

Water Filtration System with Up-flow Filter Gravittaly to Increase the pH Value of Clean Water in Sei

Merdeka Samboja, Kutai Kertanegara - East Kalimantan

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Abstract

The problem experienced by local people is that clean water comes out of the tap connection with a pH value that tends to be acidic in the house. This is proven by direct measurements in the field using a pH meter as an in situ measurement. The pH value was obtained at 4.7. This value was out of range from Regulation of Drinking Water of Health Ministry No. 492 of 2010 which requires a pH value of between 6.5 – 8.5. The efforts made to improve the quality of the tap water of the Merdeka River community are by using Simple Filtration with a gravity flow filter system. The media used include filter foam is 3 cm in 4 layers, silica sand 5 cm, zeolite stone is 8 cm, activated carbon is 5 cm, palm fibres is 2 cm in 2 layers, and gauze mesh in 3 layers. The main aim of making this tool is as an appropriate technology that focuses on calculating cost efficiency and ease of operation with the target community so this filtration is made from reused materials and no chemicals. After implementing filtration, there was an increase in the pH value of 7.00.

Keywords: water, pH, filter media, appropriate technology

Introduction



the clean water from tap connection have not been optimized by the people in Sungai Merdeka because of pH Value in 4.7 (tends to be acidic)

Purpose

Increasing pH Value using a Water Filtration System with Up-flow Filter Gravittaly as an appropriate technology in Sungai Merdeka

Design Approach

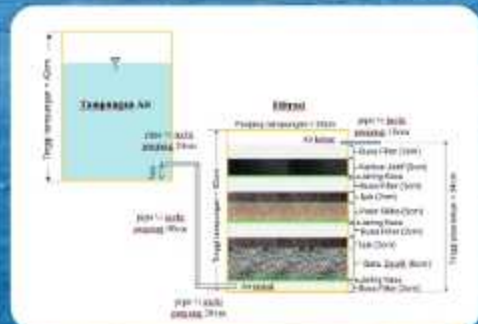


Research Sites



SR Werga Kelurahan Sungai Merdeka

No.	sampling point	pH
1	Tap connection (1)	4,647
2	Tap connection (2)	4.73



Result

Increasing of pH Value from tends to be acidic (4.) to the neutral condition in 7.0

pH = 7

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