

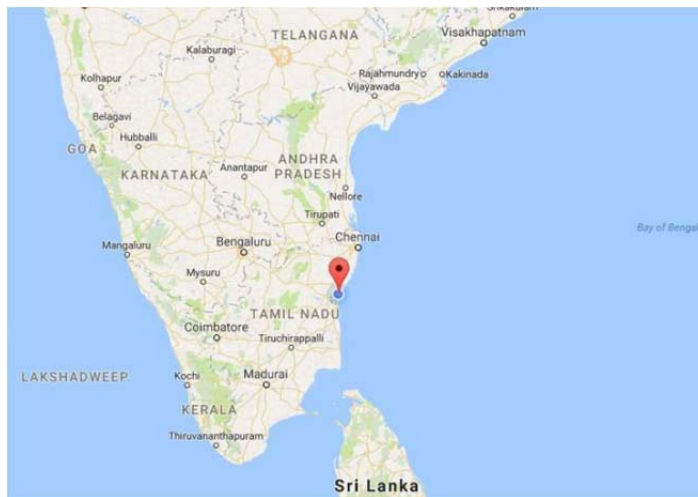
Water Situation in the area that TCoN operates in

As in the world, India, Tamil Nadu, the Auroville bio-region and Kottakarai village, also on the premises of The Colours of Nature... every drop of water counts!



TCoN is already doing a fair share by using the natural indigo fermentation process, which uses no water apart from the initial water put into the vats, but we believe in continuous and constant improvement. To us, the only constant is change.

For the sake of clarity, find hereunder brief snapshot descriptions of the current level of water stress, and some solutions, zooming in, from the macro-level, to the TCoN premises. We hope this will add to the understanding of what makes this particular project so important.



India, with a diverse population three times the size of that of the United States, but only one-third of its physical size, has the second largest population in the world, out of which 52% still live in poverty.

Although improvements have been made over the past decades, both to the availability and the quality of municipal drinking water systems, the

large population has stressed the water resources. Regardless of improvements to drinking water, many other water sources are contaminated with both bio and chemical pollutants, and over 21% of the country's diseases are water-related.

One concern is that India may lack overall long-term availability of replenishable water resources. While the aquifers are currently associated with replenishing sources, as is the case with all countries with large agricultural output, excess water consumption for food production adds to the depletion of the overall water table.

There is no easy answer for India which must tap into water sources for food and human sustenance, but the country's overall water availability is running dry. The scarcity in India is expected to worsen as its population is expected to increase to 1.6 billion by year 2050.

On a positive note, some areas have a relatively wet climate, even in the most arid regions. However, without a rain catchment program in place, most of the water is displaced or dried up instead of used. In these areas, rain harvesting could be one solution for water collection.

Collected water can be immediately used for agriculture, and with improved filtration practices to reduce water-borne pathogens, can also be quickly made available for human consumption.

[Summarized from <https://thewaterproject.org/water-crisis/water-in-crisis-india>]

Tamil Nadu state has been sharing its water with the neighboring state of Karnataka since the 19th century. The Cauvery River originates in the state of Karnataka and flows through Tamil Nadu before joining the Bay of Bengal. Unfortunately, both states are more stressed for water today than ever before.

Tamil Nadu has seen a sharp reduction in freshwater availability and evidence of the falling groundwater levels can be found e.g. along the Noyyal, a small river that flows past Coimbatore and Tirupur before merging into the Cauvery. In some instances groundwater levels here are as low as 1,000 feet whereas, only ten years ago, villagers used to find water at 600 feet. Twenty years ago, they just had to dig 200 feet.

Smaller rivers, like the Noyyal, carry less water (and flow during fewer months each year) than before. The reasons for this include illegal diversion of water for industry, falling groundwater levels, and rising urban and industrial demands for water.

According to Tamil Nadu's Water Supply and Drainage Board, almost half of the state's 385 blocks are drawing out more water than is replenished in the year, and others are moving in the same direction.

Tamil Nadu Water Supply and Demand



Scroll.in

Data: <http://www.twadboard.gov.in/twad/tamilnadu.aspx>

The last major source of freshwater in Tamil Nadu is the monsoon. The state gets about 20% of its annual rains from the Southwest monsoon from July to September; the bulk 70% comes later in the year, during the Northeast monsoon, which begins in December. But in the last 20-25 years, the southwest monsoon has largely failed.

Put all this together and what you have is a state in the midst of a water crisis. As the Water Supply and Drainage Board website says, the state has an annual shortfall of more than 300 thousand million cubic feet each year.

