

A model for rainwater harvesting

The Melukote system

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The sacred town of Melukote in Mandya District is an excellent example of rainwater harvesting. The tanks and ponds here form a highly systematic network to ensure that Melukote never faces water scarcity conditions. The system that came into practice hundreds of years ago is still existing and can be used as an example in the formulation of water conservation and management programs.

In the state of Karnataka, sacred places and pilgrimage centres do not mean only fulfilling a vow or worship to God. Each of the temples carries a social, and, more importantly, an environmental message as well. This can be experienced whenever people visit any of the hill temples of Karnataka. Apart from offering prayers to the deity, the devotees also follow eco-friendly measures and appreciate the intrinsic value of these practices.

A classic case of environmental concern is evident in the temple town of Melukote in Pandavpura Taluk, Mandya district which is an outstanding example of rainwater harvesting techniques. Melukote clearly demonstrates that water harvesting is not a new concept and has been in practice for over hundreds of years. The primary principle of rainwater harvesting is to arrest the flow of water in a way to make the earth absorb rain water. In Melukote, this principle has been very simply and effectively brought into use. It, therefore, serves as a role model for water experts who formulate water development schemes.

Literally translated Melukote means a fort at a height. As the name suggests, it is situated at a height of 3,600 feet above sea level. Melukote does not have any source of water and as such, the only source of water was the rain itself. The rulers realised that unless rainwater harvesting measures were adopted, there would be no water available - either for the temple rituals or for public use. They therefore built several tanks and ponds on the mountain. These water bodies are systematically built that even during severe drought, the ponds of Melukote will not dry up. As a result, there is no dearth of water either for Lord Cheluvanarayana to have his ablutions or for commoners to have a constant supply of drinking water.

These numerous water bodies have made a significant contribution in enhancing the charm of this well-known pilgrimage centre. Amongst them, the *Pancha kalyani*



is the most important *thirtha* and is a major center of attraction. The suffix *thirtha* is given to some of the ponds, for e.g.: *Ashta thirtha*, *Padma thirtha*, *Yadava thirtha* etc, while there are others which are associated with the names of local people (for e.g.: Ningamma pond, Doddayya pond etc).

The history of the Melukote ponds

Melukote ponds have a history dating back at least 500 years and though the names of people who built them are not available, details of repairs carried out, as well as the construction of steps and *Mantapas* have been recorded.

Several rulers of Karnataka such as the Gangas, the Hoysalas, the kings of Vijayanagara Empire and the Mysore Wodeyars have ruled Melukote. The *Puranas* also contain many references about Melukote. History tells us that Chamaraja Wodeyar (1617-1637), the 10th King of the Mysore Wodeyar dynasty built the *kalyani* here. This means that the pond was already in existence by then. The Chikka Devaraja Wodeyars (1704-1712) erected the Bindu Madhava temple to the south of this *kalyani* and there are also records about the *Mantapas* built by Dodda Krishnaraja Wodeyar who ruled between 1713 and 1731. The Bhuvanewari *Mantapa* on the stonewall of the *kalyani* was the contribution of Mummadi Krishnaraja Wodeyar, while Chamaraja Wodeyar (1838-1834) had the same cleaned.

In addition to this, the *Yadavagiri Mahatmye* that forms a part of *Naradiya Purana* also talks about the *kalyani* and the *Ashta thirtha* of Melukote. The *Sritatva Nidhi*, a literary work by Mummadi Krishnaraja Wodeyar and *Yadavdri Charitam*, probably a contemporary work, also mentions the *Ashta thirtha*.

The amazing network of ponds

Melukote has been described as the abode of 108 ponds. The ponds have been constructed at different levels and at different locations to collect the rainwater that falls on the mountain slopes. For instance, the Dalvai tank is towards the west and the Hosakere tank is towards the north. Each of the tanks collect the rain that falls in the local area and together, the ponds are able to collect rain from any part of the hill.

The design of the ponds in Melukote is in a manner that retains every drop of water that falls, and allows it to percolate into the soil. Hence, there are a large number of small ponds in addition to the large ones. The biggest tank is at the base of the mountain.

