Auroville Today

Auroville is facing a drought

Tamil Nadu and many other parts of India are currently facing an unprecedented drought. This message was formally delivered by the Chief Minister on January 10th, 2017, declaring Tamil Nadu a drought-hit state. As *The Times of India* reported: 'The southern states are staring at a severe water crisis this summer as water levels in major reservoirs have hit rock bottom. The situation is worst in Tamil Nadu where water levels in reservoirs are 80% less than normal.'

This crisis has led to serious consequences. Water shortages have resulted in inter-state tensions between Kerala and Tamil Nadu; to a state-wide *bandh* (strike) in an effort to receive compensation for poor crop yields following the failure of the winter monsoon; and to an increased number of suicides amongst farmers between December 2016 and January this year. This crisis, which has caught the attention of national and international media, has already led to the mobilisation of some relief funds.

This distressing reality has not yet fully impacted life in Auroville. Its position on the Auroville plateau and decades of dedicated work on our forests that support the microclimate and conserve moisture, have kept Auroville in a safe space – so far. The exemplary water conservation practices that have been going on in Auroville – the

Some of the lawns of the Matrimandir Gardens are no longer watered

creation of bunds to prevent rain and surface water run-off, the building of check dams, the creation of ponds and the restoration of open water bodies have helped in recharging the aquifers. Possibly, these efforts, in combination with the unique geological conditions of eastward sloping aquifers that characterise our plateau, have not only built up pressure against seawater intrusion, but have also led to a steadier water supply in our area.

However, these favourable circumstances are changing and the drought phenomenon is now finally catching up. The island effect generated by our unique environment is wearing off, which is seen by the ongoing trend of seawater intrusion into the upper aquifer of a large coastal stretch of our bioregion. Even the Quiet well water is starting to taste salty. This development is corroborated by other wells nearing exhaustion: the shallow wells at the Youth Centre, Revelation and Sve Dame have run dry, the pumps in the wells of Silence and Auroshilpam had to be lowered to reach the sinking water tables and the wells in the Kottakarai region are under stress. While the wells in the Kuilapalayam area are doing better, some wells, such as the one in Auromodèle, need to be compressed to improve their yield. Additionally, wells

in villages as close as Periamudalyarchavaddi are running dry and even our farms are running out of water [*see the article below*]

Previously, some people were skeptical about using the term 'drought' to describe the situation in Auroville, but this term can no longer be avoided. Auroville is facing a drought: we are just in the initial stages, but have to face the fact that we are confronted with a looming water crisis.

What are we doing about this? The Auroville Water Group has been working on a long-term and short-term solution. For the long-term, it is working on a water management strategy. For the short-term, it is conceptualising a crisis management plan.

Water Management Strategy

The water management strategy addresses various fields of action, aiming at a holistic and integral approach to water management. The Water Group has just published 'Vision and Guiding Principles for Water in Auroville' for feedback. A strategy, based on both the current situation and the vision of where we want to go, is being worked out; it proposes a phase-wise implementation of the guidelines.

As part of the strategy, the Water Group is compiling past data on the aquifers to understand how things have changed, and is doing its best to deal with a large gap in the data. A GIS web interface has been launched that provides data on Auroville wells that have been monitored over the past six months to one year.

Crisis Management Plan

The crisis management plan, also mentioned in the Guiding Principles, is currently receiving priority, given our precarious situation. It is still a work in progress, but the basic principles are simple: the idea is to abstract water from wells that still have an abundant supply and deliver it to areas that have completely run out of water. Major Auroville working groups have been informed and are ready to collaborate – this attempt is going to require everyone's cooperation for it to work. The Water Group is currently assembling a team that is ready to step into action before and during the emergency.

'What else can be done?' The answer is simple: conserve water! Ideas on how to best save water can be found at aurovillewater.in/for-aurovilians, and all Aurovilians are called upon to collaborate. Large water consumers, such as the Matrimandir, farms and construction sites, are advised to minimise their water consumption. 'The Matrimandir has reduced its water consumption by about 20 % compared to last year, especially in the undeveloped gardens, and has also replaced the system of 40-year old potentially leaky water lines in its outer garden area,' says John, one of the executives of the Matrimandir. Project holders of construction sites have been asked to cover cured cement to conserve moisture and avoid repeated water application.

These acts are already leading to a more conscious use of water in Auroville. Many Aurovilians have joined the efforts at conserving water by repairing leaking pipes and minimising the watering of gardens. This is the best way to help: by stepping up, taking responsibility for our actions and spreading a spirit of solidarity and togetherness to aid in this effort of working together and facing this situation as a community.

