

Water resource and sustainable development in Ivory Cost

B.K. Yao^{1,*}, Y.T. Koffi¹, K.E. Ahoussi¹, A.M. Kouassi², J. Biemi¹

¹*Laboratoire des Sciences et Techniques de l'Eau et de l'Environnement (LSTEE), UFR STRM, Université Felix Houphouët Boigny 22 BP 582 Abidjan 22, Côte d'Ivoire* ; ²*Département des Sciences de la Terre et des Ressources Minières (STeRMi), Institut National Polytechnique Felix Houphouët-Boigny, BP 1093 Yamoussoukro, Côte d'Ivoire*

*E-mail : yaomonie@yahoo.fr

The aim of this study entitled is to understand if the management of groundwater resources in the Ivory Coast can contribute to the sustainable development. Bibliographic, demographic studies completed and interviews have been performed to collect data from the quantity and quality of groundwater in Ivory Coast. A correlative study has allowed assessing the effect of human activities coupled with the new climate change on the quantity and quality of water resources throughout the Ivorian territory. This territory is divided into two hydrogeological provinces: the discontinuous aquifers (97% of the territory) and the continuous aquifers (3%). These two domains totalizes 37.7 billion m³ of groundwater resources compared to only 29 billion m³ of surface water. These groundwater resources, which are essential for the economic, social and cultural development of Ivory Coast are strongly impacted by the combined action of the new climate and human activities. Indeed, the problems identified are: (i) degradation of surface water quality and excessive extraction of groundwater; (ii) extraction of groundwater by drilling without administration authorization; (iii) lack of funding for deepening knowledge of groundwater resources; (iv) sanitation problems in cities; (v) extraction of sand from the Ebrié lagoon; and (vi) recurring floods that reduce the quantity of groundwater and degrade their quality. According to these results and the objectives defined by the [Council of Canadian Academies \(2009\)](#), it can be noted that the environmental and human conditions in Ivory Coast do not militate in favor of sustainable management of groundwater.

Keywords: Groundwater, sustainable development, Ivory Coast, climate change, human activities