

# AN OVERVIEW OF THE WATER RESOURCE MANAGEMENT IN KANNIYAKUMARI DISTRICT

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## *Abstract*

*Economic growth is the backbone of the welfare of every country and the primary sector that is agriculture is the most important in any economy in the sense that it provides food to its population and generates employment and income to a significant portion of its rural mass. However, agriculture mostly on irrigation and other water resources. Water is a prime natural resource, a basic human need and a precious national asset. The economic prosperity of a country is based on the development of water resources, particularly the river waters therein. The development of river water resources is primarily meant for the purpose of irrigation. Irrigation is an age old art, as old as civilization. Irrigation means the scientific application of the available water resource to obtain optimum crop output per unit of land. It includes such techniques as drainage, flood control and efficient water management. Scientifically executed irrigation works provide increasing rent to the land owner, enhance return to the cultivator, more employment opportunities and a desirable freedom from famine and drought. To the farming population, perfect irrigation guarantees secured supply, improved crop quality and increasing fertilizer efficiency and stabilized farm income. Further, successful water application assures production, favours intensive cropping and improves the water efficiency. In this article an effort has been made to study the water resource management systems that are followed in Kanniyakumari District.*

**Key Words:** Kanniyakumari District, agriculture, paddy, economic activity, monsoon, water resources, river, irrigation, Pandyan Dam, Puthen Dam, Pechipparai Dam, Perunchani Dam

## **Introduction:**

Basically Kanniyakumari District is agriculture based economic district. Its topography, climate, rainfall, soil and the rivers are the main source for this economic activity. Besides, availability of water in natural reservoirs and man-made reservoirs also play a role in the agricultural productivity. Rightly called as Nanchil Nadu or the Granary of Travancore, Kanniyakumari District, has a prominent place in the map of paddy cultivation in India. Since paddy is the staple food of the people, most of the wet lands under cultivation in Kanniyakumari District produce paddy. Because of the availability of both the monsoons namely South West Monsoon and North East Monsoon, this district gets a lot of rainfall which is in consequence resulted in the double cropping of paddy. Apart from paddy, coconut, tapioca, rubber, mango, jack fruit, pepper, cashew nut and the horticulture products are cultivated in Kanniyakumari District. Most of the places in and around Thovalai opted for floriculture. Abundant agricultural products are exported to the nearby districts and states.

Agriculture and allied sector offer employment opportunities in the rural area. Agriculture plays the most vital role in the national economy and in the life of the entire mankind. No human life is possible in this universe without bestowing due importance to the development of agriculture. The government of independent India realized the gravity of the situation at its right spirit. It adopted a number of measures like the fixity of tenure, protection from arbitrary evictions and the Five Year Plans for the betterment of the agriculturalists. The Green Revolution was put forward as the greatest panacea for the betterment of the agriculturalists. In Kanniyakumari District, which is known to be the land of agriculture has wide scope for crops both in terms of climatic conditions and other related facilities. Research is also going on successfully to promote the agricultural activities in a modern and profitable way.

The seasonal vegetations expose the knowledge of the farmers about nature and seasons. In the same way they concentrated more on tilling and ploughing. Being experts and professionals they believed that proper manuring and weeding will certainly serve as canvas for prosperity. Above all the agrarian life was the primary occupation and preceded the other aspects of life. Though there is seasonal rains and monsoons in Kanniyakumari District, only the rains could not give the sufficient water for agricultural production throughout the year. There comes the importance of irrigational schemes. The extension of irrigation facilities has not only brought more lands under cultivation but also facilitated double or multiple cropping and thereby contributed to more production. Minor irrigations became an important source of irrigation. There are many streams and rivulets, flowing from the hills and forests in Kanniyakumari District. But many such streams and torrents were harnessed wherever necessary and arrangements were perpetuated for the proper use of water.

The outcome was the construction of major dams and other minor irrigation projects. Even during the Sangam age, the kings of ancient Tamil Country, knowing the importance of irrigation constructed dams. The first ever dam constructed in Kanniyakumari District was the Kallanai. After that Pandyan Dam and Puthen Dam were constructed. The next major dam was Pechipparai Dam which was constructed in 1906 by an European Engineer Alexander Minchin. The next major dam was Perunchani, which was completed in 1952. During the period from 1956 to 1983, there were many changes in the irrigation system. Vilathurai Lift Irrigation Project, Kothaiyar Hydro-electric Project and the Mathur Acqua duct are the major works done during this period. Through these programmes Thovalai, Agastheeswaram and a part of Vilavancode Taluks were benefited. After the formation of National Water Resource Council in 1983, the Mullaiyar Scheme and the modernisation of Kothaiyar Irrigation Schemes were introduced and the capacity of the dams was increased so that more areas were brought under cultivation.

## **Water Resources**

Water is the cradle of life. It comes next to the air. It is a non-renewable resource in the sense that for the entire earth there is a fixed and unchanged quantity of water. A river is a natural watercourse, usually freshwater, flowing toward an ocean, a lake, a sea or another river. A few rivers simply flow into the ground and dry up completely before reaching another body of water. The rivers have generally a capricious course and are varying lengths and depths. The bed over which they flow is frequently rocky in

the interior, but as they leave the elevated parts, it is in most cases sandy, succeeded by muddy sediment as they empty themselves into the sea. The water resources occupied a predominant place in the sustenance of human life. Kanniyakumari District is blessed by the availability of fresh water in unlimited quantity besides thick ever green forests and agricultural lands. Both the North West and North East monsoons are rather very strong in the District. The average rain fall of the District is about 1500 mm per annum and it is contributed by South West Monsoon during June-September and North East Monsoon during October-December of every year.

