



# History of the Mullai-Periyar Water Dispute

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## ABSTRACT

This study deals with the History of the Mullai-Periyar Water Dispute.

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## Introduction

The river Periyar is the one which drains the largest catchment among the rivers in the Kerala State. The total catchment is 5,243 sq km of which just about 113 sq km in the Annamalai folds lies within the political boundary of Tamilnadu state in the Coimbatore district. The Periyar Basin lies just to the west of the Vaigai Basin on the other side of the Western ghats ridge.

The river Periyar, rises in the Sivagiri peak of the Western ghats in the Quilon district 80 km south of Devikulam at an elevation of about 2400 m and traverses south through the steep cliffs and dense forests for about 16 km where the tributary Mullaperiyar joins on its right at about an elevation of 850 m. The river then turns west, cuts through the hills in a narrow deep gorge at about 11 km below Mullayar junction. It is this gorge which has facilitated the construction of the India's oldest masonry dam creating the well known Periyar Lake. The river then takes a winding course until it emerges in Vandiperiyar, a town on the Kerala-Tamilnadu border.

Periyar river is a west-flowing river of Kerala State. The River, having a total length of about 232 km traverses the taluks of Peermedu and Devikulam in Kottayam District and parts of Ernakulam District. Besides Mullayar, many other tributaries join the main river on either side of which Kottapanayar on the right, Cheruthoni on the left are important.

The Periyar Dam, also called the Mullaperiyar dam, was constructed during the period September 1887- October 1895, across the river Periyar in the then Travancore State for meeting the irrigation requirements in the then Madras Presidency. The name of the dam is derived from a portmanteau of Mullaiyar and Periyar. As the dam is located after the confluence of the Mullayar and Periyar rivers, and hence the dam came to be called Mullaperiyar dam.

The Periyar Dam is the first masonry dam of its kind in the country and also perhaps one of the earliest project of inter-basin water transfer.

Periyar dam is about 54 m high and 366 m long (1200 ft) straight gravity dam across the River Periyar located in a narrow deep gorge at about 11 km below Mullayar junction. Located in Kerala State, this masonry dam in lime Surki mortar is the first project in the country to successfully transfer intrabasinal Water. The dam is owned, operated and maintained by the Public Works Department, Government of Tamilnadu. The purpose behind the dam construction was to divert the waters of the west-flowing Periyar river eastward, taking the Water from the reservoir through a tunnel cut across the watershed and Western Ghats to the arid rain shadow regions of Theni, Madurai District, Sivaganga District and Ramanathapuram districts of Tamilnadu.

The Vaigai basin had been experiencing droughts now and then and sometimes in a few contiguous years and the people became famine stricken and languished. The year 1876-77 was one such bad year of famine. Just to the west of Vaigai basin on the other side of the western ghats ridge lies the Periyar basin, draining the largest catchment in the Kerala State. The head reaches of Periyar being in dense forests, inaccessible and uninhabited and hence there could not have been any possibility of assessing the river flow at any time, not even to measure the rain falling over the catchment. South-west monsoon brings in intense rainfall in this region but water potential that could be harnessed had to be assumed from a measure of rainfall in stations far away from the area of interest. The run off factor could be high with the catchment being heavily covered with vegetation in the steep slopes in high elevation and with less evaporation losses. Even assuming an average rain fall of about 1800 to 2000 mm (70 to 80") and a catchment area about 648 sq km (250 sq miles) upto the gorge, about 11 km after Mullayar join the river, the early investigators were confident that the river yield would be substantial and could irrigate large extents of lands in Vaigai valley alone if all that water could be transferred across the ghats to the east.

The idea of diverting the Periyar water towards east to Madurai was given a practical shape in 1808 by the late Sir

James Caldwell but was abandoned. The subject was mooted in a desultory manner from time to time and in 1850 a small dam and channel were actually commenced for diverting a small tributary of Periyar, the Chinna Mullayar, based on the proposal of Captain Faber. But this was also stopped due to various reasons.

The Project proposal was revived by Major Ryves R.E District Engineer at Madurai in a practical form. He submitted a detailed proposal for diversion in 1867. He proposed an earthen dam 162 ft. high across the river Periyar with an escape to be made at 142 ft. above the river bed to divert the waters into the valley of Vaigai by cutting through the watershed, an open channel with its sill 17 ft. below the escape crest to lead the water to Suruli Stream, a tributary of River Vaigai. Major Ryves estimated the cost of the project as Rs.17,49,000.

