Water Innovation Hub Coimbatore

HubPost No. 1

June 2022

Coimbatore's Lakes – An Introduction

Author: Sreya Prakash, AQUA-Hub project, HubManager Coimbatore

Coimbatore – The 'Manchester of South India' – is the second largest city of Tamil Nadu. The city is a beautiful blend of industry, agriculture and economy. Flanked by the towering mountain regions of the Western Ghats, the plateau is known for its flourishing cotton cultivation and the consequential textile industry. Foundries, metal casting and machining centres, and pump industries also form an integral part of Coimbatore's industrial matrix. The city has also developed as a residential, academic and hospitality hub, with a population of 2,935,000 in 2022.

Water Management is an ancient subject of study in Coimbatore's infrastructure. The royal families dated to as early as the 8th century had incorporated efficiency in drainage of water as a very important consideration in the design of the town. This can be observed even today in the town's extensive lake system, with the Noyyal River as the backbone of the water infrastructure. Noyyal emerges from Vellingiri Hills of the Western Ghats and is a tributary of the mighty Kaveri River, meeting the river in Noyyal village. The use of the river as a trade route further improved the vitality of the civilization.

The Kongu Cholas, owing to the Noyyal River getting flooded downstream, created a system of interconnected lakes and check dams (anicuts) to deviate and channelize the incoming stormwater. This also allowed the recharge of groundwater and easy availability of clean water for irrigation. The farmers of the Kongu region got a steady source of water in addition to the scanty rainfall the region receives. 30 lakes were constructed on both sides of the river. Over time, the lakes became a complete ecosystem, housing several species of flora and fauna. Unscrupulous dumping of sewage has led to a significant loss of this ecosystem.

Coimbatore City Municipal Corporation (CCMC), in the year 2010, took over the following eight lakes from the Public Works Department. These lakes are now incorporated into the Smart City Project. The Smart City envisions to develop the ecosystem across the lakes. The eight lakes are described in the order of the direction of water flow from upstream to downstream:

- **Narasampathy Lake:** Excess water from the Noyyal River is diverted into the lake system by means of the Chithiraichavadi Anicut. The water diverted is fed into Narasampathy Lake, the first of Coimbatore's eight lakes. The lake covers an area of 123 acres. Narasampathy also has an inlet that is aimed at bringing stormwater from the Maruthamalai forest region. On the downstream side, the lake is connected to Krishnampathy Lake.
- **Krishnampathy Lake:** The excess water from Narasampathy Lake drains into Krishnampathy Lake, having an area of 61 acres. The lake lies downstream to the Maruthamalai forest region and two inlets to the lake were designed to bring stormwater down. Krishnampathy is

further linked to Selvampathy Lake by means of a common bund, enroute to the Noyyal River.

- **Selvampathy Lake:** The third linkage in the chain of lakes within the Corporation area, it also lies downstream to the Maruthamalai forest region. The lake receives excess water from Krishnampathy and drains into Kumarasamy Lake. It spreads over an area of 47.2 acres.
- **Kumarasamy Lake:** The lake is also called Muthannan Kulam and has a spread of 71.7 acres. It is connected to Selvampathy Lake upstream, with both lakes sharing a common bund. In addition to the inlet from Selvampathy Lake, Kumarasamy also has a northern inlet, bringing in stormwater from Maruthamalai. The outlet of the lake feeds into Selvachintamani Lake
- **Selvachintamani Lake:** The smallest lake in the Corporation limits, Selvachintamani has an area of 28.7 acres. The lake has a single inlet and a single outlet. The excess water from Kumarasamy Lake is collected here which can further drain into the Ukkadam Periyakulam.
- **Periyakulam (Ukkadam Lake):** The largest lake in Coimbatore, the Periyakulam covers a vast area of 337 acres. Along with excess water from Selvachintamani Lake, excess water diverted from Noyyal River is also collected in the Periyakulam. The lake has three outlet structures in different directions. The first one feeds excess water into Valankulam, the following linkage in the chain of lakes. The second outlet feeds into the channel from the Nanjundapuram Anicut. This water is fed directly into Singanallur Lake, the last water body in the said chain of lakes. The third outlet, of a much smaller dimension, feeds into the Noyyal River directly.
- **Valankulam:** Spanning an area of 160 acres, Valankulam is the third largest lake in Coimbatore. The lake primarily receives water from Periyakulam, along with other small inlets to bring storm water from the Thadagam mountain region. Water is drained from the lake by means of two channels which eventually join Sanganur Pallam, and eventually flows into Singanallur Lake.
- **Singanallur Lake:** Singanallur Lake is the second largest lake in the area of the Coimbatore City Municipal Corporation, covering an area of 285 acres. The main inlet of the lake is Sanganur Pallam, a natural stream to bring stormwater from the Thadagam valley to the lake. The lake also receives water directly from Noyyal River. The water that is diverted from the river by the Nanjundapuram Anicut flows into the lake from the west. The major outlet of the lake drains excess water back into Noyyal River, just before the Vellalore Anicut.

