

Introduction to sustainable irrigation

Irrigation is important in agriculture especially with the recent changing weather and climate patterns.

Irrigation helps provide food supplies in areas that would otherwise not have sufficient yields. Water in irrigation is mainly sourced from fresh water sources like ground water aquifers and surface water bodies eg rivers, lakes, springs and reservoirs. The commonly used irrigation methods are surface irrigation like flood irrigation, sprinkler irrigation, drip irrigation and sub surface irrigation. Surface irrigation was found to cause excessive evaporation and cause soil salinization which is a form of land degradation.

Water use efficiency

To increase water use efficiency, reduce water loss through managerial and technological responses because almost 50% of irrigation water is lost through irrigation, leakage or spillage. This can be managed through irrigation scheduling like watering at night when temperatures are low. The technological response is to improve the irrigation system.

Improve the water holding capacity of soils by adding organic matter in the soils.

Crop selection is an important role in water saving. Certain crops have the ability of obtaining water from deeper soil layers like sorghum and sunflower. Water wasteful crops like sugarcane should be avoided in water scarce areas.

Obtain water from other water sources like rain harvesting, water reuse can be used to irrigate green areas in the city where waste water is abundant.