



Water management for agriculture under Tughlak Sultans in Northern region

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Abstract

Medieval Indian history is starting mainly from sultanate period. There are some aspects which have made this period valuable in Indian history. Among such aspects agriculture was main part of sultanate. We have much information about the water management system of Delhi Sultanate. There are Many aspects also of agriculture such as method of farming, types of soil for a particular crop, irrigation etc. In this article we are going through about water management system for irrigation under sultanate period specially about Tughlaqs.

Keywords: sultanate period, Water management, agriculture

Introduction

Agriculture and water management

The word agriculture comes from the Latin words ager, means the soil and cultura, means cultivation. Agriculture can be defined as the cultivation or production of crop plants or livestock products. It is the backbone of our Indian economy. It is the basic source of food supply of all the countries of the world-whether underdeveloped, developing or even developed countries.

Water management is the planned development, distribution and use of irrigation water in accordance with pre-objectives and with respect to both quantity of the water resources. Every planning activity that has something to do with water can be looked upon as water management in the broadest sense of the term.

The history of agriculture and water-management is very interesting area of studying and to understand the development in agriculture of modern Indian economy.

Water management for agriculture under sultanate

Under Delhi sultanate there were two types of resource to get water for agriculture, one is natural and second is artificial. It was not possible to get water willingly from Natural resource. but there were some artificial resource to get water. Wells were the major source for artificial irrigation and here we find a distinct improvement was effected during the Sultanate period for water lifting. An ancient works The 'Arthashastra' refers to methods of raising water from rivers, lakes, tanks and wells [1].

Means to get water

The earliest water-lifting wheel in India was the noria or araghatta. Its classic description found in the Samantapasadika, a commentary on vinayapitak, where the araghatta is described as a well wheel with water-pots attached to its spokes. Almost all quotations occurring in Sanskrit and Prakrit literature regarding continuous water-flow from the earthen jars of the wheel are consistent with the noria [2].

There were various means to raise water from wells. Among these one was the dhenkli. Another device was the charasa in which a pair of bullocks were harnessed to draw water. This technique required capital and labour more than the dhenkli as it required one or two bullocks and two men. It could operate in deeper wells and irrigate comparatively larger areas. The Persian wheel {saqiya) was introduced in India, Irfan Habib was the first scholar to suggest that the Persian wheel, with its use of the animal power and the gearing mechanism, was a foreign importation [3]. He also pointed out that the principal difference between the noria and the Persian wheel is that the noria can operate only on an open surface but the Persian wheel can also raise water from deep wells which is made possible by the chain. Babur gives a classic description of the Persian wheel.

"In Lahor, Dipalpur and those parts, people water by means of a wheel. They make two circles of ropes long enough to suit the depth of the well, fix strips of wood between them, and on these fasten pitchers, The ropes with the wood and attached pitchers are put over the well-wheel. At one end of the wheel axle a second wheel is fixed, and close to it another on an upright axle. This last wheel the bullock turns; its teeth catch in the teeth of the second, and thus the wheel with the pitchers is turned. A trough is set where the water empties from the pitchers and from this the water is conveyed everywhere [4]."

Water management policy of Tughlak sultans

Under the Delhi Sultanate, it was Ghiyasuddin Tughlaq, in Tughlaq dynasty, was the first Sultan who thought of opening canals and probably did some minor work on a very small scale [5]. Muhammad Tughlaq gave advance money to the people for digging wells to arrange water for irrigation which helps to cover more area for cultivation. Ibn Battuta has mentioned an unbricked well and the method to draw water from it. In some localities water blocked up by throwing bands upon streams provided another source of to get water [6]. Firuz Shah Tughlaq was also contributed to provide facilities of water through canal. Firuz created the biggest Indian medieval

network of canals. It is written in the Futuhat-i- Firuzshahi, “All are agreed that building canals, planting trees, creating land endowments for the welfare of the public, are meritorious acts under the sharia ^[7].” Afif said that Firuz Shah excavated two canals, the Rajab-wah and the Ulugh-khani to supply water to his new city of Hisar Firozah. Rajab-wah was cut from river Jamuna, Ulugh-khani from Sutlej; both were conducted through the vicinity of Karnal. After a length of about eighty kos, they discharged their waters by one channel into the town. Firuzabad canal started from the vicinity of Mandali and Sirmoor hills and uniting with seven other canals led to Hansi and terminated at Hisar Firozah. A canal was also dug out from the Ghaggar. The modern Western Jamuna canal is the improved restoration of his original canal. This canal which had become choked up, was repaired by Akbar ^[8]. Besides canals, Firuz Shah paid attention to other water management works also. According to Ferishta, he constructed 150 wells, 50 dams and 40 reservoirs ^[9]. Afif also stated that he appointed some officials whose duties was to examine the banks of canal when it was raining season. The supply channels to the Honz-i-Shamsi which was built by sultan Illutmish had been obstructed by some corrupt people. Firuz Shah punished them and started the supply of water again. Firuz Shah also repaired Hauz-i-Alai which was built by Allauddin Khilzi. Such type of water arrangement effort was enough to fulfil the need of peasants for agriculture. Firoz Shah had made a great contribution to the to the tradition of agricultural development by understanding the value of construction means of water management ^[10]. Hisar was so well irrigated by the new canals for both kharif and rabi crops. The king’s revenue also increased by about two lakhs of tankas. To begin with, the king referred to an assembly of jurists the question whether he could lawfully claims any income in return for his outlay, and was informed that it was lawful to take ‘water-right, called Haq-i-Shirb, a term of Islamic law, denoting a right, separate from that of the holder of land, arising from the provision of water ^[11]. The jurists defined this right a ‘one-tenth’ presumably of the produce and the Sultan proceeded to assessment accordingly. Barani also implies that these canals would go a long way towards creating conditions favourable for socio-economic on growth in the areas through which they flowed. Vast areas were brought under cultivation due to the introduction of irrigation facilities. Afif writes about the cities of Fathabad and Hisar Firozah that: “For these two cities, canals were dug and covered the distance of eighty or ninety kos in the region. Between these canals, several towns and villages were located. For example town of Jind, town of Dhatrath, city of Hansi, Tughlaqpur alias Safdon. Each town and village immensely benefitted from the water made available through these canals.” The opening of canals also helped in fighting famines. “If the Delhi Sultanate had remained in health and vigour after Firuz, a permanent famine policy would have been definitely established.”

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