Aditi

Guiding Principles

The *Vision and Guiding Principles for Water in Auroville* addresses water security, water environment, water stewardship, water governance, water education and water research.

As stated in this document, Auroville will:
– Provide water for all inhabitants;
– Grow into a township sensitive to water in its environment;
– Obtain water from all renewable sources;
– Steward water with care and effectivity;
– Govern water responsibly, openly and fairly in an evolving society;
– Integrate water education and research.


Farms under stress

Even though Auroville farms largely use sprinklers and drip irrigation to reduce wastage of water, it goes without saying that our agricultural sector consumes the maximum amount of water. Water and food are our most basic needs, and one hopes that due to the drought, one will not have to give up food cultivation in order to conserve water. Tackling such competing needs is not easy. Compounding the problem is the fact that even after 50 years, Auroville does not have a community-supported vision about agriculture. The Farm Group and its sub-groups (grain group, horticulture, and poultry) try to coordinate the work of individual farmers, but by and large, the latter are left to their own devices to manage their farms.

Given this scenario, at a recent Farm Group meeting, a 'water war' of sorts broke out: Moorthy, a farmer reported that the water level in one of his wells had gone down significantly. He feared that the well would not yield enough water to irrigate the sesame crop that he had planted. Sesame is largely a dry-land crop that requires watering only twice a month, for 3 months, but even so, Murthy was faced with a potential loss of this crop. To save the financial investment he had made in planting the field with sesame as well as to ensure the viability of future crops,

Moorthy wanted to lower his pump further down in the well. Another farmer vehemently opposed this suggestion protesting that such an action would adversely impact the water level in his well. Heated arguments ensued. Someone pointed out that instead of the two farmers opposing each other, one should also consider the water footprint of the spirulina farm, which was also in the same locality. Given the lack of concrete data, it was hard to agree on a common course of action. Luckily, as it turned out Moorthy was able to keep his crop alive without having to lower the pump to extract more water.

To varying degrees, all farmers, are experiencing similar problems. As with the rest of India, Auroville has increasingly moved to irrigated agriculture, for if one has a perennial source of water, one can conceivably produce food throughout the year. However, this season, as farmers witness a significant decrease in the yield from their wells, they are deterred from planting new crops. Priya of Buddha Garden farm reported: "We got some pretty shocking information about our well today. It dried up completely seven times in April and is now yielding 50% of its usual output. We may have to desert some of our vegetable gardens."
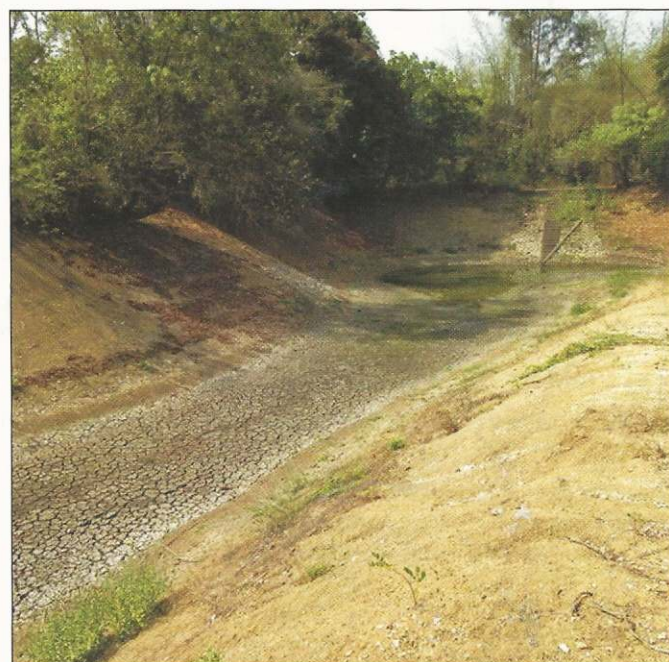
A dried-out pond at Annapurna Farm

A perspective from the farms

Perhaps the hardest hit farm in terms of water scarcity is our largest rice farm, Annapurna. Rice is a water-intensive crop: paddy rice can consume eight times as much water than vegetables, but in normal monsoons most of this water is supplied by the rain. In fact, rice is one of the few crops that thrives in our heavy winter monsoon.

About two decades ago, Annapurna had invested in making a series of water catchment ponds and deepening existing ones. Annapurna has capacity to catch and store approx. 25,000 cubic meter (25 million litres) of rain water in these ponds. However, 2016 was recorded as the driest year in the past 140 years, and due to the complete failure of the winter monsoon, the ponds did not get recharged. Warning signs about water scarcity dawned as early as January, when Annapurna's steward, Tomas, reported that for the first time in 15 years, the water level in these ponds was at its lowest. The ponds are still being used to irrigate grass for fodder, but soon they will be totally dry.

