (Jan-Sep 2012) on the revival of the dried up section of the river within Chiang Rai municipality, involving a site survey, community needs assessment and recommendations for reviving the intersection of the river rather than cementing it over
- The study will provide recommendations and options on restoration along the 2km canal as alternatives to cementing the riverbeds. Different sections of the river could be used differently depending on community needs and hydrological analysis. Some sections could be recreational area with water parks and gardens, for household-level agricultural purposes or converted into constructed wetlands for wastewater treatment using a range of aquatic plants

