

JEH Volume 13 (2005), Paper 21 Posted September 29, 2005

---

## EVALUATING THE QUANTITY AND QUALITY OF GROUNDWATER FOR IRRIGATION IN THE BASEMENT COMPLEX OF ILE-IFE, NIGERIA

**J.A. Osunbitan**  
**D.A. Okunade**  
**H.O. Fapohunda**

*Obafemi Awolowo University, Ile-Ife, Nigeria*

---

### **ABSTRACT**

*The objective of this study was to evaluate the ground water yield and quality in relation to the irrigation requirements of common field crops grown on a small-scale basis in Ile-Ife, Nigeria. Quantitative and qualitative analyses of well water samples were carried out to determine their suitabilities for irrigation. Qualitative analysis showed that water from most of the wells is within a low electrical conductance (EC) range of 100-250  $\mu\text{hos/cm}$ . Several wells have ECs of up to 750  $\mu\text{hos/cm}$ . The groundwater yield in the basement complex areas is 70  $\text{m}^3/\text{day}$  on average. However a yield of 98  $\text{m}^3/\text{day}$  has been achieved in a well in this area. The yield capacity of the well showed that the average irrigable crop area is 0.49 hectares. As small as the irrigable area from an individual well may seem, it can be profitable to grow small vegetables. There is opportunity for a farmer with small holdings and some capital to purchase a low horse power pump and a few pipes to irrigate his land.*

---

**Reference:** Osunbitan, J.A., D.A.Okunade, H.O. Fapohunda. 2005. Evaluating the Quantity and Quality of Groundwater for Irrigation in the Basement Complex of Ile-Ife, Nigeria, *Journal of Environmental Hydrology*, Vol. 13, Paper 21.

---

### **CONTACT:**

D.A. Okunade  
Department of Agricultural Engineering, Obafemi Awolowo University  
Ile-Ife, Nigeria

**E-mail:** [dokunade@oauife.edu.ng](mailto:dokunade@oauife.edu.ng)

---

[Return to HydroWeb Homepage](#)