

Abstract

Project code : RDG5730002

Project Name : Roadmap of Strategic Research Issue on Climate Change, Water, Land and Environmental Management

Researcher Team : Assoc. Prof. Dr. Sucharit Koontanakulvong Chulalongkorn University

Asst. Prof. Eathipol Srisawaluck Chulalongkorn University

Asst. Prof. Chanathip Pharino Chulalongkorn University

Dr. Buntoon Srethariorte Good Governance for Social Development and the Environment Institute (GSEI)

Dr. Pongsak Suthinon Chulalongkorn University

Dr. Piyatida Ruangrassamee Chulalongkorn University

Suppakorn Chinverno Chulalongkorn University

Chokchai Suthidhummajit Chulalongkorn University

Wichuta Hemsatien Chulalongkorn University

e-mail address : CU_WRSRU@hotmail.com

Project Duration : 2 June - 1 November 2557

Keywords : Strategic Research Issues, Climate Change, Water, Land and Environmental Management

Nowadays, the socio-economic development of Thailand is increasing; however, at the same time, natural resources especially water, land use and environment are also needed and consumed to meet that developing demand. For the water issue, the international and domestic researches greatly reported that there are climate change impacts on water resources in various aspects for example water quantity (water supply, water demand) water quality, and water-related disaster (flood; drought and land slide). This may cause the water stress in the uncertain future. In the topic of land use, unstable land use change causes soil erosion and urban flood which cause socio-economic damage. Unsuitable environmental management also one of the main reasons of human health problems.

From the last decades, Thailand is doing a number of researches for climate change impacts; however, it seems to be that the speed of research production is slower than speed of change or need of Thailand development. This is the result from the main driving forces as follow; avoiding the middle income trap; developing reliable data system under international standard; and cooperating and competing for ASEAN Economic Community (AEC). From this gap, Thailand needs basic and applied researches of adaptation for both climate change impacts, and socio-economic development.

The objectives of this study can be shown as follow,

- (i) To collect data and to synthesize the water resources management by integrally considering the impacts of climate change, land use and environmental condition,
- (ii) To present Strategic Research Issue (SRI) of water resources under multi-disciplinary approach to meet the country demand,
- (iii) To propose the framework and management format of SRI

The main global trends of the development in the world are sustainable and green development related to Water-Energy-Food Nexus. In Thailand, water resources related research issues are centered on water management for flood, drought, water quality;

water situation including water supply, water demand, water-related disaster and water quality; and water institutional management; main research issues; research management infrastructure; research issues for TRF to cope with national water management; conclusions, recommendations and national reform issues related to SRI3 (water and environment).

In this study, we propose Thailand research framework and topics to support the national water resources management under scenario-based consideration. A set of project consists of Thailand Outlook 2030, water management tools, and roadmap of sustainable development till 2030.

From the synthesis results, there are 5 proposed research projects for TRF for consideration as follow: (1) Thailand Outlook 2030, (2) Thailand water resources' capacity, (3) study on water allocation, (4) study on management tools, and (5) water demand side management. For the management of strategic research issues of water resources, climate change, land use, and environment. For the sri management schemes, we propose three possible schemes; (1) research project group with certain related issues, (2) researcher group with specific related research topic to assist each other for results/recommendations, on the declared TRF agenda, and (3) institute research group especially for multi-disciplinary research to answer to the specified declared TRF/country agenda