



## CONCLUSION

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The archeological findings prove the fact that Tiruchirappalli has a history like any other ancient citadels of India. The early settlements on the banks of the Cauvery bore evidence to high materialistic mode of the life of the people. Tiruchirappalli district is privileged by the river Cauvery. The Cauvery is one of the major rivers of the Indian peninsula and it is the most important river of Tamil Nadu. There are 33 river basins in Tamil Nadu, in which the Cauvery basin is the largest. The other important rivers flowing through the district are the Amaravathi, the Aiyar, the Karuvattar, the Nandiar and the Vellar. The vast development in the cultivation was the result of the opening of the Mettur Reservoir in 1934 and the New Kattalai High level channel and Pullambadi Canal in 1959. During 1934 the net area under Cultivation was 12,71,941 acres. Later it increased as 20,43,571 acres during 1974. Irrigation was introduced on a large scale. Irrigation by means of canals, tanks and wells also increased. Due to this, development the total area irrigated during 1934 was 2,77,666 acres and it increased to 3,97,959 acres during 1974 in Tiruchirappalli district.

The Green Revolution in 1960's really brought in a spurt in agriculture. The provision facilitates multiple cropping and increases crop productivity. Expanding agricultural production, increase in the demand for the output of other sectors, notably fertilizers, pesticides, machinery, transportation and communication varying with the level of technology used in agriculture. At the same time, agriculture provides the raw material needed for agro-based industries such as cotton, textile, sugarcane and

vegetable oils. Owing to these factors economic growth has taken place in Tiruchirappalli district.

The Tamil kings created several irrigation works. Records of the earliest irrigation works are found in Sangam literature. The Chola period was the golden age of *Sabha*. The members of *Sabha* looked after Erivariyam or tank supervision committee and this committee was in-charge of constructing the tank and removing the silt from it. The Grand Anicut was the most important irrigation structure that was built in the second century AD by the kings Karikala Chola. This Anicut functions to retain the supply in the Cauvery and its branches and passes on the surplus into the Coleroon through the Vellar river. There were 13 channels built by the Chola kings. In 1845, Sir Arthur cotton constructed Upper Anicut. During the British period various repairs and restoration of minor irrigation and several major improvements were carried out to the Grand Anicut and the Upper Anicut. During the five year plans the first two five years plans (1951-56) and (1956-61) gave top priority to irrigation development and power generation.

On the basis of Madras-Mysore Agreement of 1924, the Cauvery-Mettur Reservoir was constructed in 1934. This project has certainly improved the ecological conditions in the delta by saving monsoon floods besides improving the agricultural prospects. The inflow of Mettur Reservoir went as low as 188 TMC in 1965-66 due to failure of the south-west monsoon and swelled as high as 750 TMC in 1961-62 due to heavy floods in the Cauvery basin. Most of the inflows in this reservoir is used for the irrigation system. In 1966, the Mettur Tunnel power house came into operation with 200 mega watt and later it was increased to 240 mega watt. Several industries were established in the Mettur Township. These industries added to the wealth of the state and also provided employment opportunities.

The Cauvery-Mettur project also provided drinking water supply. Boating in this reservoir is an entertainment, which provides recreation and promotes tourism. Hence the old environment has certainly improved after the construction of the Cauvery-Mettur Reservoir.

The canal irrigation was a major irrigation system in Tiruchirappalli district. The Kattalai scheme of 1933, comprises of the ayacut of north bank canal including Kattalai high level canal, Uyyakondan channel and Nangam channel. The New Kattalai High level canal of 1959 has an ayacut of 20.622 acres and it was fed by 103 tanks lying both in Tiruchirappalli and Thanjavur. The Pullambadi canal of 1959 has an ayacut of 22114 acres and it was fed by 37 tanks. The Green Revolution in 1960's paved the way for technological change in agriculture like high yielding varieties (HYV) of seeds. Due to this, agricultural development took place in Tiruchirappalli district. The new input mix, enlargement of production function, break from traditional agriculture, multiple cropping programmes were the impact of the Green Revolution. More grains than leaves, requires adequate water input, use of pesticides and weeding and quick maturing were the technical characteristics. The expense of cost and enlarged risk were the economic characteristics of the Green Revolution.