Apart from these surface ponds, Annapurna has two deep bore wells, an old and a new one, and a shallow well. Many wells in Auroville and in the surrounding villages draw water at an average depth of 60 metres from the second aquifer, the Kaderperikuppam limestone aquifer, but Annapurna's deep wells go down to 138 and 174 metres respectively and draw water from the third aquifer, the Vanur / Ramanathapuram sandstone aquifer.

In December, a new pump was installed at 130 metres, but in May, the pump started to suck air indicating water scarcity. Between December

and May, the water level in this well dropped down by an unprecedented 12 metres. Currently, this new well yields water for a minute or so and then stops: a sure sign that the well is drying out. Measures have now been taken to reduce water extraction.

The stewards are closely monitoring the situation to see if the fall in the water levels will stabilize at a certain depth. If so, Annapurna may lower the pump in the new deep well to keep the farm alive through these hot summer months. Annapurna also has a dairy with an average herd size of 25 animals. However, water from the new borewell is not suitable for consumption, even for animals, because it has a high content of sulphur.

The saving grace at Annapurna is one functioning open shallow well, which gives about 10,000 liters of water per day. This well with a depth of about 12 metres is supplied by the first

aquifer (the Cuddalore sandstone aquifer). The recharge zone of the first aquifer is largely within the Auroville area, and Tomas suspects that this open well gets recharged because of over-irrigation in the neighbouring village fields.

To cope with this dire situation, Annapurna managers are changing agricultural practices and prioritizing water needs. Instead of building a new cow house that they had planned, they will divert funds towards gearing up their water system to get through the summer. In the long run, Annapurna may consider making more water catchment ponds to increase surface-water irrigation.

The other farms

Besides Annapurna, our two other major rice farms, Ayarpaddi and Siddhartha, are also taking measures to deal with an acute water scarcity. Somewhat ironically, in a bid to be completely

self-sufficient in rice, there was a plan to bring an additional 9 acres of land under paddy cultivation this year in these 3 farms. As a normal summer monsoon is predicted, the farmers want to go ahead with this plan. But they would now ideally like to try out other rice varieties that would have shorter duration for growth and are less water-needy than Ponni rice, our main rice variety. Such rice varieties, however, often have lower yields and are generally more labour intensive. Good quality seeds for these different varieties have to be sought for and sourced from outside of Auroville.

While for many in Auroville the drought has not yet made a difference to their lives, the Auroville farmers have been pushed into experimenting with agricultural practices. Some have started wondering about the continued viability of agriculture in Auroville. As Charlie from Aurogreen who has been farming and diligently monitoring rainfall for decades says, "The drought certainly makes all much worse and difficult, but the important point to remember is that each year the situation is degenerating. A good rain season next, or any single year is not going to reverse this trend. I hazard the guess that twenty years ago deep borewells such as those at Annapurna would not have been affected at all by a dry spell. Such trends are a sure sign of future water scarcity. Digging deeper, doing heavy irrigated agriculture and developing more irrigated farms, in my opinion, is a wrong direction. We need to grow what we can with super-efficient irrigation." In this context one can add that Buddha Garden is just embarking on a new research project to determining optimal water usage for selected vegetable crops.

The Auroville community needs not only to decide on future directions for farming but also be prepared to change its dietary habits and start consuming only what can be sustainably grown. In other parts of south India, farmers are pioneering experiments growing only climate change resilient crops. Given the fact that in a period of six years we have experienced extreme weather events – a cyclone, a flood and now a drought – all of which adversely affected the farms, Auroville should be prepared to take bold, new steps to maximize resiliency in this uncertain era of climate change.

