

4. Impacts of climate change on water resources and options for the improvement of water management systems.

Key research themes in this program are:

- **Impacts of climate change on the hydrological cycle in different river basins in Thailand.**
- **Assessment of the implications of climate change for river basin planning in key river basins where climate change impacts are likely to be high.**
- **Water resources management: in many areas adaptation is profoundly conditioned by changes to water resources availability.**



4. Impacts of climate change on water resources and options for the improvement of water management systems.

Key research themes in this program are:

- **Water demand patterns in different areas and sectors and the potential of demand management and improved water efficiency as effective adaptation responses.**
- **Implications of climate change for water quality, with this related to other factors such as waste disposal and saline intrusion.**



5. Climate change and health.

Key research themes in this program are:

- **Future spread in different parts of the country of health problems associated with changing distributions of disease vectors.**
- **Health impacts of predicted increases in extreme weather conditions, including storms, floods, heat waves, droughts and others.**



5. Climate change and health.

Key research themes in this program are:

- **Health consequences of changing environmental conditions, especially changes to the distribution and severity of air pollution and water-borne pathogens.**
- **Health effects of poor access to food, safe water, shelter and other basic needs resulting from climate change.**
- **Changes needed to health services to adapt to the potential health impacts of climate change.**



6. The impact of climate change on urban development, including industrial and transport sectors, and the assessment of options for sustainable urbanization.

- ❖ **Assessment of the possible impacts of climate change, including sea level rises, on urban areas of Thailand.**
- ❖ **Climate-friendly design, for buildings, infrastructure and urban planning and zoning.**
- ❖ **Analysis of the GHG emission levels of different urban areas and sectors and the development of integrated strategies for reducing emission levels.**



6. The impact of climate change on urban development, including industrial and transport sectors, and the assessment of options for sustainable urbanization.

- ❖ **Potential co-benefit approaches to urban air quality.**
- ❖ **Integrated transport planning options to reduce congestion, improve road safety and reduce GHG emissions from the transport sector.**



6. The impact of climate change on urban development, including industrial and transport sectors, and the assessment of options for sustainable urbanization.

Life-cycle assessments and the use of ecological footprint approaches to assess the production, distribution and consumption chains of specific industrial products.



7. Climate change adaptation.

7.1 Research into autonomous adaptation at the community level, seeking to understand and strengthen the effectiveness of spontaneous responses of livelihood and resource management systems to changing conditions:

- ❖ Resilience and vulnerability, especially into the nature of risks and the ability to cope with risks at the community level.**



7. Climate change adaptation.

- ✿ This should include a focus on action research, working with local communities and civil society/NGOs.
- ✿ Policy and institutional processes that either encourage or discourage autonomous adaptation responses at the community level.



Figure 2.1 Topography of Kone-Isan, Chi and Mun Basins



7. Climate change adaptation.

- ❖ Economic analysis of local level adaptation processes and intervention options is essential, including the valuation of livelihood systems and ecosystem services.
- ❖ Geographical variations in adaptation needs and opportunities and the nature of autonomous adaptation responses in different parts of Thailand.

