

Breaking The Monolith: Interpreting Irrigational Developments in Colonial Andhra, C. 1850-1900

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Abstract: *In this article, we are going to focus on the irrigational activities in colonial Andhra Pradesh. We find an agrarian transformation brought about by canal irrigation under the Krishna Anicut (dam) which in turn led to the process of commercialization in agriculture. Thus, paddy normally taken as a 'Subsistence crop' played a progressive role by enabling the cultivators to produce for the market, accentuate the process of modernization. We should also take into consideration the response of the Andhra cultivators to the emerging food – surpluses. This process of commercialization also influenced the credit, land and labour markets. Moreover, an interesting aspect of the agrarian change was that the benefits of the growth process did not reach the rural poor, who constituted nearly one-third of the population. Another aspect of the change was the divergence of interests is crop-choice between the stated objective of the irrigation system and the preferences of the farmers.*

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Introduction

The writings on the economic history of India have long been dominated, if not suffered, by different kinds of grand narratives which tend to overlook the regional diversities of the subcontinent. This demonstrates the dominance of a well-established mainstream by suppressing and marginalizing the voices of the peripheries. The present article is a humble attempt to trace the peculiarities of a particular region, in this case Andhra Pradesh, to refute the dominating attitude of the mainstream-oriented grand narratives. It is only by breaking the monopoly of the monolith, we would be able to get a more nuanced and complicated picture of the economic scenario of the subcontinent.

Initially, the colonial historians, many of them were also administrators, denied the fact that India could have its own economic history as they perceived the Indian subcontinent to be very stagnant in nature. They tried to glorify the British rule by arguing that due to the colonial regime, India experienced unprecedented prosperity in economic scenario. But they mainly concentrated on the Gangetic Doab region and tried to project the picture of Indian economy to be a homogenous one. Thus, a monolith was developed centred around the conditions of mainly the Gangetic Doab region.

The Nationalist writers like Dadabhai Naoroji, R. C. Dutt vehemently criticized the British grand narratives. Along with them G. V. Joshi, G. S. Iyer, Prithish Chandra Ray and hundreds of their political workers and journalists analyzed the impact of colonialism over Indian economy. They concluded that colonialism was the main obstacle to India's economic development.¹ But they also failed to notice the regional differences and described the story as a form of monolith mainly based on the experiences of Gangetic-Doab region. They might have political reasons, there might be several problems to recognize the heterogeneity of the Indian condition during the period of anti-colonial freedom movement, but we have to admit that they also got trapped by another kind of monolith while dealing with the economic condition of such a vast country full of diversities.

Thus, in order to get a more complicated glimpse of the picture we have to take into consideration the heterogeneous character of different regions. Every region has its own kind of peculiarities. Thus, each of them experienced different kinds of economic development.

In this article, we tend to focus on the irrigational activities in colonial Andhra Pradesh. The engineers, administrators and scholars provide a wealth of information regarding the impact of irrigational activities in colonial India. In the later period several economists and historians like B. N. Ganguli, D. R. Gadgil, E. Whitecombe, A. K. Bagchi, D. W. Attwood etc have analytically dealt with the issue. But we find that most of these studies mainly concentrate on the conditions of Gangetic valley, north-western and western India. Thus, these scholars failed to grasp the nuanced picture of the interaction between irrigation and agrarian change in the other parts of India. This present article makes a humble attempt to throw some light on the impact of the irrigational projects over the agrarian condition of colonial Andhra Pradesh.

In this paper, an attempt has been made to analyze the impact of canal irrigation on the agrarian economy of colonial Andhra during the period c.1850-1890. Thus, we try to argue

that the impact of the irrigational projects varied from region to region. Furthermore, due to environmental differences and different kinds of land revenue settlements each region experienced divergent kinds of development. We find an agrarian transformation brought about by canal irrigation under the Krishna Anicut (dam) which in turn led to the process of commercialization in agriculture. Thus, paddy- normally taken as a '*subsistence crop*'- played a progressive role by enabling the cultivators to produce for the market, accentuate the process of monetization. We should take into consideration the response of the Andhra cultivators to the emerging food-surpluses. This process of commercialization also influenced the credit, land and labor markets.

