

Vulnerability Assessment under Climate Change and National Water Management Strategy

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ABSTRACT

Thailand had set the National Water Management Strategy which covered main six areas in the next 12 years, i.e., by priority: (1) water for household, (2) water for agricultural and industrial production, (3) water for flood and drought management, (4) water for quality issue, (5) water from forest conservation and soil erosion protection, (6) water resources management. However due to the climate change impact, there is a question for all strategies is whether to complete this mission under future climate change. If the impact affects our target, we have to clarify how to mitigate or to adapt with it.

Vulnerability assessment was conducted under the framework of ADB's (with the parameters of exposure, sensitivity and adaptive capacity) and the assessments were classified into groups due to their different characteristic and the framework of the National Water Management Strategy, i.e., water supply (rural and urban), water for development (agriculture and others), water disasters (floods (flash, overflow), drought, water quality). The assessments identified the parameters concerned and weight factors used for each groups via expert group discussions and by using GIS mapping technology, the vulnerability maps were produced. The maps were verified with present water situation data (floods, drought, water quality).

From the analysis result of this water resources management strategy, we found that 30% of all projects face the big impacts, 40% with low impact, and 30% for no impact. It is clear that water-related agencies have to carefully take care approximately 70% of future projects to meet water resources management strategy. It is recommended that additional issues should be addressed to mitigate the impact from climate risk on water resource management of the country, i.e., water resources management under new risk based on development scenarios, relationship with area-based problems, priority definition by viewpoints of risk, vulnerability (impact and occurrence probability in past and future), water management system in emergency case and water reserve system, use of information, knowledge and technology in management, network cooperation and exchange of experiences, knowledge, technique for sustainable development with mitigation and adaptation, education and communication systems in risk, new impact, and emergency-reserve system. These issues will be described and discussed.

Keywords: climate change, vulnerability, assessment, national water management, recommendations

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