

Research in Aquifer Tipology in Ternate Island, Ramdani Earns Doctorate

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Ternate island is a volcanic island in the subduction zone of north Maluku. Tectonic plate theories describe the emergence of volcanoes in this zone.

Ramdani Salam, S.Si., MT, lecturer from Universitas Khairun, Ternate, explained Ternate island in the south of Halmahera island, included in the tectonic system of Halmahera which is very complex. Meanwhile, Gamalama volcano in the middle of Ternate island geomorphologically comprises of sediments due to eruption periodisation since the Quaternary period.

"Every time an eruption occurs, eruption products of volcano become pyroclastic, bomb, lahars and so on, thus forming new deposits of sediment in the body of the volcano or alluvial," Ramdani Salam said at Faculty of Geography UGM on Thursday (25/1).

In her doctoral promotion in Geography Science, Ramdani Salam explained in the sediment of eruption products, aquifer sediment would finally form which has high production. This sediment also form stratigraphy or layer that forms the typology of aquifer of a volcanic island.



Defending her dissertation themed *Typology of Aquifer in Marin and Volcano in Ternate Island*, Ramdani said sedimented aquifer in the depth with airtight layer above it will form confined aquifer sediment. Meanwhile, groundwater in the aquifer will have higher pressures.

"Ternate island as a small volcanic island obviously has characteristics of fresh water in its aquifer. The morphology of Gamalama volcano forms unconfined and confined aquifers in its lower slopes, foot of the mountain, and coastlines," she said.

The presence of the aquifer, said Ramdani, is trapped by the wells dug out by the local residents. Here, there is possibility of groundwater being confined.

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