References

Coimbatore Smart City Website www.coimbatoresmartcity.org (accessed: 2022-06-22)

Natarajan, M; V Johnpaul; R Sindhu; K Jayalakshmi (2020): *Case Study and Analysis of Ecological Restoration Plan of Lakes in Coimbatore.* IOP Conference Series: Materials Science and Engineering 1006:012006, https://dx.doi.org/10.1088/1757-899X/1006/1/012006

Pragatheesh, A; Pushp Jain (2013): *Environmental Degradation of the Coimbatore Wetlands in the Noyyal River Basin.* EIA Resource and Response Centre (ERC), Nilgiri, Tamil Nadu, India

Quadros, Goldin; Hemambika B; Julffia Begam A; Azeez P A (2014): *Lakes of Coimbatore City.* ENVIS Publication

Newspaper Sources

https://www.thehindu.com/news/cities/Coimbatore/the-hidden-history-of-lakes-in-coimbatore/article25535323.ece

https://timesofindia.indiatimes.com/city/coimbatore/a-slow-death-for-coimbatore-lakes/articleshow/18298073.cms

https://timesofindia.indiatimes.com/city/coimbatore/rs-295cr-makeover-blueprint-for-sanganoor-pallam/articleshow/63291300.cms

Contact

B.Tech. Sreya Prakash	AQUA-Hub project, Water Innovation Hub Coimbatore, HubManager Coimbatore/India, sreya.prakash@gmail.com
Dr. Stefan Liehr	ISOE – Institute for Social-Ecological Research, Frankfurt am Main/Germany, AQUA-Hub subproject head, liehr@isoe.de
M.Sc. Marc Beckett	Fraunhofer Institute for Interfacial Engineering and Biotechnology (IGB), Stuttgart/Germany, AQUA-Hub project coordination, marc.beckett@igb.fraunhofer.de
Dr. Marius Mohr	Fraunhofer Institute for Interfacial Engineering and Biotechnology (IGB), Stuttgart/Germany, AQUA-Hub project coordination, marius.mohr@igb.fraunhofer.de

Suggested Citation

Prakash, Sreya/Stefan Liehr/Marc Beckett/Marius Mohr (2022): **Coimbatore's Lakes – An Introduction**. Water Innovation Hub Coimbatore – HubPost No. 1. Coimbatore, Frankfurt am Main, Stuttgart: ISOE – Institute for Social-Ecological Research

The AQUA-Hub project

In the AQUA-Hub project Water Innovation Hubs are being implemented in the two Indian Smart Cities, Coimbatore (Tamil Nadu) and Solapur (Maharashtra), and accompanied by pilot measures of German technology for water quality monitoring. AQUA-Hub addresses the needs of the local water sectors identified in previous projects, as well as the challenges of the German water industry to develop projects, relationships and business on the Indian market. Qualified HubManagers as a local presence of the Water Innovation Hubs are of great importance for the relations and the exchange of information between the German and Indian actors. In addition to network activities and the mediation of business partners, the hubs fulfil the function of project centres for the realisation of technical demonstration projects, provide information on current developments in the water sector for the respective local situations and support the access to water technologies "Made in Germany".

For more information: www.aqua-hub.de

Acknowledgement

The AQUA-Hub project is funded by the 'Export Initiative Environmental Protection' (EXI) of the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV), grant number 16EXI4021A-C.

Supported by:

Federal Ministry
for the Environment, Nature Conservation,
Nuclear Safety and Consumer Protection

based on a decision of
the German Bundestag

ENVIRONMENTAL made PROTECTION in Germany

Imprint

Author: Sreya Prakash
Editing: Stefan Liehr, Marc Beckett, Marius Mohr
Design & Layout: Stefan Liehr
Photo credits: Marc Beckett (Fig. 2 and 3), Stefan Liehr (Fig. 4)
Publisher:
AQUA-Hub project
ISOE – Institute for Social-Ecological Research
Hamburger Allee 45, 60486 Frankfurt am Main, Germany
Phone +49 69 707 69 19-0, E-Mail: info@isoe.de

Appendix

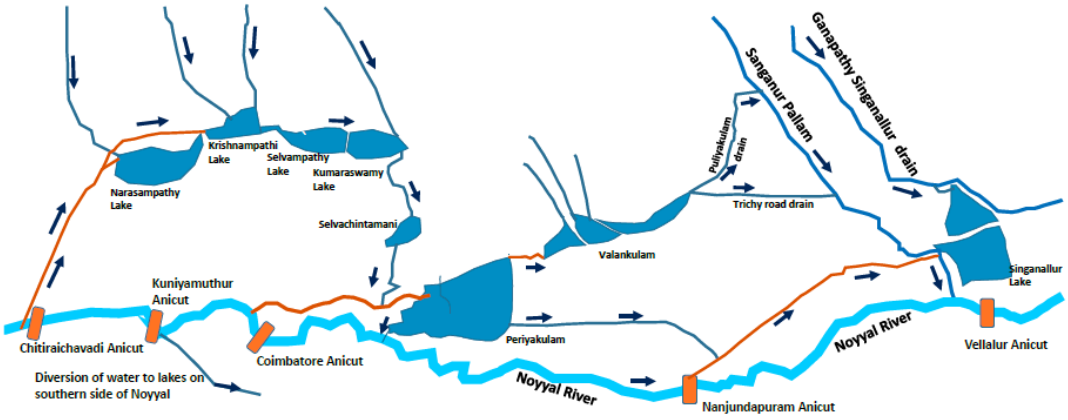

Figure 1: Map of Coimbatore Lakes. Source: Natarajan et al. (2020)

Figure 2: Selvachintamani Lake. Source: AQUA-Hub project team

Figure 3: Valankulam Lake. Source: AQUA-Hub project team

Figure 4: AQUA-Hub project team at Selvachintamani Lake with Mr. Baskar, General Manager, Coimbatore Smart City Limited. Source: AQUA-Hub project team