

**Spatial & temporal water balance analysis considering structural & non-structural measures in the cisangkuy river basin / IH Ko, William Putuhena, irfan sudono, YJ Kim, SS Kim**

IH Ko, author

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Abstrak

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One of the major challenges for sustainable development is to ensure that all people continue to have reliable access to water. According to the UN World Water Development Report, by 2050, at least one in four people are likely to live in a country affected by chronic shortage of water. Especially, the Cisangkuy river basin located in the south of Bandung Metropolitan has been suffering from serious water scarcity, river pollution, and flood damage due to rapid increase in population and industrialization in the Bandung Metropolitan and surrounding upstream area.

In order to solve these complicated water management issues, it needs to implement innovative measures for integrated basin water management. As part of these efforts, a cooperative research project between Indonesia and Korea has initiated to develop smart water management system in the Cisangkuy river basin.

This paper deals with the spatial-temporal water balance analysis and shows the results of effect analysis with regard to structural measures and non-structural measures. As the result of analysis, the implementation of non-structural measures including coordinated and optimal water facilities operation could contribute not only for securing additional water but also for promoting collaboration for integrated basin water.