**Cost analysis and scheduling of the desalination vessel using reverse osmosis**

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**ABSTRACT**

 Due to climate change and increasing water demand, water scarcity issue becomes severe globally (Im 2020). Islands usually have limited freshwater resources because the river or reservoir are not developed enough. Therefore, in the dry season, severe water shortage has been occurred in the islands located in southern western Korea. In order to solve the water shortage problem, limitation of water supply and transport of tap and bottled water to the islands, and desalination by the small-scale plants have been applied. However, high water cost of the small-scale desalination process hindered the continuous operation of the plant. By the intermittent operation of the desalination process, frequent maintenances were required such as membrane replacement. In this study, the desalination vessel having the reverse osmosis system was suggested as the new water source for the islands areas in Korea. We estimated the water costs by the small-scale desalination plants and by the desalination vessel. And the operation scheduling for the desalination vessel was suggested for the islands in the Sinan-gun, Korea.

**REFERENCES**

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