

## Water Source Zones and Hydrochemical Properties of Fluoride Water in Mt. Meru Watershed, Tanzania

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Fluoride is leaching to natural water system from volcanic rocks and ashes with alkali volcanic activity along Great Rift Valley in east Africa. Tanzanian people in Great Rift Valley are also suffering drinking water including high fluoride ( $> 1.5$  mgF/L of WHO) and water shortage. We investigated the groundwater and river water fluoride pollutions in area between Arusha of Mt. Meru watershed and Moshi of Mt. Kilimanjaro watershed in September, 2018 to provide the solutions to these issues as No. 6 of SDGs. We find some results below:

1. Average fluoride content is 4.0 mgF/L in Mt. Meru watershed, and 0.5 mgF/L in Mt. Kilimanjaro watershed.

2. Fluoride concentrates in Na-HCO<sub>3</sub> type water, and Fluoride tend to increase with Na and pH.

3. Groundwater fluoride tends to be increasing with residence time, but in recent twenty five years, fluoride is higher in younger groundwater.

4. Well waters supplied to Arusha city come from the recharge zone of 2,000 m to 3,000 m in altitude of Mt. Meru, and the fluoride content tend to increase with the recharge altitude.

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