Bindu
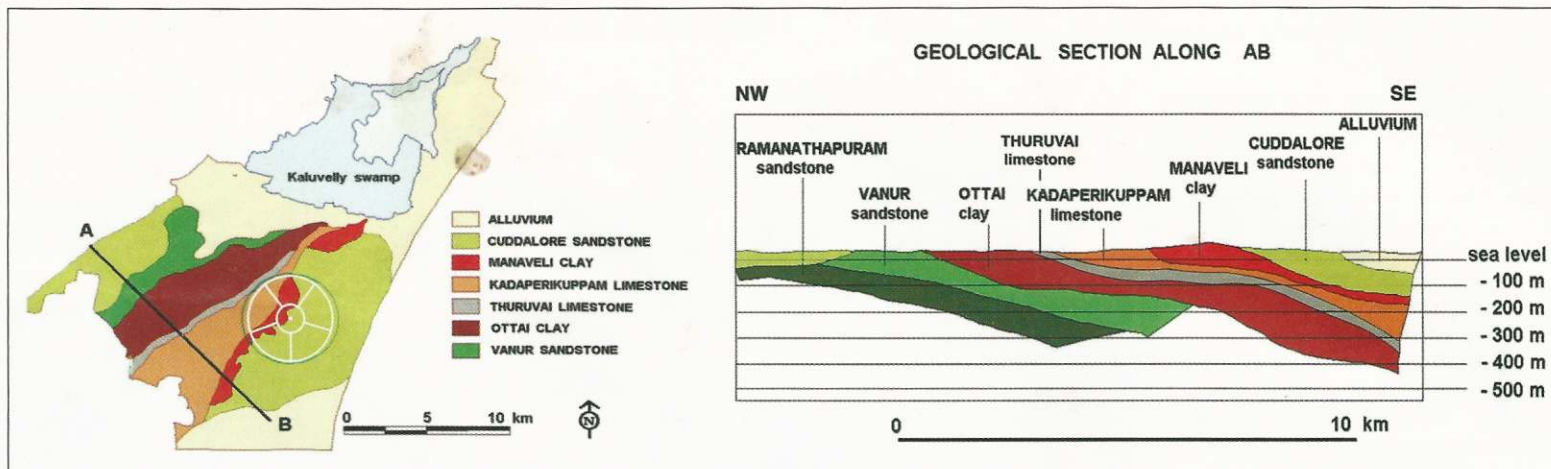
The ground beneath our feet: A hydro-geological cross section of the Auroville bioregion. Auroville (marked with its symbol) sources its groundwater mainly from three aquifers in different strata of porous rock (limestone and sandstone) that underlie it. The names of the rock strata are the names of the places where the rock types were first found and characterised.

Rainwater harvesting by making catchment ponds

Auroville's success in regenerating a wasteland has been due to its work in water conservation. Since the early years, foresters have carefully planned and made contour bunds, small check dams, and a series of water catchment ponds to prevent soil and water erosion from our plateau. Catching rainwater in catchment ponds not only conserves surface water, but also helps to recharge the aquifers as the water from the ponds slowly percolates into the ground. Catchment ponds or 'eyeries' as they are locally known, were a traditional rainwater harvesting system in Tamil Nadu. This system has largely fallen into disuse, and many of the village ponds are silted, encroached upon, or overtaken by parasitic vegetation, like *Prosopis juliflora*. Bobby, who had to lower a pump to extract water from a lower level in the Industrial Zone, lamented that she would not have had to this if the Alankuppam village catchment pond had been properly maintained.

To battle this bleak scenario, for the last few years Kireet has been working on rainwater conservation in the entire Auroville region. In the past six months or so, he and his team accomplished the following:
– De-silted and enlarged the catchment pond in Siddhartha Forest.
– Improved the catchment area of two existing ponds at Infinity as well as created a third new pond. The three ponds were then connected with overflow channels.
– Cleared a part of the canyon (which acts as a waterway) in Aurosarjan. The work also involved making a spillway, repairing and raising a bund and deepening the basins in the canyon. The water run off from the ditches along the road to Aurosarjan was channeled into to the canyon.
– Made a percolation pit with two channels and bunds in Ami, in order to slow-down run-off from Certitude to Forecomers.

One of the desilted ponds near the Visitors' Centre

– De-silted two ponds near the Visitors' Centre which had been made in the previous year were to increase their water storage capacity.
– Enlarged two small ponds at Nine Palms to catch the overflow from a larger '*kolam*' (surface pond). Extra soil from the second pond was used to raise bunds and the spillway of the *kolam*. Between the two ponds the canal was improved. The *kolam* itself was de-silted for increasing its storage capacity. At the center of Nine Palms, a small pond with bunds was improved and a percolation pit and channel were added.
People greatly appreciate Kireet for continuing the work that had been started by pioneering greenbelters. Greenbelters continue to improve water conservation in the lands that they steward and with the funds they have. But none do it at the scale that Kireet does. Also, what has changed is that while in the early years all this work was done by hired manual labour, now, due to the cost of labour, it is done with hired machinery.

Bindu

The joy of working at the Matrimandir

On April 01, 2009, John, Elumalai, Pierre and Srimoyi took charge as executives of the Matrimandir. On July 31st, after more than 8 years of dedicated service, their term of office is coming to an end. *Auroville Today* **asked them about their experience.**

John: We started work after Roger Anger left his body, on 15th January 2008. We were placed in the unique situation where there was no longer, physically, a captain steering the ship as there had been for all those previous years. All decisions were now squarely on our table. That took time for everyone to get used to.