### **Rivers of Kanniyakumari District**

Several rivers are flowing through the Kanniyakumari District. The major river in the district is Tamiraparani River locally known as Kuzhithurai. It traces its origin from the Western Ghats. It raises from the Mahendragiri hills and flows for fifty nine km, through the villages of Vilavancode and Kalkulam and confluences in the Arabian Sea at Thengapptinam, about 56 km west of Kanniyakumari town. It is the largest river in the Kanniyakumari District. This river touches the places like Ponmanai, Thiruvattar, Kuzhithurai and Munchirai. This river has two major tributaries Kodayar and Paralayar, with the Pechiparai dam and Perunchani dam respectively built across them. There are many tributaries for the Kodayar River of which Chittar river I and Chittar II, with their dams are the major ones. The two main tributaries Paralayar and Kodaiyar join at Movathaumigham to form the Tamaraparani river that further join by another tributary called Mullayar which originates at Tikkurichi village in Vilavancode Taluk.

Pazhayar basin is situated in Thoivalai, Agasteeswaram taluks. The Pazhayar River begins from the southern side of the Mahandragiri hills. It starts at Shorlacode, a place about 18 km north-west of Nagercoil. It proceeds towards south for about 35 km and joins in the Arabian Sea near Manakudi in Tamarkudi village of Agasteeswaram taluk. Alathurayar, Poigaiyar, Thadaveyar, Koya odai and Ulakkaruviyar are the major tributaries of the Pazhayar River. Chattupythur dam, Chettothoppu dam, Cholanmkattu dam, Kutty dam, Kumari dam, Mission dam, Pallikondam dam, Pillaipetha dam, Salari dam, Veerapuli dam and Veerananarayanamangalam are some of the dams constructed in the Pazhayar River.

Valliar another small river and its tributary Thoovalar, originates from the southern slopes of Velimalai hills. It waters an area of about 16 km and finally falls into the Arabian Sea near Manavalakurichi village of Kalkulam taluk. Nine anicuts namely Mukkurandai, Mulgapati, Charod, Kumarapuram, Eraneil, Attuvarampu, Kalpadiela and Thalakulam were built across the Valliyar. Alathuraiyar traces its origin from Mahandragiri in the Western Ghats and separates into two at Kanjiparai on the top of the hill. One proceeds into Tirnneveli District and the other reaches Kadukkarai and Seethapal villages of the Kanniyakumari District. Mullayar originates from the Ayyathurathu hills and flows for about 11.20 km and joins with the Kuzhithurayar near Thikkurichi village. It irrigates almost 700 acres of land with the support of eleven anicuts across the river. The Pahrli River also flows through the district.

## River water management in Kanniyakumari District

Management of river water includes construction of dams, anacuts and ayacuts and managing the river water for irrigation and drinking purpose. Irrigation is one of the important factors for the existence of human life in any part of the country. Knowing this the rulers of the ancient past constructed dams and excavated canals, ponds and tanks. These are built apart from the natural and river bed tanks. But in course of time, the population of the country increased. This made them to think of arranging irrigation facilities to improve food production and to improve drinking water facilities. The alien invasions that were frequented to Nanjinad and to the adjacent areas caused much damage to the ponds and water courses that created a sense of unsafe situation in this area. During the Ay administration in this part of country, the water courses were renovated. The kings allowed the village assemblies to repair the water courses and proceed with agriculture.

The frequent border conflicts and the Mysore aggression caused severe economic problems to Travancore during the 18<sup>th</sup> century. Most of the irrigation systems that served South Travancore, the present Kanniyakumari District, were in unsatisfactory condition. The maintenance of the irrigation work was not done properly. Consequently, the agricultural operations were affected severely. The inadequate maintenance posed a threat to the agriculturists. The government therefore decided to find ways and means of solving the problem of water shortage in South Travancore. Puthen Dam and Pandiyan Dam could not solve the problem of irrigation.

The then Government of Travancore, therefore decided to find ways and means of solving the problem of water shortage in the country. The then Dewan Ram Iyengar, visited the country and ordered the Chief Engineer A. H. Jacob to find out a solution. He envisaged the Kodaiyar System and submitted the proposal for the Kodaiyar System in 1894. Maharaja Mulam Thirunal gave sanction to this scheme. The Kodaiyar Irrigation System had the construction of Pechipparai Dam as the main proposal. The project was proposed to irrigate an additional 25000 acres of wet land along with Pandiyan Kal and Padmanabhapuram Puthanar Channel (PP Channel). In 1986, Mr. Jopp became the Chief Engineer. During his tenure only this work took shape. Alexander Minchin, his successor, completed the construction of Pechipparai Dam in 1906. That was followed by Perunchani Dam.

The next important work carried out was Kodaiyar Left Bank Channel. The scheme was prepared for joining Paraliyar and Pandiyan Dam. By 1905, it came into operation. Thirparappu Weir System, Aruvikkarai Weir System, the Kodaiyar Upper and Lower dams, jointly irrigate 23589 hectares in addition to the existing areas of cultivation. Pechipparai, Perunchani, Upper Kodaiyar and Lower Kodaiyar dams come under Kodaiyar Irrigation System which irrigates Kalkulam and Vilavancode Taluks. Besides these, there were other dams like Chittar Dam I, Chittar Dam II, Mampazhathuraiyar and Poigai Reservoirs. The under Kodaiyar Irrigation System and the subsequent extension projects facilitated the expansion of agriculture in cultivated area. It brought promising improvement in the economic life of the people.

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