

The threat of unsafe Mullaperiyar Dam

Why is the centre acting like a pro dam lobby?

The facts are simple, but not pretty: A dam that is now 116 year old [developed leaks and cracks during the earthquake in 1979](#). The recent most at least four earthquake tremors since July 2011 (as accepted by Tamil Nadu in an application before the Supreme Court filed on Dec 1, 2011 through Kerala says there has been some 26 tremors in the period) are only the latest of the seismic activity in the dam area in this context. Several expert bodies including the Indian Institute of Technology, Centre for Earth Science Studies have concluded that the dam structure and foundation are too weak to take the shock of earthquake of magnitude 6.5 on Richter scale, which is very much likely at the dam site. The dam is not able to take the load it is supposed to take. Its unique construction material, geological & Seismic location does not render it fit for any further technical solution.

The dam in existence since Oct 1895 lies on the soil of Kerala, and it is people of Kerala that are at risk if the dam were to collapse. At least 75000 people are at risk between this and the next dam (Idukki) in the Periyar river basin. If the Idukki dam also gives way, another 3 million may be at risk. Kerala assembly has passed a dam safety act in 2006 that requires it to decommission unsafe structures like the Mullaperiyar dam. In any case, it is the duty and mandate of the state

government under constitution of India to take all such measures that are necessary for the safety of the citizens.

So the primary message is simple: Kerala should have decommissioned the Mullaperiyar dam long back. Question of any mechanism to replace the benefits that the dam may be providing are important no doubt, but should be secondary.

The Languishing Dam Safety Bill (2010)

A Report from the Parliamentary Standing Committee tabled in the Parliament in August 2011 has severely criticized the CWC for taking 25 years to come out with a Dam Safety Bill after it was first mooted. The report further states that the bill is entirely toothless with no clause for penalty if the dam breaches or if there is violation of the clauses of the bill, no clause for compensation of the affected people and no independent regulatory body. Looking at the current impasse, functioning of each body associated with Dam Operations and Dam Safety should be entirely accountable, transparent and there should be space for local people and independent experts in the functioning and monitoring of these mechanisms.

But Kerala government has not been able to perform its legal and constitutional duty to protect the life, livelihoods and properties of the people of its state. Not because it did not want to do it. Not because it lacks technical or financial resources to do it.

Because a neighbouring state of Tamil Nadu that controls and manages the dam does not want Kerala to decommission the dam! Because the Central Water Commission and Union Ministry of Water Resources are

acting as lobbyists for large dams and they do not want the dam to be decommissioned. Also because in the pending case before the Supreme Court of India, there has been no decision in favour of the safety of the people of Kerala. The current ongoing petition has been filed in SC in 2006 by Tamil Nadu, challenging the validity of the Kerala Dam Safety Act of 2006.

On Feb 18, 2010, the apex Court appointed a committee headed by the former Chief Justice of India Justice (Retd) A S Anand to look into the safety of the existing dam. But that committee, in a strange order [on Aug 31, 2011](#), declined to permit Kerala state to produce additional evidence on the issue of safety of the dam in the form of reports from two experts, Dr D.K. Paul and Dr M.L. Sharma. This is not likely to inspire confidence in the committee.

The Central Water Commission, strangely, for its ideological pro dam stance, does not want the Mullaperiyar dam to be decommissioned. But when a dam passes its useful life & becomes unsafe, it has to be decommissioned. [United States of America decommissioned 1000th dam in 2011](#), many of them for safety reasons. In India the Tajewala barrage on Yamuna and Narora barrage on Ganga were decommissioned to replace them with new barrages. In Karnataka, Tunga barrage was decommissioned when the Tunga dam was constructed in the downstream area.

In any case, CWC has had a poor track record in terms of ensuring safety of dams or safe operation of dams. For example [the 118 year old Jaswant Sagar dam in Rajasthan that breached in July 2007](#) was actually supposed to be monitored under the World Bank funded "Dam Safety Assurance and Rehabilitation" Project. The dam safety projects were being supervised by the CWC.

In spite of the dam safety project and CWC involvement, the dam did breach and strangely, no one was held responsible. We hope Mullaperiyar dam does not breach before getting decommissioned, else there won't be anyone in CWC or elsewhere responsible, even if so many of them are swearing today by the safety of the dam.

Though Tamilnadu is claiming that there are no safety issues in Mullaperiyar, underwater visuals recorded by a remotely operated vehicle (ROV) show a deep fracture along the entire 1,200 ft length of the dam's foundation. The dam has inclined inwards as a result. The visuals came from an inspection carried out by experts, including those from Tamil Nadu and Kerala, for the high-power committee set up by the Supreme Court to look into the stability of the dam. According to officials, these CDs have been endorsed by officials from Tamil Nadu and Kerala.

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In Rajasthan again, Gararda dam on Gararda River, a tributary of Chambal River, collapsed in the very first filling on Aug 15, 2010 when water level had reached 291 m, flooding a dozen villages downstream. Not surprisingly, the enquiry committee report submitted by Kota Divisional Commissioner highlighted criminal negligence and corruption leading to

substandard work as the main causes for the collapse. [\(Dams, Rivers and People, Aug-Sept 2010\)](#).

