

Vol III Issue I Feb 2013

Impact Factor : 0.2105

ISSN No : 2230-7850

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Monthly Multidisciplinary  
Research Journal

*Indian Streams  
Research Journal*

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**RNI MAHMUL/2011/38595**

**ISSN No.2230-7850**

Indian Streams Research Journal is a multidisciplinary research journal, published monthly in English, Hindi & Marathi Language. All research papers submitted to the journal will be double - blind peer reviewed referred by members of the editorial Board readers will include investigator in universities, research institutes government and industry with research interest in the general subjects.

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## IRRIGATION MEASURES IN THE MADRAS PRESIDENCY

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### Abstract:

*The importance of irrigation in a tropical Madras Presidency can hardly be overrated. Subject as Madras Presidency was to monsoon rains, often precarious, water was as precious as gold itself. Indeed it is considered to be little gold in the Madras Presidency. In the Madras Presidency where the monsoon rains are generally inadequate, artificial irrigation was an imperative necessity. Most of the Madras Presidency, the nature of the cultivation depended largely on the extension of irrigation facilities. The various sources of irrigation in the Presidency are rivers, reservoirs, tanks and wells. In some districts, the facilities of river irrigation were greater than in others. Tanjore was the most favoured. South Arcot was also favourably situated with regard to river irrigation, and to a certain extent, Tirunelveli. Where irrigation from rivers was not feasible, tanks and reservoirs constituted the mainstay of irrigation. The paper attempts to highlight the major and minor irrigation works and irrigation measures undertaken by the Colonial British Government in Madras Presidency through various departments in the late half of the Nineteenth Century. It also seeks to expose the irrigation policy of the Colonial British Government in India in general and Madras Presidency in particular*

### KEYWORDS

irrigation, monsoon, ryots, public works, famine , drought

### INTRODUCTION

Rain water is the prime source and important among all the water resources of India. Since the ancient days , monsoon rain had predicted the prosperity of agriculture in Madras Presidency. During the failed monsoon periods, the importance of irrigation was considered as an acute necessary for the agrarian economy. Irrigation is defined as the science of artificial application of water to the land in accordance with the crop requirements. Besides, the function of Irrigation is to produce a more intensive crop-cultivation with higher yields.1 For the successful cultivation, the peasants depending upon the system of wells, lakes, ponds, tanks, canals, reservoirs and the dams across the water flowing rivers.

### ECONOMIC CONDITION

The British policy on irrigation was based on remuneration. Without income, they reluctantly allowed few works as protective from the floods and famine. For the production of crops, most of the minor irrigation works were undertaken under the famine-relief works. The peasants' economic condition was relegated to the poverty and famine. From 1750 to 1850, the British affected the age-old system of land revenue through the taxation. The people were suffered with the increased price rate and the British had

extracted the taxes of land and water from the peasants. The wages to the agricultural coolies have fixed in varied rates and allowed them to earn annas three per day, women, annas two and children anna one. During the fluctuation of price, rate on food and foodgrains was in scarcity. For Instance, rice was sold at Rs. one anna eight per maund in 1850. After three decades, in 1881, the price of rice was increased about Rs. three annas.

According to Thomas Munro. "the ryots in British India unites in his own person the characters of labourer and landlord, he receives the wages of the labourer, the profit of the farmer on his own stock, and a small surplus from 1 to 20 per cent on the gross produce as rent, but on an average not more than 5 to 6 per cent.<sup>2</sup> Besides this, the ryots undergone the custom of 'Kudimaramat'. Under the Kudimaramat, the ryots contributed their labour for irrigation works without any remuneration.

Under the East India Company administration, the management of Public Works had been clubbed with the Maramat Department of the Board of Revenue, the Trunk Road Department and the Engineering Department of the Military Board. In the Madras Presidency, up to 1854, the construction and management of all Public Works was entrusted to Army Engineers under the superintendence of Military Board. The important engineering personnel were John Colvin, Proby T, Cautley, Arthur Cotton and S.L. Jacob. They were all worked well and had the heuristic knowledge on the construction of civil works.

