

PREFACE : Water Saving Practices in Rice Paddy Cultivation



The world's population is expected to grow from 6 billion today to at least 8 billion by the year 2025, with about 90 per cent of the increase being added to the developing world. In many regions, population growth, urbanization and industrialization are imposing rapidly growing demands and pressures on the water resources and causing in many cases imbalance between supply and demand. This growing imbalance has led to shortages, competition, rising pollution and other environmental pressures.

Achieving food security and improving the quality of life, while preserving the environment, will continue to pose major challenge to Scientists, Decision makers and Technicians in the next few decades. Irrigation requires relatively large amounts of water. This water is a commodity that is becoming increasingly scarce. On the other hand, Rice cultivation compared with other field crops requires huge amount of water. Therefore, any water saving in rice cultivation will be significant and valuable.

Rice is known to be a high water consuming crop. In Asia, irrigated rice consumes 150 billion m³ of water. It has been estimated that a 10% decrease in the water use for irrigated rice could lead to water saving of approximately 150,000 million m³, almost one-fourth of all the fresh water used world-wide for non-agricultural activities.

The main difficulty with saving water is that the water is not priced properly, especially in schemes where they charge the user by irrigated area and not by volume of water used. With such schemes, there is no economic incentive to save water.

Agricultural activity is considered by many as the main user and abuser of natural resources. Irrigated rice production is particularly known for the excessive use of irrigation water, pesticides and inefficient use of fertilizers. Rice is suspected to be a large contributor of carbon dioxide, methane, nitrous oxide and ammonia emissions.

Integrated water resources management is vital for producing more rice with less water. There is a range of options to increase the productivity and efficiency of water consumption in surface irrigated rice. With economic incentives and adequate production tools and irrigation services, farmers can adopt substantial changes in their water management practices.

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