Next to the canal irrigation, the Tank irrigation, well irrigation drip and sprinkler irrigation, are also equally important. Nearly one third of the irrigated area is controlled through tank irrigation in Tiruchirappalli district. The control, operation and maintenance had always been with the farmers. There are 55 PWD tanks, 449 Panchayat Union tanks and 869 Ex-zamin tanks in Tiruchirappalli district. The wells are generally classified according to the method of construction such as open, bored, driven, tabular or drilled etc. The sprinkler and drip irrigation used in Thuraiyur, Ariyalur,

Perambalur, Kulithalai, Karur, Manapparai, Lalgudi, Musiri and Tiruchirappalli taluks. The canals cover 44.6% while well cover 44.5% Tanks cover 10.4% and other sources only 0.5% in Tiruchirappalli district.

The various factors that hamper irrigation facilities such as political inability of not solving the Cauvery water dispute. Various efforts were taken in the form of correspondence, exchange of proposals and a series of meetings at ministerial, official and technical levels to solve the Cauvery water dispute. But it has not been solved till now. It shows the political inability of Tamil Nadu and Karnataka. This dispute can be solved only by interlinking of rivers. Water Rights and Water Laws, River Boards Act and Inter-state Water Disputes Act of 1956 give legal validity to solve the problem. But these laws are out dated and inadequate for the present situation. So irrigation facilities are not properly utilized by the people. It shows the lack of Irrigation policy. In 1965-66, there was a failure of monsoon. Therefore the inflows into the Mettur reservoir was reduced and get emptied early by the middle of September and there was an unprecedented crop failure in 1965 and 1966. The failure of monsoon and lack of rainfall due to deforestation also affected the crops. Deforestation has been made for the construction of river valley projects, roads and industries. Water was polluted by stock breeding and fisheries and ground water also polluted by leather industry and paper industry in Tiruchirappalli. The soil erosion and sedimentation in small tanks and major tanks also affected the flow of water. The Natural calamities like floods caused damages to life and property of the people. The heaviest flood occurred in 1961 in the Cauvery basin. It badly affected the cultivated crops and caused several other losses to the people in Tiruchirappalli district.

The First irrigation commission report of 1901 stated that the irrigation was a protection against famine. The second irrigation commission of 1972 mentioned that practically the available surface water resources, had been exhausted. The only hope is in diverting waters of the Western Ghats. The Irrigation Administration in Tiruchirappalli district was under the control of Public Works Department. The general supervision of the PWD in this district is vested in the District Engineer. The Cauvery river basin canals are regulated by PWD of Thanjavur circle under the control of Tiruchirappalli. It was known as River Conservancy (RC) Division. The water regulation and flood regulation were under the Executive Engineer of (RC) Division. The Cauvery Modernization Division was under the control of Executive Engineer of Tiruchirappalli. In order to standardize tanks, the Tank Modernization Scheme Division was established in 1968. It undertook Tank Research survey to promote tanks for Irrigation. Surface Water Research Division was established to utilize the surface water for irrigation. These were the various efforts taken by the PWD to promote irrigation in Tiruchirappalli district.

Tiruchirappalli district occupied a prominent place in the socio-economic, education and political transactions. The socio-economic impact of Tiruchirappalli due to irrigation facilities can be pruned by physical structure, agricultural practices, migrations, density of population, literacy, division of laborers etc. The alluvial soil occupies 6.4%, red soil 60.7% and regars 32.9% of the total area. Due to irrigation facilities in Tiruchirappalli district, the out-migration was reduced and in-migration increased in rural and urban areas. It led to the increase in population also. During 1931, the population was about 19,13,245 lakhs later in 1971 it increased to 38,48,816 lakhs. Irrigation significantly increased employment opportunities and

promoted female education. The number of rich peasants and landlords increased. The land tenure and land holding promoted socio-economic status of the people.

Hence it is proved that the vast development took place in Tiruchirappalli district as the result of opening of the Mattur-reservoir in 1934, the new Kattalai High level channel and Pullambadi Canal in 1959. The study also proved that tremendous changes have taken place in the field of agriculture due to the Green Revolution. It ultimately resulted in the overall socio-economic growth of the locality.