Utilization of solar energy technology to meet water logistic support in the maritime border: Study at navy post, Labuan Bajo, East Nusa Tenggara

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Abstrak

The availability of clean water is a large part of the main problem in the area of West Manggarai Regency, East Nusa Tenggara. Eventhough there is correlation between factors of adequate water, health and economic development. One area that represents this condition is in the village of Labuan Bajo. The enchantment of the tourist island of Flores found in West Manggarai Regency, where Labuan Bajo is the gateway to entering the tourist charm is a place that tourists really want to visit. As a government effort to tighten border supervision and safeguards the Labuan Bajo maritime, the government formed the Indonesian Navy post. Therefore, the availability of clean water is needed in the area, besides to meet the needs of the Labuan Bajo community, improve facilities and infrastructure to bring in many tourists, also for fulfilling the logistical support of the Navy's headquarters. To meet water needs, there are 2 options that are expected to solve the problem, namely (1) mapping of underground water in the village of Labuan Bajo and pumping it using electric power from the voltaic photo results, and (2) when there is no item (1) then pumping water from the reservoir is available at a distance about 3 km from the village of Labuan Bajo. Considering the contour of the area, the needed to make new reservoirs and water pumping systems from the reservoir available, so that an adequate level of water is obtained for drain water to the village. Mapping of underground water is carried out with using the geoelectric method. If option 1 is successful, then the system that is built can be used as a model of pumping underground water, mainly in the area of West Manggarai Regency that needed it. Then the water obtained will be processed through the Reverse Osmosis process to produce ready to drink water.