Environmental Variations

Irrigational activities depended on environmental situation. Indian subcontinent is full of regional diversities. Thus, every province in India has its distinct irrigation requirements. In the alluvial basins of the Ganges and the Indus the most suitable irrigation works are canals from these rivers; while away from these rivers, wells are the most suitable. R. C. Dutt mentions that in Bengal with its copious rainfall, shallow ponds are the most suitable works and these were the numerous in the olden times, sometimes of very large dimensions.² In Madras and Southern India, where the terrain is undulating and underlying rocks retains the water, the most suitable irrigation works are reservoirs made by putting up large embankments and thus impounding the water descending from hill slopes. Such were the old reservoirs of Madras. Thus, as a consequence, the irrigation system had its own kind of variations.

The state of Andhra Pradesh is generally identified as a middle-income state with a prosperous agricultural sector. River basins are important sources of irrigation for agriculture in the state. About 75% of the area is covered by the river basins of the Godavari, Krishna and Pennar and their tributaries. There are also other smaller rivers like the Sarada, Nagavali and Musi, as well as several streams. Godavari and Krishna are the two major perennial rivers and with their extensive canal system provide assured irrigation.

Irrigation developed with the initiatives adopted by the state. Since 1830, as far as the irrigation system of India is concerned, the state has been the architect, entrepreneur, engineer and manager. The government was the provider of irrigation and the farmer a passive recipient. Ian Stone points out that the government determined the nature of water supply and the terms on which it was made available.³ Government terms varied from region to region, even there were differences in terms of water supply. The colonial government initiated different kinds of land revenue systems. In Bengal, they introduced Permanent Settlement whereas in Punjab we find the existence of the *Mahalwari System*. In the southern region, Thomas Munroe introduced the Ryotwari Settlement. These differences in the land revenue settlements had also profound impact over the irrigational activities. Thus, due to the Ryotwari Settlement, the irrigation system of colonial Andhra had its own kind of specificities.

Pre-Anicut Period

Ratna Reddy states that during the pre-British era, the villagers used to take initiative and

responsibility for maintaining the irrigation works.⁴ The state itself played a role of benevolent promoter of rural initiatives. The state provided '*dasabandam inams*' to maintain the irrigation system. Dasabandamdars were largely taking care of the tanks, whereas the institution of Kudimaramat maintained river and spring channels and water courses.⁵ Irrigation developed under the British rule began with the renovation, improvement, extension of existing works.

The interest of the British government in increasing public investment in irrigation was to gain higher revenues. Loan sanctions were made only on the basis of expected returns. From the letters of the collectors to revenue board officials, Reddy points out that the sanction made for the irrigation works were much less than the estimates, though the revenue from those works was much higher than the amount spent. The colonial rulers in their pursuit of high profits totally neglected minor irrigation works developed by the native rulers. Even they did not pay much attention to maintain the already established works. They abolished the dasabandamdars and destroyed the system of community management of irrigation systems by local people. They only used to spend money on the maintenance of those big tanks where the returns were substantially high.

It also appears that the British government was averse to large scale investments on irrigation works which were less remunerative, though they were socially beneficial. In the case of Ongole division we find that a sub-collector felt that irrigation was not necessary for subdivision due to the low remunerative nature of the works.⁶ Their only interest was to extract as much surplus as possible from the naturally better endowed regions through various methods. Thus, the backward regions were not given due importance in the allotment of finances for irrigation, which resulted in the aggravation regional disparities.

During the British period, the first attempt at a systematic survey and settlement in the Madras Presidency was made in 1802. For the first time, settlement was made individually with the cultivators, while the village headman was held responsible for default. The assessment of irrigated land in the Madras presidency was in all cases a consolidated payment which represented in one sum the assessment of land and the charge for its irrigation. The assessment used to range from Rs 2 to Rs 9 per acre depending on the nature of the soil and the character of irrigation. The system of consolidated tax was considered the most appropriate for lands irrigated under the vast number of small reservoirs or tanks which were maintained efficiently at public cost.

G. N. Rao argues that the agrarian economy of coastal Andhra was in a state of stagnation followed by decay in the first half of the 19th century. The introduction of the Ryotwari Settlement had strengthened the forces of exploitation in agriculture.⁷ Several causes like unfavorable seasons, depression in agricultural prices, abolition in 'Governmental Factories' in 1829 and consequent outmigration of weavers, famines and decline in cropped area had not only resulted in a sharp fall in land revenue but also accentuated the misery of the agrarian community. Exports of piece goods fell at an alarming rate. The frequent occurrence of droughts and famines also slowed down the rate of growth of population, resulting in forced cultivation. Irrigation was neglected and transport by road and water was in a miserable state

of affairs. Rao thus maintains that cultivation became an unprofitable proposition during the first half of the 19th century.

