



The Pollution Problem in Burundi

by Gabriel Hakizimana

Burundi is one of Lake Tanganyika's four riparian nations. It differs from its neighboring countries in that its capital city, Bujumbura, is located on the shores of Lake Tanganyika. Bujumbura is the most industrialized and most populated city in Burundi and along the entire coastline of Lake Tanganyika.

From more than a century, the city of Bujumbura underwent a considerable evolution, but it was during the 1960s that industrialisation started, and it has been expanding ever since. Bujumbura has about 250,000 inhabitants with about 70 industrial enterprises which influence the waters of Lake Tanganyika and its nearby rivers.

A census of pollution sources made by the National Institute for the Environment and Nature Conservation (Institut National pour l'Environnement et la Conservation de la Nature) in 1992 revealed the existence of many different types of industries in Bujumbura, including:

food processing, textiles, metallurgy, chemicals and pharmaceuticals, petrol warehouses and garages, soap manufacturers, slaughterhouses, paint refineries, printing houses, and so on.



Brarudi Brewery: one of over 70 industries in Bujumbura

Designers installed all these enterprises without thinking about waste pre-treatment systems. Consequently most of these industries discharge their waste into the lake or into rivers that flow into the lake.

There are also smaller towns, such as Rumonge and Nyanza-Lac, that directly discharge their domestic waste water into Lake Tanganyika. Domestic water discharge presents the danger of biological contamination and public health risk. Analyses conducted in Bujumbura Bay revealed the existence of different forms of bacteria especially coliforms and *Escherichia coli* which live very near the city's drinking water intake system.

Pesticides are another important risk factor along the Burundian portion of the Lake Tanganyika catchment. Much of the region

fringing the lake is agricultural land area where pesticides are often in use. This is especially problematic in the Rusizi plain and the Rumonge area where farmers use organochlorates in ricefields which constitute a dreadful pollution threat for underground waters and the Lake.



Bujumbura's water treatment plant

It is important to note that in the Bujumbura area, the lake is occasionally subjected to pollution, both accidental and intentional. With the growth of industrial activities, quantities of industrial waste, sometimes very toxic, are also increasing and we are witnessing cases of unauthorised dumping and even direct disposal in the lake. Recent events included the disposal of about 600 tons of out-of-date milk in the Rusizi River and a recent mass-mortality of fishes in Bujumbura Bay which according to our analyses was probably provoked by accidental disposal of a considerable quantity of caustic lye (NaOH) during the off-loading of boat cargo.

Burundi is taking many different measures to reduce the load of pollutants entering Lake Tanganyika. For example, the Government of Burundi has installed an industrial and domestic water treatment plant in Bujumbura. This facility, which employs mechanical and biological treatment, treats 38% of Bujumbura's wastewater before it enters the lake with a 95% reduction in Biochemical Oxygen Demand (BOD).

Furthermore in the framework of LTBP, the Pollution Special Study, engaged in Burundi since June 1998, carries out physico-chemical and phytoplankton analyses. They have already produced two quarterly reports on this subject. Their analyses concentrate on the water quality of Bujumbura Bay as well as the waters of Bujumbura City and its rivers. These and other pollution and water quality data were integrated into the Burundian National Strategic Action Programme reports and the Transboundary Diagnostic Analysis.

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