[Summarized from <https://scroll.in/article/816445/the-story-of-how-karnataka-and-tamil-nadu-mismanaged-their-water-and-then-blamed-each-other>. Posted 14-9-2016, updated 3-1-2017]

Comparing photographs of the **Auroville bio-region** from before 1968 and now, it is clear that there has been a massive reforestation effort in and around Auroville. Local champions, such as the Sadhana Forest project, which started in 2003, keep up the practice. Winning third place in the 2010 Humanitarian Water and Food Award, this fast-growing volunteer organization acknowledges that much of their forest work centers on water conservation. Permaculture techniques, such as bunding, are applied to retain and conserve water on the land and to utilize it to its full capacity, educating both local people and international volunteers in the process.

The founder of Pitchandikulam, another Auroville community, arrived in the 1970's and was involved with implementing solutions to capture rainwater, bringing back grass cover and food crops. By now, Pitchandikulam is a tropical, dry, evergreen forest with more than 400 medicinal plants and has helped develop Nadukuppam government school into an environmental center sporting a solar-powered water treatment system. The Pitchandikulam Forest Consultants have also helped revive fragile wetlands around Chennai.



All over Auroville, check dams help stop topsoil from being swept into the sea, and so prevent soil erosion and sea water intrusion into the aquifers. Many Aurovilians tend to the [Auroville canyons](#), turning them into vast rain water catchment areas, a labor of love which has helped prevent flooding during monsoons.

And yet, in spite of all the efforts, water intended for domestic needs is

of unsuitable quality in almost every village surrounding Auroville. In certain zones, the rate of salinity is such that it affects the agricultural production. Add to this the infiltration of dangerous pesticides, fertilizers and other toxic industrial and urban wastes which, for lack of adequate treatment, are found concentrated in the ground and in the water. Fortunately, the increasing salinity is not yet the fact of the intrusion of sea water, at least in the close vicinity of Auroville. But some 20 kilometers south, the disaster is present.

Auroville exists in total interdependence with the surrounding villages and efforts are being made to re-charge and achieve a water balance, through awareness and outreach programs; not only through check dams and bunding, but also through extensive rain water harvesting and waste water treatment solutions. In this, Auroville Water Harvest has played an important role. They set up scientifically grounded and environmentally, socially,

organizationally and economically viable solutions together with the local population. A recognized actor, they have advised the government and international agencies.

[Summarized from <http://sadhanaforest.org>, <http://wafaward.org/>, www.thehindu.com/features/metroplus/eco-warrior/article2087596.ece, www.pitchandikulamforest.org/PF/nadukuppam-environmental-education-centre/, https://en.wikipedia.org/wiki/Tholkappia_Poonga, www.green.aurovilleportal.org, www.auroville.org/contents/1914]

Auroville Water Harvest worked on water in a holistic manner, and was head quartered in **Kottakarai village**, just next to The Colours of Nature. After much trial and error, they were able to implement some complete and appropriate water solutions that continue to inspire other villages, and the interest for duplication is growing.

Specifically, a 2006-7 project implemented the following in Kottakarai village: 59 Eco-san toilets, a new water distribution system, village pond rehabilitation, check dams, 51 roof rain water harvesting systems, improved street drainage, foot paths across the canyon and channels, 11 waste bins, 52 vermi compost units and two drinking water purification units, in addition to planting 750 trees.

To sum up, the Auroville expertise in the field of water is well known and appreciated by both the local communities and various authorities, which treat the community as a partner capable to give answers and to develop practical solutions for the complex problems faced by Tamil Nadu and India as a whole.

[Summarized from The report from the “Pilot project for sustainable and durable development through integrated water resources development in a selected village in coastal Tamil Nadu, India” by Auroville Water Harvest, www.green.aurovilleportal.org, and www.auroville.org]

On **The Colours of Nature premises** water is used for the scouring and washing stages, but the water that comes out at the end of these processes carries no harmful elements. Not only do we not apply chemicals for dyeing, but we also use only biodegradable Marseille soap and so the water can be safely re-used for agriculture. At the moment, the water is being used for the gardens onsite.

Permission has been granted for cultivating indigo, marigold flowers and cassiadora in the field next to the site. So at some point soon, likely already during 2017, the waste water (which is in effect never wasted) can be used there, completely closing the loop!

Adding to this, we plan to add drains to the planned new building, in order to catch rainwater from the roof, as we remain blessed with the same during monsoon seasons.

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