A GENERAL FRAMEWORK FOR ANALYZING THE IRRIGATION SYSTEM OF WESTERN DISTRICTS IN TAMILNADU

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Tamil Nadu has historically been an agricultural state. Agriculture is heavily dependent on the irrigation. Irrigation plays a vital role in increasing food production of every country. In olden days Traditional Irrigation Methods are used like (i) Check Basin Method (ii) Furrow Irrigation Method (iii) Strip Irrigation Method (iv) Basin irrigation method. After independence used Modern Irrigation Methods like Sprinkler Irrigation Method, Drip Irrigation Method, Pot Irrigation Method etc.

Key words: Irrigation, Check Basin, Furrow, Strip, Basin, Sprinkler, Drip, Pot Irrigation

I. INTRODUCTION

“Plant your tiny seeds and keep watering them every day. Soon, they’ll grow.”

Irrigation helps grow agricultural crops, maintain landscapes and revegetate disturbed soils in dry areas and during periods of inadequate rainfall. Irrigation also has other uses in crop production including frost protection, suppressing weed growth in grain fields and preventing soil consolidation. Irrigation is the application of controlled amounts of water to plants at needed intervals. Irrigation plays a vital role in increasing food production of every country. About three-quarters of the irrigated lands are presently in the developing countries. In these countries, almost 60 percent of the production of major cereals, primarily rice and wheat is derived from irrigation. Since higher yields are obtained with irrigated agriculture and because it is less dependent on the vagaries of weather, it assumes special importance in this regard.

II. OBJECTIVES OF THE STUDY

Primary objectives of the study are,

1. To study the traditional method of irrigations used in western districts of Tamilnadu.
2. To assess the contribution of British in irrigation and water management in Tamilnadu.
3. To evaluate modern irrigation systems in the current scenario of water scarcity.

III. WESTERN DISTRICTS OF TAMILNADU

Western districts also called Kongu Nadu comprises the modern day districts of Coimbatore district, Nilgiris district, Tirupur district, Erode district, Namakkal district, Salem district and Karur districts in the South Indian state of Tamil Nadu. The Western Ghats mountain range passes through the region with major rivers Kaveri, Bhavani, Amravati and Noyyal flowing through the region. Palghat Gap, a mountain pass connects the neighbouring state of Kerala to the region.

Tamil Nadu has historically been an agricultural state, while its advances in other fields launched the state into competition with other areas. Agriculture is heavily dependent on the river water and monsoon rains. The perennial rivers are Palar, Cheyyar, Ponnaiyar, Kaveri, Meyar, Bhavani, Amaravathi, Vaigai, Chittar and Tamaraparani. Non-perennial rivers include the Vellar, Noyyal, Suruli, Siruvani, Gundar, Vaipar, Valparai and Varshali. Tamil Nadu is also the leading producer of kambu, corn, rye, groundnut, oil seeds and sugarcane in India. At present, Tamil Nadu is India's second biggest producer of rice. Tamil Nadu is the home to Dr. M. S. Swaminathan, known as the "father of the Green Revolution" in India. The state is one of the major producers of turmeric in India.

IV. TRADITIONAL IRRIGATION METHODS IN TAMILNADU

The earliest mentions of irrigation are found in Rigveda. The Veda mentions only well-style irrigation, where wells once dug are stated to be always full of water, from which rope strap and wheel pull of water. This water was, state the Vedas, led into broad channels and from there it was diverted to sub channels in order to reach agricultural fields. Later, the 4th century Indian
scholar panini mentions tapping several rivers for irrigation. The mentioned rivers include Sindhu, Suvarstu, Varun, Sarayu, Vipas and Chandrabhaga. Buddhist texts from the 3rd century BCE also mention irrigation of crops. Texts from the Maurya Empire era (3rd century BCE) mention that the state raised revenue from charging farmers for irrigation services from rivers. In Tamil Nadu, the Grand Anicut (canal) across the Kaveri river was implemented in the 3rd century CE, and the basic design is still used today. The koung cola constructed 16 dams on the Noyal river and tanks to store water. The inscriptions mentioned Sangalikaran anai, Kumarasami eri, Sitirachavadi vaikcal, Puluvappati dam, Acchankulam near sulur and others in Coimbatore district. In certain villages of Namakkal taluk which have advantage of Cauvery channel irrigation. The Bhavani tributary of Cauvery irrigated at present taluks of Erode, Gobichettipalayam and satiyyamangalam taluk. The river Amaraavathy and Noyyal were also irrigated sources for nanjai cultivation in Coimbatore district.

The modern method compensates disadvantages of traditional methods and thus helps in the proper way of water usage. Excess water leads to water logging, hinder germination, increased salt concentration and uprooting because roots can’t withstand standing water. Thus the proper method is to be used for best cultivation.


VI. MODERN IRRIGATION METHODS USED IN TAMILNADU

The modern method compensates disadvantages of traditional methods and thus helps in the proper way of water usage. In Tamil Nadu, the modern method involves two systems: Sprinkler system and Drip system. A sprinkler system as its name suggests sprinkles water over the crop and helps in an even distribution of water. This method is much advisable in areas facing water scarcity. Here a pump is connected to pipes which generate a pressure and water is sprinkled through nozzles of pipes. In Drip system, water supply is done drop by drop exactly at roots using a hose or pipe. This method can also be used in regions where water availability is less.

Irrigation should be optimum because even over-irrigation can spoil the crop production. Excess water leads to water logging, hinder germination, increased salt concentration and uprooting because roots can’t withstand standing water. Thus the proper method is to be used for best cultivation.


VII. CONCLUSION

Irrigation plays a vital task in increasing food production of every country. About three-quarters of the irrigated lands are presently in the developing countries. In these countries, almost 60 percent of the production of major cereals, primarily rice and wheat, is derived from irrigation. Since higher yields are obtained with irrigated agriculture and because it is less dependent on the vagaries of weather, it assumes special importance in this regard. Expansion of irrigated agriculture could contribute...
significantly towards achieving and stabilizing food and fiber needs. However, new water supplies for such expansion are limited. Irrigated agriculture is already the largest consumer of developed water resources. At the same time, drainage return from irrigated lands is one of the major causes of water logging and of waters pollution due to salts, nitrates, agricultural chemicals and certain natural, potentially toxic trace elements. The farmers are advised to follow similar methods for cultivation. So that they can produce more yield. i.e. the farmers should follow same irrigation method and crop cultivation method. The farmers should consult the agricultural officers and to utilize the schemes and subsidies provided by the government for the welfare of the agricultural society.

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