According to Prof. T. Shivaji Rao, three dams have collapsed in Andhra Pradesh in the last five years due to poor construction and improper design. These include the Subbaraya Sagar in East Godavari in 2010, the Palamvagu Dam in Khammam in August 2008 and the Gundlavagu Dam in Warangal district in 2006. He highlighted that these dams collapsed due to poor construction and improper design. In all, 50 dams built post-independence have failed, including the Kodaganar dam in Tamil Nadu, Nanaksagar dam in Punjab and the Machhu 11 dam in Gujarat. [\(Deccan Chronicle 201211\)](#)

TN's poor performance in the World Bank's dam safety project leads to dropping of the state

During the Period 1991-2000, the World Bank implemented a Dam Safety Project for states of Madhya Pradesh, Rajasthan, Orissa and Tamilnadu, keeping in view that fact that India was "lagging on dam safety and many dams had become hydrologically unsafe". This was World Bank's first project entirely on Dam Safety. In 1998, Tamilnadu was dropped from this project because of its 'unsatisfactory performance' and 'failure to meet performance targets'. Its non-seriousness about the Dam Safety Organization was noted as a 'worrysome'. The project noted that CWC's "lack of constitutional authority and (lack of) legislation to implement Dam Safety Program in India was a major hurdle", this has been highlighted again through Mullaperiyar. The report also categorically states that though CWC has the mandate and the capacity to initiate and lead Dam Safety works in the country, it is "showing inertia and lack of proactiveness", stressing the need for clearer guidelines and responsibilities.

The Project report points at the classic Indian symptom that major problem has been "stress on structural measures like spillway capacity, at the expense non structural safety measures" like operation and maintenance. Expectedly, the report also highlights the gaps in Reservoir Operation in India, especially in response to floods and stresses the importance of flood forecasting. Some of the recommendations of the 2000 Report are still not in place for most Dams in India ("Properly thought out operating instructions are needed and the procedures for operating gates at times of flood must be clearly defined and displayed prominently at the dam"), causing repeated mishaps and damages. (http://www-wds.worldbank.org/servlet/WDServlet?pcont=details&eid=000094946_00071805314844)

India already has 128 large dams that are older than 100 years and additional 476 that are 50 to 100 years old. In addition, there are 202 dams for which the govt does not even know the age! All of these are likely to pose a grave risk to the people, lands, livelihoods and environment. In fact, any dam is a ticking time bomb if not operated & maintained in a safe way. Unfortunately we have no credible mechanism to ensure that.

Here it is pertinent to note that there is so little independent expertise in India on issues like safety of the dam. Moreover, on the issue of monitoring and ensuring safety of the dams and their safe operation that has such far reaching public interest dimensions. However, there is no role for independent experts, nor any transparency, leave aside ensuring accountability in issues related to dam safety. The need for such independent expertise becomes even more necessary considering that bodies like the CWC have shown their pro large dam bias and is also found to have poor track record.

It is notable here that Tamil Nadu had so “unsatisfactory performance” (as per the [Implementation Completion Report of the World Bank dated May 2000](#) for its Dam Safety Project in India in 1990s) on dam safety issue

that the state had to be dropped from the World Bank funded Dam Safety programme. Mullaperiyar dam was supposed to be part of this programme, but Tamil Nadu

failed to complete the safety programme for this dam. Even CWC was seen to be less than pro active on these issues as per the WB report.

The reason for Tamil Nadu government's stand against decommissioning of the Mullaperiyar dam is that the dam provides irrigation water to at least five districts of Tamil Nadu, namely Theni, Madurai, Dindigul, Sivagangai and Ramanathapuram. But Kerala government has assured that it will continue to provide the water to Tamil Nadu. Here it may be noted that many commentators even from Kerala have described these five districts of Tamil Nadu benefitting from the Mullaperiyar dam have call these areas as arid or drought prone. However,

this is completely wrong description. The average annual rainfall in these districts is close to or above 800 mm, with the possible exception of small part of Dindigul, where too the rainfall is above 700 mm. Such areas cannot be called drought prone or arid by any stretch of imagination. Moreover, some parts of these districts also take water intensive crops like Paddy and sugarcane, which are avoidable in such areas.

Need for a Paradigm Shift “In the first place, this project should never have been built. It is a horrendous intervention in nature. Nobody ever did an environmental impact assessment in those days as it was not the practice then. Nobody considered what harm would be done by the intervention. Today, such a project would not be approved. If it is a new project coming for environmental clearance, it will not get it. But it exists. We cannot rewrite history. However, now that the dam is 116 years old, we can start thinking of phasing it out. That means giving people time to get adjusted to this idea and seek alternative sources of economic activity, and perhaps a different pattern of development that does not require so much water. It might well be a more modest but sustainable kind of development. *Any dam has a life*”- Dr. Ramaswamy Iyer ([Frontline](#) Dec 2011)

An appeal to the Supreme Court In a Press Release and joint appeal to Chief Justice of India, the Ministry of Water Resources, the Ministry of Environment and Forests and the Kerala and Tamil Nadu Governments, River conservation groups, environmental NGOs, including SANDRP, independent thinkers and experts all over India have come together to request them to take immediate steps to ‘decommission’ the 116 year old Mullaperiyar dam given the grave threat to people and environment below the dam. The appeal also states that the proposal to build a new dam put forward by the Kerala Government just downstream of the present one is not the only option to resolve the dispute.

