



From the tap to the mouth, drinking water quality in the domestic context in Khartoum, Sudan

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The city of Khartoum experienced a rapid growth and an urban spread towards its periphery that has become denser than the centre. Urban planning was unable to follow the pace of demographic growth (5.5 million inhabitants in 2008), and the establishment of a decent drinking water network is slow. The population is incited to be independent from quantitative variations by storing drinking water, because of water turbidity, many cuts, and pressure decreases. These bad habits of storage, the lack of efficiency of treatment, and the absence of collective supply network maintenance, are responsible for a significant decrease in the physical and biological water quality. The result is a development of water-borne diseases (generally diarrheal symptoms and kidney diseases).

Our study aimed at measuring the changes of water quality in these storage recipients, so as to evaluate the possible risks on people health. It demonstrated that the distinction made between quantity and quality in the institutional management of drinking water in Khartoum is a dead-end. It also suggested that treatment would be more efficient and water would have better quality if smaller quantity of drinking water was produced and the amount of wasted water was reduced. Storage is a worsening factor of bacteriological pollution. Then, contrary to what numerous researchers observed in other fieldworks, here the temperature does not limit the bacteriological development and bacteriology does not seem to be in connection with turbidity. Then water storage is an important problem for people's health, responsible for many diarrheal (bacteria) and kidney diseases (salinization).

Nevertheless, conscientious of the quantitative deficiency, the Khartoum State Water Cooperation (in charge of water supply) tries to produce more water so as to avoid cuts. On the contrary, we think that the solution is in the maintenance of the infrastructure. Best network (30% of losses occur in the network) and better waterworks could provide better water without cuts, limiting the storage needs.

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