Anicut Era

It was at such a time that an anicut (irrigation dam) was established across the river Krishna at Vijayawada in the early fifties.⁸ The anicut across the river Godavari was built with the following objectives- 1) laying the foundation for the complete irrigation for a rice crop of the whole delta of Godavari and part of Krishna, 2) opening the way for the conversion of the delta from a mere grain district to a sugar plantation one, 3) a complete system of internal navigation intersecting the whole of the delta, to be established throughout the year, and 4) to increase the value of the produce from the present Rs 30 lakhs to Rs 200 lakhs etc. Irrigation injected forces of dynamism into the agrarian economy, writes Rao. However, these potentialities could not be exploited fast during the initial period due to the continuation of a system of burdensome taxation on the cultivators. The government in order to exploit as much revenue as possible used these irrigation works as a profit-making venture which in the pre-British era was used to maintain the interest of the farmers. Reddy points out that the land revenue management was divided into two sectors- 1) land revenue ordinary and, 2) land revenue irrigated.⁹ This burdensome taxation system acted as an impediment to agricultural expansion and growth in the immediate post-anicut period. This also indicates the exploitative nature of the colonial rule.

In Andhra Pradesh, irrigation works were undertaken by government and the private companies. Naturally, the irrigation charges were higher in those areas where the supply was scarce and irrigation was provided by the private agencies. Reddy says that in the deltas of the Godavari and the Krishna the government water rate used to be Rs 4 per acre, whereas in Kurnool district which was less fertile, and the supply was precarious, the irrigation company used to charge Rs 6 per acre. This may have been due to the paucity of water coupled with the private management of the irrigation systems. Thus, the presence of private irrigation companies might have added to the problem.

The colonial government left the less endowed regions, where the rate of return was slow to the private companies and kept the better endowed regions, where the profits were much higher. This also implies that the colonial rulers discouraged farmers in maintaining irrigation system on the one hand and encouraged private people to earn profits through irrigation development on the other. This in turn resulted in the non-participation of the community in developmental activities which are considered very important.¹⁰

Types of Irrigation

The colonial government tried to utilize all the 3 sources of irrigation, i.e., canal, tank and well, though the attention paid to canal irrigation was more due to its wider coverage and hence better returns. However, the water charges were almost the same for all of these 3 sources of irrigation. Actually, here we find some similarities with the other areas in terms of the aim of the government behind undertaking the irrigation projects. Ian Stone argues that canal

irrigation was a cultural expression- in its design, modes of operation and intended effects- representing the priorities and aspirations of its western architects, and thus was interlinked with colonial rule.¹¹ The main objectives of the colonial administrators were almost similar- 1) they tried to spread the commercial crop through which they wanted to ensure their official effort of agricultural improvement, 2) they tried to prevent famines, which would help them to maintain their political security, 3) they always tried to extract as much revenue as possible. Thus, even while dealing with the regional history, we should not treat the region to be an isolated place. Rather, in certain cases there might be prompt similarities which should also be focused on. Nevertheless, there were certain differences which should not be overlooked.

Now, we are going to discuss several types of irrigation systems prevailed in Andhra Pradesh and also their impact on the cultivators. In colonial Andhra, 3 types of irrigation system prevailed. This difference also influenced the peasants in various ways. Thus, even within Andhra Pradesh, we find regional variations regarding the irrigation projects and their impacts.

Canal Irrigation

Ratna Reddy is of the opinion that canal irrigation works were grouped into class 4 classes.¹² Class 1 works were productive public works for which capital and revenue accounts were kept. Class 2 works were agricultural works for which capital and revenue accounts were kept. Class 3 works were public works for which capital and revenue accounts were not kept but a continuous record was maintained, while class 4 works were imperial and minor works for which neither capital and revenue accounts were kept nor a continuous revenue record was maintained. It can be observed that the average land assessment, and water rates were higher for class 1 works than for class 2 works. These high rates along with the higher proportion of area covered under class 1 works might be the reason for the higher proportion of surplus revenues in their works. As far as the class 3 works are concerned the rates were the highest of all the classes of works and the area covered was higher than that of class 2 works. The imperial works dominated the class 4 works both in terms of land assessment and water rates though the area covered under the minor works was more.

The interests of individual farmers were totally neglected in the amassing maximum revenue, which ultimately benefitted the colonial state. Apart from enhancing their revenues through extensive irrigation with insufficient water, the colonial rulers spent little money on maintenance of the irrigation projects. The poor maintenance coupled with inadequate supply of water aggravated the crisis. It was observed that the supply of water was precarious not so much due to the paucity of water but by the condition of the channels. Thus, in the post-anicut period, initially agriculture suffered heavily due to the shortage of water and rigid rule. But after 1877, the area witnessed a tremendous agricultural expansion.