#### **PUBLIC WORKS DEPARTMENT**

The reports of the Public Works Commission in 1851-1852 and 1852-1853, stressed that the Board of Revenue was no longer able to deal with the business of the Maramat Department. The Commission recommended for a Public Works Department. Eventually, the Government of India at first formed the Madras Public Works Department in 1858. This Department supervised the Public Works of the whole Presidency, which was divided into 87 Executive Ranges. After 1857, the British had preferred least in the construction of canals. The farmers were relied upon the ancient methods of irrigation with the assistance of wells and tanks. Exactly, from 1757 to 1947, the bullock and wooden-plough were used in agriculture. The farmers had relied upon agriculture for the subsistence of life without any farm technology.

After 1858, the works of irrigation were undertaken under the famine-relief works. For the proper maintenance, in 1867, the Chief Engineer for Irrigation was appointed by the Government of British India. The Chief Engineer for irrigation did all the due works and proposed to execute the new works in the Madras Presidency. He had shouldered the full responsibilities on the development of irrigation. To know the actual condition of irrigation, the district-wise Collectors were asked to report the same to the Government. As to the order of the Government and the Chief Engineer for Irrigation, the respective District Collectors sent their annual reports on land revenue, remission of taxes, famine, flood-relief works, drought condition, irrigation and crop-production. The Peasant's demand for the remission of taxes on land and water were allowed on the basis of the reports. Further, to execute the works of irrigation, a separate irrigation branch was formed in 1867. To mitigate the severity of drought and famine, Major P.Montgomerle, the then the acting Deputy Chief Engineer for Irrigation, recommended to the Government that "the present and future development of irrigation and agriculture were depends upon the works of irrigation".<sup>3</sup>

Further, the Governor-General in Council had recognised that extent of irrigation in Madras is much greater than in other Provinces of India and therefore the requirements of revenue and irrigation administration must be considered of primary importance.<sup>4</sup> Besides this, the more intimate association of the revenue and the Public Works officials was needed. For the effective works of irrigation, in 1877 irrigation branch was made an independent branch under the Chief Engineer for Irrigation.<sup>5</sup> Since 1867, the irrigation schemes were investigated and to be carried out by loan funds but no schemes were preferred useful in the event of famine nor considered by the Government. However, the cost of Irrigation works, maintenance and repair had been accepted by the Government as 'Imperial revenues'.<sup>6</sup> The Collector of Coimbatore was Sullivan, who had stated that the works of irrigation of Cauvery systems, Krishna and Godavery were regulated and controlled by the Public Works Department. Besides, the regulation of water supply was confined through the irrigation overseers (watchmen) of the Irrigation Department in each village.<sup>7</sup>

From 1865-1866 to 1875-1876 (Fasli 1275-1286), a decade of development of irrigation was observed in the Tamil Districts of Chengleput, North Arcot, South Arcot. Tanjore, Trichinopoly, Madurai, Tirunelveli, Coimbatore, Nilgiris and Salem. During this period, the development of irrigation decreased. Except the Nilgiris, the other districts had been irrigated totally about 1840,200 acres in 1865.<sup>8</sup> Compared to the acres of irrigation benefited in 1865 to 1876, it was clear that due to the outbreaks of famine in 1875 and 1876, the total area of Irrigation was about 174,675 acres and 140,525 acres were let off as

unirrigated.<sup>9</sup>

In this situation, the entire minor irrigation works of wells, canals and tanks had been assisted to the wet cultivation. Tank irrigation was practised throughout Southern India. In the Madras Presidency, the total number of tanks in good condition was not less than 40,000. Besides this, ten thousand tanks were in bad condition.<sup>10</sup> However, it was estimated in average, each tank irrigated two or three acres. In all means of irrigation, the supply of water was not sufficiently distributed to the irrigated lands. During the years 1875-1876, 136,000 acres was left waste as uncultivated but the assessed sum of Rs.5,78,000 was collected. During the periods of famine, flood and drought affected areas of the country, irrigated lands left as uncultivated was 240,000 acres. Remission granted by the Government was a sum of Rs.22,42,000. To avoid this, it was felt that the economical distribution of water from the State Irrigation Works was necessitated.

