

## Abstract

Intensive traditional gold mining activities is ongoing in Tigray province of northern Ethiopia. Such mining works are generating a lot of income for poorly educated unemployed youths of the country and subsidizing the lively hood of poor farmers of the region. In addition to such job creation, it is also generating the much sought hard currency that can be utilized for other development projects of Ethiopia. For example, Ministry of Trade data indicate that out of ~500 million USD Ethiopia obtained from export of gold in 2010/2011, half of it is from traditional gold mining. However, such economic benefits do not come without the expense of the environment as such mining activities are conducted by uneducated farmers and youths. Usually, the miners arbitrary mine and transport gold rich sediments into a river for panning to recover the gold. By doing so they are inflicting harm to the environment as they are not rehabilitating the mined land back and are also degrading the quality of water, which is used for domestic uses and animal consumption. A research conducted by the authors shows that in most of water samples collected from the mining areas, the concentrations of toxic metals such as As, Sb, Pb, Zn, Fe, Al and F are above WHO permissible levels for drinking. People who use this polluted water for different uses are facing some health problems. In addition, the miners are also deforesting the environment where getting grasses for animal grazing is becoming critical problem. As a result animals are facing food scarcity and metabolic health disturbances. Generally, if the ongoing traditional gold mining in the region is not be properly regulated and monitored as well as a mitigation mechanism of the mined areas is not emplaced, it is likely that it continues to cause unwarranted environmental degradation problems. Therefore, an efficient traditional gold mining system such as reclamation of mined sites and panning of the gold in isolated ponds is warranted so that these gold resources play their own share in sustainable development of the region. Key words: Traditional gold mining, animal and human health, environmental degradation, igray