Now, let's focus on the crisis faced by the cultivators in the initial years for the poor maintenance of the colonial state. Year after year the failure of the irrigation systems was feared and often experienced. Some of the channels were too narrow to carry the requisite volume

of water. Insufficiency of water associated with high water rates and with some disagreeable rules, resulted in the abandoning of wet cultivation in many areas from time to time. Farmers used to prefer dry cultivation or no cultivation to wet cultivation as they were not allowed to discontinue the wet cultivation once they had opted for it and were forced to pay the water charges irrespective of the usage of water. Due to this irrational and rigid rule, farmers were apprehensive taking up wet cultivation. Further there were instances where five 'punjah' (dry) lands had become 'choudu' (saline) and worthless under irrigation. These *choudu* lands became less fertile. Moreover, the cyclone of 1864 affected the peasants adversely. Thus, they wanted to return to the dry cultivation. The peasant agitation broke out in the Talluk of Reppal. In addition to this, the peasants of Kollur and Vellatur were opposed to the process of wet cultivation which hampered the agricultural growth.

The revenue board had to permit the peasants whose lands were affected by *choudu* to return to the dry cultivation. The peasants were permitted to give up wet cultivation till the third year. But it did not appear to be encouraging because of the possibility of soil turning saline after three years of irrigation. Besides using this rule, the government used to keep the water rates low in the initial years of projects to encourage farmers to take up wet cultivation and increase the rates in the subsequent years. Reddy provides an example of the Krishna delta where the water rates were Rs 1 annas 8 paise 1 in 1861, the year of starting irrigation, which rose to Rs 3 in 1862 and to Rs 4 in 1865.¹³ This in turn affected the farmers who take up wet cultivation in the beginning due to reasonable water rates with better water supply and wound up paying high rates with poor water supply. In the zamindari areas it was also checked by violent conflicts between zamindars and peasants such as occurred in the Nuzvidu zamindari in 1870. The average rate of assessment in the Ryotwari taluk of Gudivada was 5.81 per acre. Only on highly fertile lands, the rate went upto 7.50. But in the neighboring Nuzvidu zamindari even on ordinary lands the charge was Rs 10 and above. Most of the zamindars of the Krishna district and especially the Nuzvidu and Vallur were well off to assist their ryots in times of famines but they had been extremely unwillingly to do so. With such a system of tax collection, agricultural expansion in general and wet cultivation in particular was bound to suffer.

Tank Irrigation

The colonial state did not pay much attention to the development of minor irrigation. Their contribution towards minor irrigation was only to the extent of maintaining some of the works from which revenues were substantial. In the earlier years, farmers were allowed to use the water, from the state abandoned tanks free of charge. But they had to maintain them at their own cost. But in the later years, this policy was discontinued and the government started collecting water charges even on these tanks that were maintained by the farmers. For instance, in Cuddapah district, the rate was fixed at Rs. 3 per acre and had to be paid whether the lands under the tanks were cultivated or not. Water charges in this kind of irrigation seem to be more exploitative than in the case of canal irrigation because here farmers, once their land was listed

as irrigated, was forced to pay for the water even in the years when there was no supply of water from the tank due to the low rainfall.

One of the colonial administrators Molony pointed out that nearly two-third of the land in Cuddapah taluk was absolutely out of cultivation and ryots were impoverished and their lands were rapidly passing out of their hands into those of moneylenders. The colonial state not only neglected the traditional system of tank irrigation but also discouraged the farmers for using it through higher water rates, poor maintenance etc.

As a consequence, farmers used to feel that the government charged them for the improvements made at their own expense. As a result, large tracks of land were kept out of reach of the people, thereby, denying them on honest livelihood. The imperialist state, in the interest of higher revenue, instead of encouraging farmers to take up wet cultivation deterred them from doing so by these heavy charges on water. For example, the delta taluks of Godavari and Krishna districts, where water was relatively abundant the water rate was only Rs 4 per acre, while it was Rs 5 in Kurnool district where the supply was precarious.¹⁴ Even in the regions of tank irrigation, farmers were forced to pay the full wet rates irrespective of quantity of water they got. More often, wet cultivation commenced with government water (tank) but the crop would have been brought to maturity with the help of a private well water because invariably the tanks went dry in the middle of the season. Besides, the farmers were charged 3 to 4 times higher water rates, compared to other districts, due to the insufficiency of water supply.

