

Editorial

In this issue of TES, we have three articles looking at different aspects of environmental problems. The first article, *Water Quality Index (WQI) in the Twrkwa Gold Mining Area in Ghana* by F. Armah, I. Luginaah and B. Ason, uses the water quality index to assess the groundwater quality in the area. The index uses seven different independent parameters in order to come up with an over-all assessment of the water quality with respect to drinking water standards. The authors argue that while the individual parameters are, for the most part, under their respective limits, the cumulative effect of the different substances could make the water unsafe; this is the aspect that the WQI looks to represent. The study found that 35% of the groundwater samples exceeded the WQI threshold for potability by more than 5 times, and no sample collected was under the potability threshold. Thus, using the WQI it became apparent that the groundwater in the mining district needs treatment before it should be used in the water supply.

The second article, *Environmental Impacts of Flood Control Drainage and Irrigation (FCDI) Projects in a Non-Irrigated Area of Bangladesh: A Case Study* by B. Talukder and D. Shamsuddin, examines the impacts of flood control projects on agricultural capacity and the environment in general. Specifically the study looks at how flood control projects have impacted land use, changed cropping patterns and intensity, impacted flora and fauna in the area and identify other environmental impacts resulting from flood control projects. The study shows significant changes in cropping patterns, intensity and diversity as well as significant alterations in land use. The study concludes that the decrease in water reaching the unirrigated areas as a result of the flood control projects has had a serious impact on the natural ecosystem, agricultural environment as well as the local population's livelihoods.

The article *A Secular Carbon Debt from Atmospheric High Temperature Combustion of Stem Wood?* explores the assumption of CO₂ neutrality of stem wood in climate and energy policy from a critical realism perspective. R. Czeskleba-Dupont questions the assumption of CO₂ neutrality of stem wood from a secular time frame perspective and argues that it would be prudent to use the 'Marland approach' to assess the overall consequences of substituting fossil fuels with the use of 'CO₂ neutral' woody biomass. It is argued that combustion of stem wood may lead to extra emissions of carbon dioxide to the biosphere and that CO₂ neutralisation as a process takes place over decades or centuries. From the author's perspective the rapidly expanding practice of substituting fossil fuels for woody biomass calls for a time-sensitive approach to re-evaluate the use of woody biomass and how it contributes to the process of carbon neutrality and potential negative effects such as erosion of the forest base. The article contributes to a necessary questioning of the sustainability of woody biomass and in particular highlights the need for more knowledge about different types of woody biomass and how to establish criteria for CO₂ neutral biomass.

As usual, the editors welcome all articles which deal with transdisciplinary approaches on studying or evaluating environmental problems at all scales, from local to global.

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Co-Editors