Pierre: It's far simpler when you have a leader who gives the direction. At the beginning, during the building of the structure and the chamber, I have been told that Piero was coming every morning with plans and instructions for everybody. Afterwards, for the completion of the outer skin of the Matrimandir, Roger in the same way gave precise design directives that we happily followed.

After his passing, we have been obliged to find another way of functioning, keeping in mind the spirit of the design. On a few issues it has been

challenging to build consensus. Yet, we found a way to collaborate together and have been able to maintain a very fine working atmosphere.

Did Roger leave a sufficient number of instructions and details behind?

Pierre: The building was completed at that time; nothing was left, except the electronic device to move automatically the golden doors of the Matrimandir. The unfinished parts were the 12 gardens, the Garden of Unity, the oval road and the lake surrounding the oval.

For the Unity Garden, precise drawings were there, we executed them at the beginning of our mandate. I remember very well Roger saying during a special meeting in Town Hall that the gardens must be a collective work and never be associated with a particular name.

Elumalai: I had been working with Michael Tait before I became an executive. I saw Roger working on the garden designs, but he had great problems conceptualizing what he wanted. He himself was not a garden architect and he was looking for a person who could implement what he envisaged. But that did not manifest.

Pierre: Roger has himself made a model for the 12 gardens. Several teams have worked with him and made proposals for some of them, but nothing was finalized. Roger left precise guidelines for the gardens, which were followed by Marie, Marc and Maurizio. This allowed for the manifestation of the first three gardens. It went very smoothly, the atmosphere was very joyful. Afterward Meera and Marc made a proposition for the 9 remaining ones which was approved 2 years ago. We are working on their implementation.

What were the main works you have been involved with?

Elumalai: On the level of development, we built the Unity Garden including the pond, its fountain and its small amphitheatre; the three gardens of Existence, Consciousness and Bliss; and we completed all the pathways in the oval. We also spent two years trying to find a location for our composting section for the gardens, which we have now started to develop. We have also planned and started the job of completing the two large rooms beneath the Amphitheater.

Another main activity, all along, has been taking care of the maintenance of the building and its surroundings. This included, for example, doing repairs such as re-doing the waterproofing of the petals.

The joy of working at the Matrimandir

Are the present works progressing as planned?

John: Some are moving smoothly, some are slower. A major work we are doing at present is building the Green Room beneath the Matrimandir amphitheatre. We are changing the former underground air-conditioning room into a Green Room and opening a direct access to the amphitheatre. This work proceeds smoothly, along with its companion space on the other side of the amphitheatre which is being developed as a gardening tools centre for the future.

Also, we are in the process of developing the design of the new Matrimandir Service Facility. For more than a year we have been working with architects Sonali and Ganesh, who have also designed the Green Room. A maquette has been made for the Service Facility. The new building will be located at the end of the line of administrative buildings. This line now consists of the Town Hall, the Multimedia Centre, the Auroville Foundation Bhavan, SAIIER, the Archives (still under construction) and then there is space for one more building. As per Roger's indication, next to that will be a support facility for Matrimandir. It will harbour all the activities that are now housed in various ramshackle buildings around the Matrimandir gardens oval – the administrative offices, the security, the laundry, the kitchen, a place for maintaining garden tools and machinery, the stock room and all the facilities needed by the one hundred or so people who work daily to maintain Matrimandir in all its aspects. The location has been approved by the Town Development Council. We hope this work can start soon.

But there are also areas where we haven't been able to progress as we would have liked. For example, we couldn't start building the new Matrimandir Reception Centre as Auroville doesn't own the land where it is planned. Also, we have not been able to progress with the manifestation of the Gardens as quickly as we had hoped. Only now they are now picking up speed, as we move forward with the gardens of Progress, Utility and Wealth.

It has been said that you take all decisions with all the coordinators, so the executives are not really the 'bosses' of the Matrimandir.

Pierre: It is not like that. We are here to help the coordinators to do their work, but at the same time we have to take the final decisions in certain matters.

You need to work first in an 'horizontal way' to take in account all the concerns of the people working, specially the coordinators, and afterwards in a 'vertical way' to propose a solution that includes all the parameters expressed, which allows for a final consensus.

It's a real challenge, but when it is well done, it functions very well. We try as much as we can to apply this process for all decisions, like recently for the increase of the wages.

Some people feel that there is a pretty relaxed atmosphere amongst the workers at the Matrimandir. Do you feel that there is an urgency to finish something? Did you push to get things done?

