

Matrimandir

November 2014



Laying compacted clay slabs on a geotextile under layer in one of the six mini test ponds at Matrimandir

From mid September until the end of October, some members of the Matrimandir team were busy with the import of three shipping containers full of materials to be used in the six “Mini test ponds” being excavated just outside the Matrimandir gardens oval.

The Mother had stated in the early ‘70s that the Matrimandir gardens oval would be surrounded by a lake, which would act as an isolating zone around this central island. She did not say how big this lake would be, nor how deep, but she was very firm that one day it should be there. It was needed to complete the very special place, and atmosphere, that she wished to establish at the center of Auroville.

Thus the six tests ponds now under construction on the Matrimandir site are a first small step on the way to building that future lake. Each of these small ponds, measuring at most 20 meters x 20 meters wide and 4 meters deep, will be used to test different types and arrangements of water proofing materials which might then be used in a later test pond and eventually to seal the bottom of the future Lake itself. The excavation work of the mini test ponds had been enthusiastically done by the Auroville Road Service under the direction of some members of Auroville’s “Matrimandir Lake Team”.

The race against the onset of the winter monsoon was on, for once those rains arrived it would be difficult to carry out any such work in the sea of red mud that would then develop!

By the beginning of October the first of the three containers was yet to be released from the sea-import customs in Chennai. The container had to be opened and the material inspected, as these materials were unusual for the customs inspectors, and they wanted to see for themselves just what we were bringing in.

The materials were simple in effect: 2mm thick rolls of polyethylene pond liner, then clay-filled sheets of fabric which are supposed to swell up under water and become water proof, and then, in two containers, there was a large quantity of slabs of finely compacted clay, to be laid together side by side and joined to create the floor of one of the ponds.

Local clay from Tamil Nadu would be used in one of the six test ponds to allow a comparison to this German clay.

Now, in Tamil Nadu the winter monsoon is scheduled to arrive by mid October, or perhaps ten days later. And when it comes, it comes with a rush, dumping rain water at the rate of ten, or even twenty centimeters in a day. So our ponds had to be ready by then, otherwise the whole work would get blocked until the rains had ceased.

Day by day we worked with the customs people, navigating between political strikes on the one hand, and the yearly multiple holidays of Saraswati Puja, Bakrid and others. It was a bit like dodging between players on a football field while you were aiming to run to the end line to score a touchdown.

Already at the beginning of the month, the direction of the wind had shifted,- now the low grey clouds started drifting from the north east. This is the wind direction associated with the arrival of the winter monsoon in Tamil Nadu, and so looking each day at the sky for any signs of the coming rain, work proceeded apace to make all ready for the arrival of these materials which had come over from Germany by sea and now were waiting in the port at Chennai.

Storm clouds gathered overhead as the mighty cyclone "Hudhud" formed in the Bay of Bengal, reminding us that we were fast approaching the onset of the rain season! Fortunately for the test pond work, Hudhud moved to the north west, leaving us with disturbed and cloudy skies, but no drenching showers.

Finally, by October 13th the two containers with compacted clay slabs were released from customs, and the forty foot long containers were trucked down from Chennai, which is some 160 kilometers



to the north of Auroville. Two engineers trained in the application of this clay had timed their flight over from Germany, and had arrived on October 12th, prepared to guide us on the laying down of the clay.

Those two containers, which had made the sea journey from Germany without a hitch, and had rested just a few days in the Chennai customs, had the most difficult part of their journey just one kilometer from Matrimandir: they had to pass, in the dawn hours of October 14th, through the village of Edyanchavadi, which borders Auroville on the south west. The road through this village was no autobahn, or super highway, - it is a winding road that passes between closely packed village

A "pogo stick" jumper is used to knead the clay slabs so they join and become one waterproof layer.

houses linked overhead by a forest of low hanging electric lines which crisscross above the roads. As the two lorries moved at a snail's pace through the village a team of men had to run ahead with long poles to lift up, one by one, the drooping electricity lines so the lorries could pass by without breaking them.