A replacement dam will repeat the present day threat after another few decades. The solution has to be a long term one that addresses the problem and does not let it recur in a few decades. The Treaty still has a life span of nearly another 875 years whereas the lifespan of the new dam will be much lower. The groups while acknowledging that the water needs of Tamil Nadu have to be respected and honored by the state of Kerala as per the Treaty, strongly recommend considering ‘alternate options to water management’ for Tamil Nadu in the place of the status quo dam option. The location of the new dam site which is within the Periyar Tiger Reserve is not desirable. The demand for a new dam seems to outweigh everything else.

It is actually an unparalleled magnanimity from Kerala that no other state of India has shown. No state in India wants to give water to another state, even when the recipient state shares the basin in question. In this case, the catchment of Mullaperiyar dam is entirely in Kerala, the dam also is in Kerala, but all the benefits from the dam goes to Tamil Nadu. And even now Kerala is saying that they will ensure that Tamil Nadu continues to get the same quantity of water they get now. Not only that, the Kerala govt has given in writing that they will not even seek any expenses for the new mechanism.



Moreover, this arrangement of giving water to Tamil Nadu is a legacy of Colonial era. In 1886, a lease deed was signed between the secretary of the then Travancore state and the secretary of state of British govt in Delhi. The lease deed is for astounding 999 years. (The film *Dam 999* released recently, derives its name from this 999 year clause in the treaty. TN govt, unhappy with the connection, promptly banned the film!)

The terms of the Treaty are completely unfavourable to Kerala. Considering all the aspects, it is indeed magnanimous on the part of the Kerala government to agree to continue to provide to Tamil Nadu the water that TN is currently getting. So the solution is pretty simple. Kerala should be allowed to decommission in the dam. The Centre and Judiciary should facilitate this constitutionally backed and mandated need of Kerala. A fresh treaty may be signed between the two states, facilitated by the centre and the judiciary. But the failure of the various institutions over the years since 1979 has meant that the millions of lives in Kerala continue to be at risk.

It is not that Kerala government is without blame. Kerala government has so far not even conducted a dam break analysis, nor done an analysis indicating which areas

would be inundated if the Mullaperiyar dam breaks. According [media reports](#) on Nov 30, 2011, Kerala was likely to enter into an agreement with Indian Institute of Technology (Roorkee) for such a study, but IIT Roorkee is known to have a [pronounced pro large dam bias](#) and the report is not likely to carry too much credibility. The state also has no clear disaster management plan including likely time that water will take to travel to the various locations downstream, safe places where people can be evacuated, etc.

The Kerala state advocates have also failed to counter the wrong arguments of Tamil Nadu in the courts contending that downstream Idukki reservoir would be able to absorb all the water that would be released if the Mullaperiyar dam breaches. This will certainly not be the case, for example if both the dams are full at the time of breach. This was exactly the condition several times at the end of the monsoon.

Kerala government's proposition that it is ready to construct a new dam downstream of the current dam, to take care of the Tamil Nadu's water requirement is devoid of logic and necessity. The [Mullaperiyar Agitation Council has rightly opposed](#) this proposal, since there are non dam options (a diversion weir to ensure that water from Mullai and Periyar is diverted to the existing tunnels and if necessary, TN can build additional local tanks in the benefit zone to store the water) available for ensuring that the concerned farmers in the Tamil Nadu continue to get water for their agriculture. The residents of Vandiperiyar town (Kerala) in the path of the river downstream from Mullaperiyar dam have been on the streets for months, since they continue to be at risk from the likely breach of old or new dam. The risk of breach of the dam will remain alive considering that the geologic and seismic character of the area is not going to change.

On Dec 12, 2011, the centre asked the National Disaster Management Authority to set up expert panel to prepare submergence models in case of earthquake like scenarios. However, in a strange move, during the visit of the Prime Minister to Tamil Nadu on Dec 25-26, it was announced that the notification constituting the panel has been put on hold! The centre is not even serious about disaster management, it seems.

The Supreme Court of India, in its various judgments has upheld the **precautionary principle**, the **principle of intergenerational equity** and right to life. All these are eminently applicable in the case of Mullaperiyar dam and the people of Kerala at risk from its breach. Let us hope wiser counsel prevails and fundamentalist position does not hold the safety of lakhs of Kerala people hostage. In fact this issue also has larger lessons in making other dams and their operations safe in India and creating credible, transparent, participatory mechanisms to ensure that. We clearly do not have any such mechanism today.

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