Srimoyi: There is very much an urgency and yes, we did push for the completion of the gardens as far as possible. I would have loved it if we had managed to manifest all the gardens by Auroville's 50th anniversary on February 28th next year, but that seems like an unlikely dream. I would also have liked to have the lake in place, and the oval road. But all these are very complicated – everything is connected to everything else.

John: The oval road, for example – the road that separates the inner gardens from the Matrimandir Lake, is tied-in with some important aspects of the site, chiefly with a project to harvest all the runoff rainwater from 22-acre oval island – the oval with the Matrimandir, the amphitheatre and the inner gardens. Experts differ on some aspects of how to go about this water harvesting. The harvesting technique has to be clear before we pave the road in case, for example, we have to place drainage pipes under the road.

Pierre: Several studies have been done, some of them proposed solutions that would be very costly to manifest. It appears that the existing water channels along the pathways could be a solution to our problems. We are waiting a good and strong rain to verify this option.
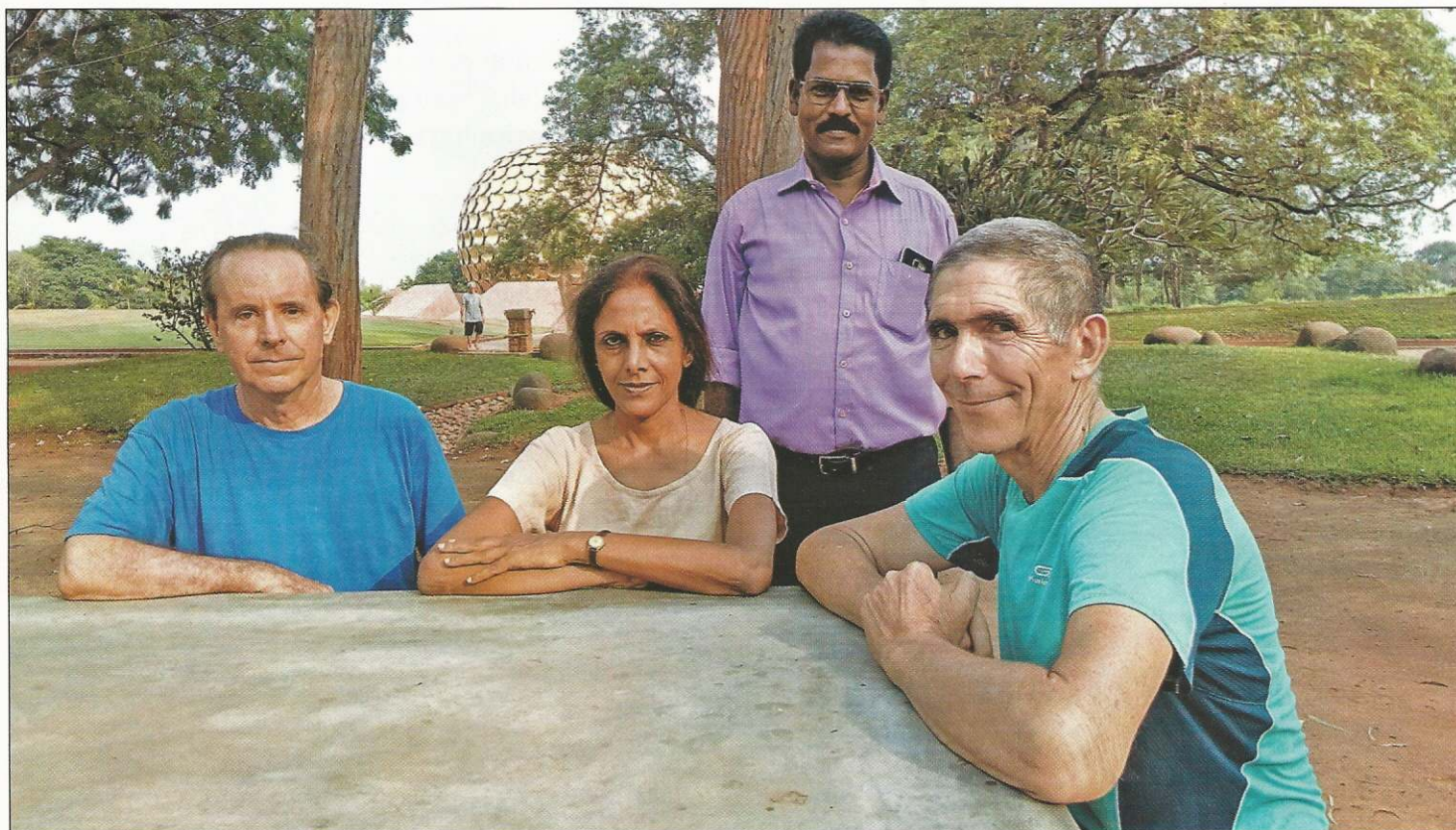
From left: John, Srimoyi, Elumalai, Pierre

Where are the executives in the development of the Matrimandir Lake?

