

COMPLETION REPORT

People's Adaptation on Water Shortage in Small Islands: Comparison Study of Belitung Island-Indonesia and Kikaijima-Japan

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Belitung island consists of two districts namely Belitung and Belitung Timur. The research areas are mainly on small islands in Belitung District. The source of water in these areas are diverse. The quality of the groundwater in Belitung and the small islands are not good. People often say that the water are *ai' teraja*, which means that the water colour is red and contains chemical substance unsafe for drinking. Only in some limited areas, the water quality is good for drinking. Thus the households which own a good quality well share water with other households in Mendanau, Seliu, Rengit and Belitung Island. In Rengit island, some households are using rain water for drinking. In Seliu Island, one mini fresh water plant has already been established, which uses solar energy for pumping the water to the storage. The Seliu islanders can take the water freely. In Mendanau island, the government made a contribution to distribute water to every household. However, the institution did not work well and the operation of water distribution stopped, thus people went back to common well again. In the capital city, the district enterprise manages for drinking water plant (PDAM). However, there is a common problem of water scarcity in dry season. Recently, because of the unstable distribution from PDAM, people have become more dependent on gallon water, though they have to pay more. This same practice also can be found in Mendanau Island.

In Kikaijima and Amami Oshima, the local governments prioritized water availability and accessibility as basic needs to all residents. The governments have already provided pipe water since 1970s. Recently, a new plant is also established to increase agricultural water coverage in Kikaijima Island. A careful and long term research was made to build an underground dam to ensure the better production of sugarcane. With this water stock and spraying method, farmers have much easier way for watering their plants than before. Besides the tap water and the water from the underground dam, spring waters are also available in some communities. In this case, each community manages the system. Every household has to pay for the installment of pipe, but after that, no other charge for the use occurs.

The experience of water adaptation in Kikaijima and Amami Oshima provide lessons for the development of fresh water management system in Belitung. An integrated research for solving water problems in Belitung and nearby small islands is needed. Furthermore, the institutional water management system seems to be much more important than the sophisticated technology in the studied islands in Indonesia. For example, in Kikaijima, the farmer's association play an important role in the management of the underground dam water. There is a management team that is consisted of farmers association and the local government. This team discusses the arrangement of water distribution and the cost. In contrast, people in Belitung use water communally but there are no particular management system. However, some potential practices- rain water harvesting- in Belitung should be scaled up as one of adaptation for water shortage in small islands, though it is needed to increase the water quality.

Publication of the Results of Research Project:

Verbal Presentation (Date, Venue, Name of Conference, Title of Presentation, Presenter, etc.)
Thesis (Name of Journal and its Date, Title and Author of Thesis, etc.)
Book (Publisher and Date of the Book, Title and Author of the Book, etc.)
Article (Publisher and Date of the article, Title and Author of the article, etc.) We already discuss with Prof. Sueo Kuwahara (as our supervisor) for publishing one article from this project that will be discuss comparison cases of water fulfillment in Belitung and Kikaijima. This article will also incorporate Kana Fukugasako as our research assistant. The article targeted to be published in Shima journal or Island Studies journal at the end of this year.