

Water quality issues in West and Central Africa: present status and future challenges

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Abstract An overview of freshwater quality in West and Central Africa is proposed by reviewing recent selected literature. Water quality degradation in the region is mainly attributable to: anthropogenic activities, communities' socio-economic conditions and natural sources. Surface and groundwater contamination by organic matters, *Escherichia coli*, nitrates, phosphates, pesticides, hydrocarbons, heavy metals and fluorine ions are reported. In cash crop production areas, the large quantities of pesticides and fertilizers used explain residues in the ground and surface water in many countries. Unsafe domestic wastes are an important source of water pollution in capital cities due to overcrowding, poverty, and low sanitation in precarious neighbourhood areas. Eutrophication is seasonally observed in lakes or lagoons with high concentrations of nitrates in urban areas. The challenges to overcome are a promotion of strategic research with a high diffusion level, pollution prevention measures which include the behaviours of all communities through the application of laws and respect of norms, an allocation of financial support for water analysis and treatment, and suitable sanitation for health preservation. To face the pollution of freshwater by pesticides residues, fluorine and arsenic ions, intensive research based on local natural materials for cheap and easy water purification technologies is a priority.

Key words freshwater; quality; pollution; present status; future challenges; West Africa; Central Africa