Pierre: We are not directly involved; none of us have real qualifications for this task although we have participated in several meetings held by Michael Bonke on this topic.

We pushed actively for the realization of the mini test ponds, now many parameters have to be clarified and agreed by the TDC before going forward.

John: It is again an issue of following-up after Roger's departure. Michael Bonke, who had worked closely with Roger about manifesting the Lake, is focused on materializing a large Lake as designed by Roger. He has formed a lake research group, which has built a few mini test ponds and done research in various sealing techniques. But the question of the size of the Lake is still undecided. Michael's plan has been, from the beginning, to create a big test lake of 1/10th of the final lake size. This by itself would influence the final size and depth of the Lake. The Town Development Council will have to take up this topic and call meetings for the community to take the decision.

It's interesting to see that the moods have swung around over the last ten years. Initially, the question was if we should have a lake or not. That question seems to have settled to a 'yes', and has been replaced now by 'how big is the lake?'

What is the progress with the four entrances to the Matrimandir? They all have double doors: the 'spaceship' outer door that slides underneath the Matrimandir following its curve, and the double glass doors inside. Why has so little manifested over the years?

Pierre: The first 'spaceship door', as you call it, is installed and functions every day now. Still a few improvements have to be done to fine-tune its functioning. Regarding the glass doors, one has been installed but it has been only recently that we could get a consensus to do the remaining three. Some items, like quite sophisticated hinges, are difficult to buy locally; we are on the way to get them.

John: We have the push going to have the glass doors in all the four entrances installed before next February, and also have all four 'spaceship' doors activated – though that seems to be more of a challenge as the motors and electronics have to be adjusted to the new technology that has come in. The door we have installed is now 20 years old and in the meantime more modern ways to do it have evolved. We are waiting for a French expert to help us with the upgrade.

Given the volume of visitors, how do you see these doors being used? On a normal day, three of the four entrances are closed.

Srimoyi: Why Roger wanted four entrances is probably a question of significance and design – and time will tell how we are going to use them. At present we use three of the four entrances – east, north and west. But as the people have to pick-up their shoes on the way out, we use only one entrance at a time, otherwise people would get completely confused.

In the morning we started using the east entrance so that people enter the Matrimandir when the sunlight strikes it, but found it was too hot for the people on duty. For this reason, we have changed the morning entrance to the west and the evening entrance to the east. It is a building for the future; we'll see in the future how the doors need to be used.

What are the plans for the 12 meditation chambers in the Matrimandir petals? At some point in time you were experimenting with LED lights on white painted walls to get the colour for the chambers, instead of colour-painted walls.

Pierre: We have done two rooms with LED lighting, the rooms Mother called 'Goodness' and 'Generosity'. Some people like it very much, as they feel 'entering into the light', but others prefer the painted rooms. Another problem is that you are not able to have such deep colour with LED, as the light spectrum is too bright for some of the rooms. It has also been difficult to get an even diffusion of the light. Due to the fact that we have to hide the light under the platform, the upper part of the room is quite pale. We are working on these issues. Many painted rooms have to be redone; now we have to choose between these two options.

Access is one of the main challenges and in this area you have done a remarkable work by being able to maintain the atmosphere.

Srimoyi: I would call it the major challenge, for we are under pressure to allow ever more people in.

Over the years, and very gradually, we – a big group of us – have made many changes which we believed were necessary. We worked for months on a visitors' policy; it went to the community and the Governing Board, we included feedback, and it was finally passed.

We are extremely concerned that we keep the atmosphere as pure as possible, that those who visit the Chamber experience what Mother has put there. A special problem is how to receive Special Guests (VIPs); they often need special attention. The Secretary and Working Committee are under pressure from all kinds of Special Guests to give them preferential treatment. We are happy that we have been able to agree on a working protocol and that we have managed to find a good working solution for the Special Guest reception.

Have you reached a limit in the number of people you can receive?

Srimoyi: The pressure comes up during certain seasons, such as Christmas and New Year, when there are huge numbers of people visiting the Matrimandir. We have made extra visiting batches to cope with the pressure. But we have to see how the future develops. As per our experience, how to proceed will be shown to us.

We have meanwhile started building up a database of all names and addresses of visitors who have come for concentration, so that we can recognise them for subsequent visits. We also started a booking link on Auronet for Aurovilians who want to bring their personal visitors in the morning hour reserved for that.

