

Assessment of Water Quality Used for Irrigation: Case Study of Josepdam Irrigation Scheme

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Abstract : The aim of irrigation is to recharge the available water in the soil. Quality of irrigation water is essential for the yield and quality of crops produced, maintenance of soil productivity and protection of the environment. The analysis of irrigation water arises as a need to know the impact of irrigation water on the yield of crops, the effect, and the necessary control measures to rectify the effect of this for optimum production and yield of crops. This study was conducted to assess the quality of irrigation water with its performance on crop planted, in Josepdam irrigation scheme Bacita, Nigeria. Field visits were undertaken to identify and locate water supply sources and collect water samples from these sources; X1 Drain, Oshin, River Niger loop and Ndafo. Laboratory experiments were then undertaken to determine the quality of raw water from these sources. The analysis was carried for various parameters namely; physical and chemical analyses after water samples have been taken from four sources. The samples were tested in laboratory. Results showed that the raw water sources shows no salinity tendencies with SAR values less than 1me/l and Ecvaules at Zero while the pH were within the recommended range by FAO, there are increase in potassium and sulphate content contamination in three of the location. From this, it is recommended that there should be proper monitoring of the scheme by conducting analysis of water and soil in the environment, preferable test should be carried out at least one year to cover the impact of seasonal variations and to determine the physical and chemical analysis of the water used for irrigation at the scheme.

Keywords : irrigation, salinity, raw water quality, scheme

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