However, the details of the scheme as contemplated by Major Ryves came in for considerable criticism and there was hesitation in accepting the proposal. Further investigations were committed to Mr.R.Smith in 1870. Mr.R.Smith modified the proposal of Major Ryves. He proposed an earthen dam of 175 ft by "silting process", tunnels for river diversion and under watershed ridge for diversion of waters eastward to flow down to Suruli. The cost of the project was estimated as Rs.53,99,700 exclusive of interest, indirect charges and any payment to the Travancore Government for the use of water.

Mr.Smith's proposal was generally approved. But the then Chief Engineer, General Walker, R.E. was opposed to the idea of building the dam by "silting process". The advisability of constructing a masonry instead of a "silt dam" was also mooted. This was a very crucial decision.

The Government of Madras called for a report from Captain Pennycuik and Mr.R.Smith on the alternative proposal of building a masonry dam. Mr.R.Smith agreed that a masonry structure is a better alternative which he ignored earlier only because of its high cost.

Captain Pennycuik after working seriously proposed a masonry dam section based on Molesworth's formula. He proposed a composite section of necessary base width, having front and rear faces of solid masonry with longitudinal and cross walls 6ft. thick, the cells formed by these walls being filled with concrete. This was however not favoured for fear of unequal settlement.

The year 1876-77 experienced a severe famine and the matter of Periyar dam was temporarily put aside. No further action of a practical nature was taken during the ensuing six years. However, in the meantime the idea of masonry or concrete dam deepened. Finally, by an order dated 8th May 1882 Major Pennycuik was given the responsibility of revision of the plans and estimates for the entire project and this officer submitted in the same year a report, with detailed estimates which were eventually sanctioned.

He proposed a detailed and meticulous plans for river diversion, construction power etc. for carrying out this major work successfully and economically. The project as estimated by Pennycuik was Rs.50,00,000. Formal sanction to the Periyar dam was received in the latter half of 1887 and the preliminary works were commenced in the month of September 1887 with a small establishment.

Lord Connemera, the then Governor of Madras formally inaugurated the project. By March 1888 most of the preliminary works could be said to have been completed. Most of the labour force came from Madurai and Ramanathapuram districts. Anyone who could just read and write was employed as mistri mainly for organising the labour. A great number of

the coolies came from Cumbum Valley whose frequent absence from work caused hindrance to the progress of work. As the work progressed, a better and more permanent class of coolie was obtained from Tirunelveli district. They were regular and worked steadily till the end. By that time large number of masons and drillers came from Coimbatore and Madurai districts and they did most of the work. Many innovative methods for diversion of floods, rope-way, construction power etc. were adopted and the dam was formally opened in October, 1895. The work on the baby dam was completed in February, 1896. The Periyar dam is unique in the sense that the storage created across Periyar is transferred to the Vaigai basin across the ridge.

#### **Historical background of the dispute**

A lease deed was signed between the Travancore Princely State and British Presidency of Madras in 1886 which gave the British the right to divert "all the waters" of the Mullaperiyar and its catchment to British territory (the Madras Presidency, now Tamil Nadu) for 999 years. After Independence, both the entities became non-existent. Further, according to Indian Independence Act 1947, all the treaties between British Government and Indian Princely States have lapsed. Moreover, Article 131 of the Constitution of India denies Supreme court of jurisdiction on pre-constitutional agreements. Kerala argued that the agreement is not an equal one, but imposed on the local king by the mighty British Empire.

After independence, even in the absence of any treaties, Tamil Nadu continued to use the water from Periyar for extending irrigation facilities, and later for power generation on the basis of informal agreements between the governments of the two states. In 1970 the Kerala and Tamil Nadu governments signed a formal agreement to renew the 1886 treaty almost completely. The Idukki Hydroelectric project, located 30 km downstream was completed in 1976 by the Kerala government, is still the major resource (about 30%) for irrigation and electricity needs of Kerala.

Since 1970, Kerala has argued that the dam having outlived its life of 50 years is unsafe to maintain water at 46.3 metres, the full reservoir level and it should be restricted to 41.45 metres. In 1979, the Central Water Commission the premier government agency dealing with dam safety was asked to look into the matter it suggested reduction of water level to 41.45 metres as an emergency measure along with other measures to strengthen the dam. Tamilnadu agreed to this limit. Another committee headed by the then CWC Chairperson B K Mittal was appointed in 2001 to look into the matter. It stated that the reservoir level be raised to 43.28 metres, after the strengthening measures were implemented. This was to be on an interim basis, and later reservoir levels could go up to the original level of 46.3 metres.