Due to the sequential failure of the monsoon rains, the outbreak of famine (during 1876-1878) was unusually widespread as well as persistent. Impacts of the famine were more than the provided relief works on irrigation. The famine had distorted the ryots condition in dismal in the fourteen districts out of twenty-one. As per the 1871 census, out of the famine, surface of 83,000 square miles was in dismal and distress to a population of 19 million. Around 3.5 million people died due to extensive and general failure of food or water, or both. The remaining people were gone to the towns like Madras. During this famine, 12,000 people were migrated to Madras in search of food from Bellary, Kurnool and Hyderabad. The ryots of 80,000 from the Districts of Chingleput, North Arcot. and Nellore were settled in Madras as labourers. Migration to Sri Lanka, Mauritius, Natal and West Indies also increased. For instance, 101,093 people went as labourers from Madras District to Sri Lanka. Above all, as relief to the famine affected parts of the Madras, by December 1877, 470,000 were worked under relief works on irrigation. In July 1878, relief was still being provided for 200,000 people.

Throughout Nineteenth Century, especially during the Madras famines of 1875-1878 had witnessed that the famines in India precluded the natural causation of delay of seasonal rains, unusual drought and famine. Due to the failed seasonal rainfall, the food-crops yielded very less or nothing yielded for the subsistence of the population. Hence, the land tax assessment in the Madras Presidency was assessed according to the products of land. During the years of 1878-1879 and 1881-1882, the assessed estimate was at one-half of the net produce on irrigated land and one-third of unirrigated land. The waste lands were set aside as rent free lands for a period of ten years. In due course, if the waste lands brought under cultivation it was accounted for the taxation on the basis of wet or dry land cultivation. On the whole, the gross revenue from irrigation during 1883-1884 was Rs.2.16 crore or an average of Rs.3 annas and 14 paise per acre. Nearly, three hundred years from 1600-1900, the British had taxed upon the peasants than the execution of new works.

In order to provide the sufficient food, each ryot bound to be cultivated two acres out of the total cultivated acres of 20,000,000.<sup>11</sup> In this, one acre of irrigated land (of which there are 5,000,000) to be equivalent to 1,000 acres of dry cultivation with the actual production of an acre of paddy cultivation which was about 2,240 lb. of paddy or 1,200 lb. of rice. It was well experienced that the production of food-crops depends upon the rain and the substituted irrigation water. Even though all the facilities were as gifted to the crop-production, it was hardly possible to decide how much land to be brought under irrigation to the synchronisation of increasing population.<sup>12</sup>

The Government of India had preferred much on minor irrigation works than the "Imperial Works". Because, all the minor irrigation works were indigenous in character and practised in many centuries. Moreover, the minor irrigation was an immediate response and well substituted as short-term irrigation.<sup>13</sup> For the repairs and maintenance, the ryots who had been benefitting were asked by the Government to hold the responsibility as well as worked as the wageless voluntary labourers on irrigation works. However, the wells, lakes and tanks were dried during the delay of monsoon and drought. Due to the failure of rain, the harvesting crops failed to ripen. Besides, the untimely showered heavy rain cause for river floods and damage to the crops. After many incidents of famine, flood and drought, the Government of Madras had decided with the approval of Imperial Government of India, for the execution of new irrigation systems as permanent measure to the flood relief. After observing chosen the nature of works, irrigation financial estimation, investment, revenue to the Government were taken for the consideration under the appointed select committee. A committee was appointed under the Chairmanship of Lord George Hamilton in 1879, which ascertained that the works of irrigation were more important for the famine and flood relief works.

