



A Climate Change Screening Tool for Assessment of Adaptation in Water Sector: a case study in the Haihe River Basin(China)

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The impending of climate changes has already presented risks to the efficiency and effectiveness of development investments globally. In order to minimize negative impacts and maximize opportunities, adaptations to climate changes play a crucial role in development planning and project management increasingly. But before the adaptation designing and implementation, it should be evaluated. An interdisciplinary screening frame work was developed to evaluate the adaptations in this paper. It includes 6 parts, which are project description, problems analysis, identifying climate-sensitive components, semi-quantitative analysis, benefit-cost analysis and multi criteria analysis.

In this paper, we selected the "Water Conservation Project of China" funded by World Bank as case study. One of the main objectives of this project is to reduce the scarcity in Haihe River Basin in North China. The applying of modified CAPSIM-PODIUM illustrated, in 2030, climate change will significantly impact on water demand, supply and scarcity in Haihe River Basin.

To rebalance the water scarcity caused by climate change, a mixing price policy, which is easier to bring into effect than other price policy was selected. The result of evaluation showed it will be both economic efficiency based on benefit-cost analysis, and technologic possible when we take irrigation efficiency into consideration in future.

For "do nothing policy" is also a choice responding to climate change, we used multi criteria analysis, which is an important compensation of Benefit-Cost analysis, to compare it with "mix water pricing policy". The score of "mix water pricing policy" was higher than "do nothing policy" in this case study, which means it's a feasible policy to reduce water scarcity caused by economic development and climate change in Haihe River Basin.