The progress was painfully slow, but after an hour and a half of this activity to move just some three hundred meters through the village, the two lorries were free. (it had been a very exciting event for the villagers!) Within a few minutes they had crossed to the center of Auroville and had arrived at Matrimandir just at 8 am, as our workforce was coming in the gate.

It was decided to do the work of unloading and laying the German clay during the upcoming night, so as to avoid it drying out and cracking under the heat of the sun. (The sky had been clear during the day, but by evening low dark clouds had begun to drift in from the north east...)

Lights were arranged, and by 4 pm the work of laying the clay in the mini test pond was begun. The two huge lorries were lined up on opposite sides of the 15 meter wide excavation, with the open back end of each facing this two meter deep depression. Teams of workers swung into action passing down from the lorries the slabs of dense clay. Each hefty slab, weighing about 80 kgs, was ten centimeters thick, and of a size that could be carried by two strong men. Under the care of the German engineers the slabs were laid out over the floor of the excavation, fitting tightly together like tiles on a roof. After about half of the area was covered in this way, a vibrator machine was brought into the pond and started up with a roar. Jumping like a pogo stick it hopped up and down giving a tremendous hammering to the clay floor, kneading all the joints between the slabs and causing them to join up and form a single continuous, waterproof layer of clay on the floor of the pond. The work continued for hours during the night. By 2 am the giant container lorries were empty at last. They were sent on their way back to Chennai right way as they had a deadline to meet there. Of course, the first kilometer of their return journey would be the slowest, as they had to pass again through those narrow streets of the village of Edyanchavadi which are so overhung by low strung electric lines,- and this time they had to do it in the dark of night!

The work at the pond proceeded through two more phases,- first the whole clay layer was covered by a thin layer of geotextile,- a polyester fabric laid on it to protect the clay from abrasion from above.

Then, as a final layer, the whole of this area was covered by a thick layer of granite stone chips. This last layer was deemed to be necessary because we had observed, in the floors of local clay ponds in the Auroville area, that this soft layer was prone to being pierced by an unexpected pest: crabs! Simple land crabs, seeking protection from the heat of the sun as the ponds dried out in summer, were found to burrow straight down through the clay leaving a neat round hole about 5 centimeters wide right through the clay layer. If this were to happen in our test pond (for the crabs would move into it one day for sure) then right away the pond would leak and all the work would be spoiled. So, a tthick layer of granite chips would keep these pests away!



The sealed clay layer was covered with a protective layer of white geotextile, and then with a thick layer of granite chips.

By 5 am , the work was done and the entire team,- German engineers, workers of the Auroville Road Service and the Aurovilian volunteers all headed home for a much needed rest.

And then, the Divine Humor took over: just one hour later, at 6: 30 am, the heavens opened up and the Auroville area was gifted with a tremendous down pour of rain,- the first of the winter monsoon season! Thus, this first of the test pond was immediately given its first trial as a water holding body.

When we arrived in the morning to see what had happened we were greeted with the sight of the pond about one quarter full of water already. Unfortunately it was muddy red water, because one of the outer protective bunds around the rim of the pond had broken under the force of the rain, allowing red muddy water to rush in....But it was proved to be a waterproof pond none the less!....A promising beginning to this series of tests aimed at selecting the best way to seal and waterproof the future Lake of Matrimandir.

For a report of how the other five ponds were sealed, you will have to wait for our next newsletter, for as our deadline to publish this issue arrives, the last container from Germany filled with those sealing materials is still waiting to be cleared from the customs in Chennai, and the monsoon has arrived in full force, and the sea of red mud has formed around the test pond excavations!



The mini test pond, 16 meters wide, fills under the monsoon rains.

We would like to remind everyone that this Matrimandir Newsletter is available on line, so if you would prefer to receive it that way in future please send us an e-mail to this effect and we will put you on our e-mailing list. Thank you!

Contributions to Matrimandir are exempt under sec. 80G of the Indian Income Tax Act. You may make your cheques, money orders or DD payable to '**Matrimandir**'

Postal address: MATRIMANDIR – AUROVILLE 605101 – TAMIL NADU – INDIA
Phone no for accounts : 0413- 262-2228, Email: matrimandir@auroville.org.in