Further, the Committee reported that the execution of large irrigation works and anicuts would relieve the distress of people as well as an assured water-supply would be increasing to the crop-production. For the selection of a project or anicut, the 'productivity test' was taken for consideration. In short, the 'productivity test' connotes that on the basis of remuneration, that is, in favour of the British income on the

invested money, 30 few major systems or irrigation were allowed to execution. Due to the natural outbreak or calamity of 1898-1897, the minor works were preferred than the Imperial Works. Hence, both the major and minor works were executed under famine-relief works.<sup>14</sup>

In all, the British Government reluctantly approved few protective works as unprofitable. Since the Finance Commission formed in 1887, the financial returns or revenue to the Government was persistently insisted to the Famine Commissioners.<sup>15</sup> The Famine Commissions and Commissioners were also reported that the agricultural improvement was inferior and suggested expenditure on direct agricultural improvement. In the name of improvements the Irrigation Department acted as a Commercial Department. The British interest on agriculture was nothing but commercialisation of agriculture.<sup>16</sup>

In the closing decades of the Nineteenth Century, especially, from 1880-1900, the Madras Presidency was established with the minor irrigation works. During the year 1887-1888, allotted as well as the outlay on minor irrigation was Rs.3,00,000 and Rs.2,92,181 against Rs.2.75,000 and Rs.2.60,000 in the previous year. The expenditure during this year was about 95 per cent of the allotment.<sup>17</sup> The Chief Engineer for Irrigation in Madras was Col. Mead, who had recommended for the tank irrigation in 1887 and stated that, 'much can no doubt, be done to improve the existing supply to tanks If Government prepared to accept the benefit to the ryot as a sufficient return for outlay incurred and to consider the works as entirely protective in nature The importance of minor Irrigation was felt much.<sup>18</sup>

And the Famine Commission of 1880 had recommended for the starting of 'Tank Restoration Scheme' in 1892. After four years, in 1896, a permanent minor irrigation establishment was sanctioned and the works were undertaken under the supervision and control of the Collector of the district. For the convenience, all works irrigating over 200 acres are incharge of the Public Works Department while those irrigating 200 acres and less are incharge of the Revenue Department.<sup>19</sup> In spite of all the positive measures on irrigation, the ryots condition was static and often chained by the natural calamities of famine, flood and drought in 1896-1897. During this famine, the ryots preferred to send their wives and children to eke out their daily life.<sup>20</sup> According to John Elliot, The drought of 1897 extended to Southern part of India (Bombay, Madras and then to Central Provinces) and was more severe than had occurred during the 37 previous 200 years. Precisely, from 1700 to 1900. the history of irrigation was nothing but the development of minor irrigation work were carried on.

#### IMPACT OF THE IRRIGATION WORKS

In the dawn of Twentieth Century, the history of irrigation had marked its adventure through the operation of many irrigation works In India. Thorough study of the Nineteenth Century, portraits the footprints of the British Engineers for irrigation, namely, Col.Arthur Cotton, Col. Pennycuick and the most important personality of Col.Scott Moncrief. In 1901, the Indian Irrigation Commission was appointed under the Presidency of Col.Scott Moncrief. The Commission submitted its report in 1903. The cardinal feature of the report recommending definite lines of policy regarding the selection, financing and maintenance of irrigation works, dealt in detail with due consideration. Eventually, the large irrigation works were undertaken in India and supported to the provincial irrigation works. Positively, the Madras Engineers were surveyed and reported the actual cost, site of a project or dam to the Government of India. In particular, the impact of the Commission on the Madras Presidency was a stepping stone to the more number of productive and protective works in the river basins and other places. By all means, the purpose of irrigation was achieved through the succeeding crop-production.

Thus, the above illustrated facts revealed that the importance of irrigation was felt much in 1651 and after. For the effective administration of irrigation works, in 1658, the Public Works department was formed. Herewith starts the gradual development of irrigation and agriculture in the Madras Presidency. The Indian Famine Commission was appointed under the headship of Anthony Macdonell, who recommended for the large irrigation works. Hence, the second half of the Nineteenth Century was the period of irrigation development with the sequential incidents of famines, flood and drought. In the name of irrigation, the British tried and proved their best for the collection of land and water taxes. In all, the British extraction of agricultural surplus and its transmission to the British treasury in the mode of cash, from periphery to the core, was the main character of colonial irrigation and agricultural administration.<sup>21</sup>

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