The Kerala government however contends that the committee's recommendations were based on a stress analysis of the baby dam and not the main dam. There has been some work to strengthen the dam but Kerala argues that it has not yielded much result. In 1998, a petition filed on behalf of the Periyar-Vaigai Single Crop Cultivating Agriculturist Society noted that water levels in Mullaiperiyar reservoir has not gone above 41.45 metres since 1979, even though Tamilnadu has complied with CWC's directions. Filed before the Madras High Court, the petition argued that this shortfall caused many losses to the more than 2.50 lakh families in Madurai who depend on Mullaperiyar's waters. Other cases were also filed in the Tamilnadu and Kerala High Court.

In 1998, all Mullaperiyar related cases were transferred to the Supreme Court which, in its order of February 2006, observed that the dispute is not a 'water dispute'. It allowed raising the reservoir level to 43.28 metres and directed Tamilnadu to carry out the strengthening measures suggested by CWC, and restrained Kerala from causing any obstruction.

In March 2006 Kerala's Legislative Assembly passed the Kerala Irrigation and Water Conservation Amendment Act, 2006. The amendment empowered Kerala's Dam Safety Authority (KDSA), a body mandated in 2003 by the original Kerala Irrigation and Water Conservation Act to evaluate safety of all dams in the State. It also has the power to advise the government to suspend the functioning or to decommission a dam if public safety demanded. Twenty two dams constructed during 1895-1963 including the Mullaperiyar dam were brought under KDSA's jurisdiction. 41.45 metres was fixed as safe height for Mullaperiyar's reservoir. Tamilnadu took the matter back to the Supreme Court. It filed a petition on March 31, 2006 to declare the Kerala act as unconstitutional.

In July 2009, The Kerala government has claimed that with the building of a new dam, 1,300 ft. downstream of the present Mullaperiyar reservoir, the safety of the people of Kerala can be assured from the existing high-risk structure. Mullaiperiyar dam controversy is not about sharing water as in the case of Cauvery. Kerala, any way, cannot use the dam water as most of it is going to the sea and the Kerala is least bothered about use of water that flows through the dam. It is not even the question of increasing height of the dam because the original storage level was 152 ft, which was reduced to 136 ft in backdrop of mild tremor to the magnitude of 2 on Richter scale in the region in 1979. Still, the tempers are running high on both states, if not to the level of confrontations and clashes. Because, it is a matter of providing livelihood to several lakhs of people and of increasing agricultural productivity in the rain shadow districts of Tamilnadu that would benefit out of water flow, which otherwise goes waste, by increasing the reservoir level. On the other hand, it is a matter of environmental concern for Kerala that would like to avoid 'bursting' or 'breaking' of the 110 years old, 175 ft high, 5704 ft long lime and brick dam in question.

Through 34 documents Kerala expressed its stand for construction of a new dam apprehending danger to the safety of the present dam. It annexed reports of several technical Committees pointing out the weakening structure due to seepage at several places in the dam. It listed a number of dams that had breached both in India and abroad despite the fact that they were certified as strong.

Tamilnadu argue that Kerala is eyeing extra water from Mullaperiyar reservoir to generate electricity. Power generation at the Idukki reservoir, downstream of the Mullaperiyar dam will come to a halt if the reservoir level is increased from 41.45 metres to 46.3 metres. The Kerala government, however, maintains that the Idukki project was designed after discounting the 46.3 metres water storage in the Mullaperiyar dam.

Farmers in Tamilnadu maintain that water rights have already been established during the past century and cannot be reverted. The Kerala government, however argues that the gross area irrigated by the Mullaperiyar reservoir actually

increased from 24,280 ha in 1896 to 69,200 ha in 1970-71 (when the water was 46.3 metres) to 92,670 ha in 1994-95 (when water level was reduced to 41.45 metres). But Tamilnadu claims that this is due to the modernization of Periyar-Vaigai project, which reduced seepage losses by 6.7 thousand million cubic feet.

This long standing Mullaiperiyar water dispute should be resolved by means negotiations by both Tamilnadu and Kerala governments. The Kerala government should come forward to settle the dispute by obeying the verdict of the Supreme court. The Central Government of India must take this issue seriously and resolve the dispute by means of talks. It must come forward to implement the Supreme Court order. A mutual adjustment is a must as far as this is concerned. So, both the states should come forward to resolve the issue respecting the traditional right on water on legal grounds.

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