Well Irrigation

The colonial state tried to extract revenues from everywhere. They did not even exempt the well irrigated lands. For the first time, well irrigation, purely a private owned system, was brought under wet assessment with the following rules- 1) no water rate was to be charged on dry land irrigated solely from private well, wherever it was situated, 2) in wet land, provided the tank or other work received no supply of water during the period the crop was on the ground. Crops raised under irrigation from private wells were to be charged- 1) in single crop land, for the first crop dry rate and half the dry rate for the second crop, 2) in land where second crop charges were compounded single dry rate was charged.

The British government brought the well irrigation, which was left without any change earlier, under wet assessment due on the ground that the wells near the tanks would reduce the area irrigated under the tanks and hence the revenue. But here we also find differences in the rules for charging ell irrigated lands as these varied from district to district. In Krishna district, wells situated in the middle of the wet anicuts were only used to supplement the water supply from tanks and they were not charged. In Godavari district, no water rate was charged in any case of lands irrigated from wells, if they were not sunk within the prohibited distance, i.e., 10 yards of government tank.

In their desire to amass surplus revenues the colonial rulers did not exempt even jungle and mountain brooks which were used for irrigation for short periods. The argument was that they should not be exempted as they eventually benefitted the government tanks. These

streams were charged with either wet assessment or water rates. The district revenue director of Chandragiri taluk rejected the proposal for exempting spring channels. Thus, the development of irrigation under the British was nothing but a process of exploitation.

Commercialization of Agriculture

After 1877-78, the agrarian sector of Andhra got the taste of commercialization as the total cropped area increased significantly. Overall, the share of food crops in the total cropped area fell about by 4 % while the non-food crops enlarged their share of total cultivated area. But among the major non-food crops, cotton suffered a decline in terms of both area and share in the total land under cultivation during the last quarter of the century. At the same time, oil seeds, indigo, spices witnessed an increase. Although the share of food crops in the total cultivated area declined over the period, rice increasingly became a major crop. Moreover, a railway line was laid in 1891-92 providing some relief for the Krishna cultivator. This helped in accelerating trade and augmenting the process of commercialization of agriculture.

With an increase in the area under paddy and increasing transport facilities and with the fast emergence of market towns of Guntur, Tenali, Vijayawada, commodity markets were emerging. Paddy was gradually assuming a commercial dimension. The peasants wanted to sell their paddy in the market towns. Initially the peasants especially the *Kammas* were depended on the trading caste *Komatis*. But they eventually tried to transport their surplus grains to the market towns on their own. Thus, improved transport facilities and the rise in grain prices generated a market-consciousness among the peasants.

With the expanding commercialization the *Kammas* became far more significant than the *Komatis*. The cultivators themselves indulged in trade sometimes and thus the distinction between traders and cultivators might be blurred. The *kammas* tried to establish direct links with the markets but they were no full-time traders. Once the surplus was disposed of, the peasants would return to his local factional politics, moneylending, consolidation of their power at the village and taluk levels- activities which increase his status in an agrarian society. In about three-fourths of the cases, land was purchased by the *Kammas*. The demand for land among the *Kamamas* had increased over time. Thus, the prices of land rose up.

Conclusion

Thus, to sum up it may be argued that Andhra irrigation had its own peculiarities. A. T. Cotton initiated the anicut project to transform paddy and sugarcane to be cash crops. David Attwood points out that due to the irrigation system of the Nira Left Bank Canal sugarcane industry developed in Maharashtra.¹⁵ But in the case of Andhra sugarcane became less important. Rather, paddy, oilseed, indigo found their place in the market as the most important commercial crops.

But an interesting aspect of the agrarian change was that the benefits of the growth process did not reach the rural poor, who constituted nearly one-third of the population; this was a striking paradox in the agrarian economy. Another aspect of the change was the

divergence of interests in crop choice- between the stated objective of the irrigation system and the preferences of the farmers.

The British government introduced several measures in the agricultural sector to extract the maximum amount of revenue. So, they established anicut in Andhra. It is true that such kind of attempts were also made in other parts of India. Andhra Pradesh was in no way an isolated place. But due to the specificities of this region the anicut project had a profound impact over the agrarian economy which was really unique in its character. The effect it had on the peasantry was also different from the other areas. With the commercialization of agriculture, the nature of the agricultural community also got transformed. This would in turn affect the credit market and the land market.

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