Apart from rainwater harvesting in hundreds of ponds, care is also taken to ensure that once the water is filled in the tank, it is not dirtied or wasted. Almost all the ponds have orderly steps to enable people to reach down in order to fetch water. Furthermore, all the tanks on the mountain are interconnected through stone pipelines, which facilitate flow of water from one tank to another.

Another unique feature is the filter pits outside each tank. The water flows into two filter pits before entering at the Melukote tank. These filters collect dry leaves, sticks and other bodies, thereby supplying only pure water to the tanks. Steps taken to filter water at different levels are a special feature of this place.

The excess water that is collected in Melukote's ponds flows into the Hosakere tank at the lower area. This water flows into the Dalvai tank, fills it up and continues



its onward journey to the Hebbal canal and from there onto Tonnur tank, which is located further away from Melkote. This amazing link system ensures that not a drop of water is wasted. The Tonnur tank and Hosakere at the base of Melukote irrigate hundreds of acres of lands, besides augmenting the ground-water level in the entire region.



Akka-tangi Ponds

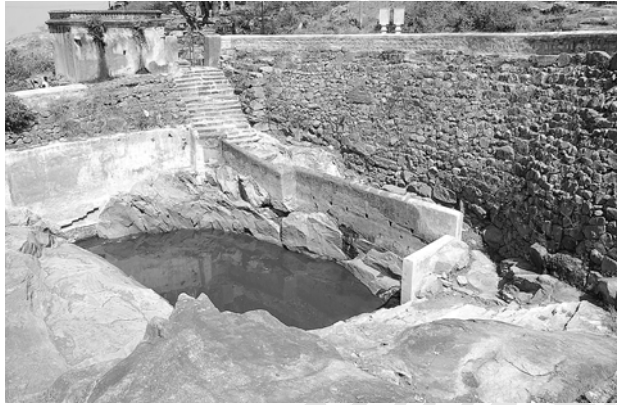
The drainage system, which allows flow of water from one tank to the other, is highly scientific. This amazing system can be best seen in the *Akka-tangi* ponds, the most famous of all the ponds in Melukote. The route taken by the water before it joins the *Akka-tangi* pond begins from the Dhanushkoti tank that is situated at the top of the hill, then to the Veda Pushkarani pond and subsequently to the Chikkayyana pond. Above the *Akka-tangi* pond is a temple dedicated to Kulashekhara Alwar, one of the Sri Vaishnava saints. A pipeline provided at the lower portion of this temple also joins the *Akka-tangi* pond.

These two ponds pose a riddle. The *Akka* pond at the top is clean whereas the *tangi* pond at the bottom, inspite of the filter system, is dirty. Other than a folk legend, no scientific explanation can be provided for this phenomenon. Perhaps the *tangi* pond itself was meant to be a filter, and therefore it is muddy and dirty.



Legends galore

Legends and myths on the ponds of Melukote form a unique oral tradition. Each pond has more than one legend or fable woven around it. There are separate ponds for washing clothes, for toilet purposes, for bachelors and for women. There is also a belief that



issueless couples are blessed with progeny when they offer prayers to Lord Cheluvanarayana after they have a dip in the *Ashta thirtha*, which is at a distance of 26 km from Melkote.

Though the Pauranik stories and the folk legends on *kalyani* and the *Ashta thirtha* are still prevalent, there is no recorded information on the reason behind the construction of so many tanks. Yet a walk around Melukote and its surrounding villages is evidence that the numerous ponds and the connecting channels were meant only for rainwater harvesting and for managing the overflow of water.

Melukote can, therefore, be regarded as a unique model in harvesting rainwater in smaller tanks and subsequently allowing the surplus water to fill up the bigger tanks. This system is more economical than constructing huge reservoirs to provide irrigation. What is more significant is the fact that these water bodies have been conceptualised, implemented and maintained by the communities of Melukote.

In today's situation of water scarcity, the ponds of Melukote are an outstanding example of rainwater harvesting and management. There is a lesson to be learnt from this for our water planners, if only they are willing to learn.

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