



Survey and cartography of the spatial variation of the pollution of the waters from well of some districts of the township of Abomey-Calavi, Benin.

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ABSTRACT

Objective: The objective of this work was conducted to study and map the spatial variation of the physical, chemical and microbiological contamination of well water in some areas of the town of Abomey-Calavi in Benin.

Methods and Results: The methods used to measure physical and chemical parameters are those spectrophotometric, colorimetric, conductivity and some other methods recommended by the French Association for Standardization (AFNOR). Microbiological parameters were measured according to the method by incorporating agar described in the book Rodier and maps were produced by Arc View 3.2 software. On the physical and chemical level, 50% of the analyzed well water have a normal pH and are all located at the lake. All analyzed well water has a redox potential higher than normal with the highest values for wells along the lake. Lead and zinc concentrations in these waters comply with WHO standards. Bacteriological analyzes showed that all well water pollution reveal bacteria such as thermotolerant coliforms, intestinal enterococci, total coliforms with the highest concentrations in the wells located on Lake Nokoué. This indicates that the water may be responsible for the spread of waterborne diseases. The ratio thermotolerant coliforms and intestinal enterococci show that the origin of faecal contamination of human type in 50% of the wells. Faecal contamination of human kind concerns all the lake nearby well and the animal type concerns distant wells that lake.

Conclusion and Application: These cards will attract the attention of people in the town of Abomey-Calavi and policy makers on areas where well water are the most polluted.

Key words: physical chemical and microbiological quality, well water, pollution, mapping.