

## Abstract

Statistics show that over 3 billion people, which is more than half of the population in the developing world lived in rural areas in 2001 (Todaro, Smith, 2003). In Africa, the ratios are much higher, with most countries having rural inhabitants in excess of three quarters of the total population. Africa has the highest population growth rate in the developing world; food production in the poor countries is not keeping pace with population growth. Water is essential for production of food but the world faces serious and rising difficulties in maintaining water quality and meeting the rapidly rising demand for water resources; especially in developing countries. Furthermore, some of the water used for irrigation, which is thought to be the most important use of water in the developing world, will have to be shifted for use in industry and urban areas; wherein it should be seen as a main stimulus for agricultural development and growth.

It is arguable that the majority of the limiting factors of food production on the African continent are the quality and quantity of available water resources. This thesis aims to explore the reasons for sustainable water resources management in the agricultural sector of an economy. It will focus on general water allocation problems in agriculture, the different water management techniques and finally it will highlight on how the water needs for the agricultural sector will aid in increasing food productivity, thus, economic development in developing countries especially Africa. This thesis will cite various examples; most in the both the developing world to provide a broader perspective on water management techniques and how it is can be used towards sustainable agricultural development.