

## CHAPTER 1: Introduction

In the Proceedings of the Consultation on Irrigation in Africa (Lomé, Togo, 1997) irrigation was defined as “the application of water supplementary to that supplied directly by precipitation for the production of crops”.

Although clearly defined, irrigation has not been clearly identified and separated from the wide-ranging area of water development activities, such as major and minor constructions for water harvesting, storing, conveyance and allocation; the drilling of tube-wells; and pumping. Most of the efforts and investments made in many countries for irrigation development result in water resources development and very few in on-farm water use improvement.

The application of improved irrigation methods and techniques on small farms is expanding rapidly as a result of the increasing demand for higher irrigation efficiency, improved utilization of water and intensification and diversification of production.

An irrigation system consists of canals and structures to convey, regulate and deliver the water to the users. Two basic types of irrigation systems exist: open canal systems (Figure 1.1) and pressured piped systems. This book concentrates in the latter one.

Experience gained from many countries in arid and semi-arid zones has shown that pressure piped irrigation techniques are replacing successfully the traditional open canal surface methods at farm level.

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**FIGURE 1.1 - Wasteful surface irrigation method**

