



## 6<sup>th</sup> World Congress on Environmental Toxicology and Health Safety

### Seasonal variation of some Physico-chemical and Microbiological quality of public Boreholes and hand dug wells Water in Vina Division Adamawa Region-Cameroon

Tangwa Viban

Seasonal variation of groundwater quality in the Vina Division was investigated using selected chemical. Hence, 21 public boreholes and 10 hand dug wells water were selected to evaluate the seasonal variation of microbiological and physicochemical parameters. Physical parameters were taken on spot, while samples were aseptically transported to the laboratory for analysis through several chemical and microbiological techniques. Results of the physico-chemical analysis indicated that most of the parameters respected the limits set up by WHO except temperatures, pH, and BOD. Temperature generally varied from 22.33°C in the rainy season in boreholes to 28.6°C in the dry season in different zones of the study and they were statistically significantly different ( $p < 0.001$ ). Biological oxygen demand fluctuated between  $3.87 \pm 2.21$  mg/l and  $10.38 \pm 1.4$  mg/l in the two seasons, which are out of the limit 2-4 mg/l set by WHO. Among the heavy metals isolated, only Iron (0.002 mg/l to 0.33 mg/l) was out of the range set by WHO, which is 0.1 mg/l. The number of heterotrophic bacteria count per ml of water in boreholes and hand dug wells were generally high in the rainy season, but relatively low in the dry season. Total coliforms counts per 100 ml in boreholes and hand dug wells water were significantly present, but higher counts were registered in hand dug wells water. Fecal coliform counts were completely absent in some areas, but were generally present in hand dug wells.

**keywords:** Boreholes, hand dug wells bacteriological quality, Physico-chemical, heavy metals Authors

#### Biography

Tangwa Viban Born in the grass fields of North west Cameroon where I had a very difficult school and health life but I was bent on obtaining a terminal degree in area of environmental issues and health. This took me to Nigeria where I obtained a first degree in microbiology. With financial difficulties I came back to Cameroon engaged in some local jobs to raise money and go back to school. With this I finally got a terminal degree in the first half of 2021.