

## **Exploration Involving the Community in Upgrading Water Intake in Kampung Bongol, Tamparuli, Sabah, Malaysia**

### **ABSTRACT**

This research focuses on an important project to upgrade the water supply system for a rural area in Kampung Bongol, Tamparuli, Sabah, Malaysia, with exceptional involvement of the communities. This village is located approximately 60 km away from Kota Kinabalu town center, and the journey takes around two hours by car. Despite its remote location and the challenging geographical surroundings of mountains, the village is conveniently situated near an existing catchment area. However, this village's current water distribution setup relies on outdated and inadequate tools, systems, and facilities, leading to water scarcity issues, particularly during drought periods. To address this problem effectively, a sustainable design consisting of a mini dam and a ramp pump was developed and implemented in this study. Combining these two elements ensures the rapid filling of the storage distribution tank and the provision of clean water to the residents. One noteworthy feature of this project is the utilization of a 2-inch Polyvinyl chloride (PVC) ramp pump, significantly reducing operational costs and eliminating the need for fossil fuels. This design not only proves to be practical and sustainable but also encourages the active participation of the villagers. Despite financial constraints and technical challenges associated with the project's implementation in a remote location, the water upgrading initiative was completed within four months, thanks to the direct involvement of the community. As a result of this endeavour, a fully functional water distribution network using the newly designed system has been installed, ensuring a reliable water supply for the 200 villagers in Kampung Bongol.