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Eutrophication and siltation on Angereb reservoir, Ethiopia: Ecohydrological solution

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Environmental problems are experienced in Gondar city today than any time before. Such an environmental problem is explained by water, air, land problems of which water problem is the one and much more serious than the other kinds of problems. Gondar is the third largest city of the country and the first leading populous city of the region. Angereb reservoir, which is source for domestic water supply of the city, is characterized by the presence of large biomass of algae and water weeds, which can decrease water quality in the domestic water supply system. Eutrophication is an anthropogenic factor, and is considered as a global aquatic pollution problem. Soil erosion, pollutants and eutrophication has been the major threat of Angereb reservoir. High nutrient load from various sources flows in to the reservoir which could generate toxic algal bloom and causes serious health problem on the community. The average nitrate concentration at the selected sites is 19.6 mg/lit and 34.2 mg/lit in dry and rainy season respectively and also the average concentration of phosphorous at the inlet and outlet of the reservoir is 0.41 mg/lit in dry season and 2.4 mg/lit in the rainy season. For reversing the reservoir pollution the ecohydrological systemic solutions which integrated methodology to prevent all those threats to sustainable water and ecosystems was designed and implemented.

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