Do you have any financial pressures?

John: The money comes in as and when needed, the same miraculous inflow of funds that has sustained Matrimandir for decades. It remains to be seen what would happen if we start a larger project, such as the Service Facility, estimated at Rs 6 crores, or the Oval Road (Rs 2 crores) or the Matrimandir Lake. When we were completing the Matrimandir building, in the years 2006-2008, we were a bit in minus, but today we are fine. Our fundraising efforts consist of keeping up the correspondence with donors, meeting them and sending out the Matrimandir Newsletter to our friends and regular donors. But also, when we have a special requirement we do make a special appeal.

Srimoyi: The offering boxes also help– even though we have placed them in unobtrusive places, such as along the side walk.

Have you been supported by the community or did you feel there was a separation?

John: There are different levels to that. There are probably 200 Aurovilians working here during the month, and on a daily basis 50 to 60. The larger group takes care of the 'presence' in the Chamber, in the petals, and does the evening and night watches. Some hang on rock-climbing ropes to clean the discs on the outside of the Matrimandir. That's a large crowd and at that level, there is a huge and enthusiastic support. People are really giving their service to Matrimandir.

For the garden development, to complete the twelve gardens, we would like a big flow of creative energy coming in. Even though we have a design concept that has been approved by the community two years ago, we do not have the sense of community enthusiasm and support for it. That, personally, I miss.

Looking back at eight years of being Matrimandir's executive, what was your main experience?

Elumalai: I experienced joy, and I believe that was there because I felt guided.

Pierre: I am very grateful to have had this experience of responsibility, it helped me to grow. Being executive has been very challenging at times. You have to focus on any problem right at the beginning if you want to avoid more serious ones. In a way, this permanent attention is the guide. But in many situations, I experienced a very clear 'guidance'.

Srimoyi: The guidance has been given to us all along. Personally, I am grateful for the opportunity it gave me to learn and move forward. I hope I have been useful.

John: Gratitude definitely, to be here, at the center of Auroville.

In conversation with Carel.

New town planning methodology approved

On Sunday May 28th, the Residents' Assembly Service announced that a proposed new method of town planning had been approved by 81% of the 243 registered residents who participated in the vote. *Auroville Today* spoke to Shama, Mamata, Suhasini and Sauro who have been part of the group making the proposal.

3. Detailed Development Plan (DDP):
Translates the development priorities guided by the ToR into time bound development program with implementation strategies / targets and plans

2. Terms of Reference (ToR):
Detail guidelines for urban planning, regional co-development, environment, socioeconomic aspects, bio-region, resource and waste management. Process road map for consultation, outputs, evaluation, implementation regulations and success indicators.

1. Planning Principles:
Express the principles for the manifestation of the Auroville township

It has been known for long that the Town Development Council (TDC) has not been functioning as envisaged. In an interview with *Auroville Today* in April 2014 [*issue # 297*], Sauro, a member of the TDC, explained the problems in great detail. The Governing Board too took notice. In its meeting in March 2015, it asked the Working Committee to reconstitute the TDC. But the proposal of the Working Committee, presented to the Board in its subsequent meeting in October 2015, was not accepted. The Board then constituted a selection committee consisting of a member of the Board, three Aurovilian architects and one non-Aurovilian architect to formulate the strategy, tasks, and programs for the new Town Planning Department. However, this committee too was not able to deliver. In March 2016, the Board rejected yet another reconstitution proposal from the Working Committee, and directed it to present a proposal for a reconstituted TDC by April 30th, 2016. However, the Working Committee was at a loss how to proceed. At this time, the Auroville Council took over.

Auroville Today: When did you get involved and how did the work proceed?

Shama: Around January 2016, some Auroville architects had started brainstorming on how Auroville's development could proceed with more involvement from the residents. The Council called a few of us to see how we could get a new TDC together. This became, over time, a Core Group. The group identified the need for a facilitator to help us to structure the process as it was not clear from the beginning what we would do. So we started by sorting through and developing a list of 'Key Issues' regarding Town Planning in Auroville. We also identified from the outset a strong need for community involvement, not only the few people which had been consulted by the Working Committee earlier.

Mamata: This is how we arrived at the decision to hold a two-day community workshop by the end of April, beginning of May 2016. About 50-60 people participated. The main objective was to go deeper into the issues pertinent to town planning.

Suhasini: But the workshop was not successful as the facilitators were not able to identify with the underlying issues that are paralysing our planning. Rather the focus was on airing of different viewpoints, and looking at how people were aligning themselves vis-a-vis these view points. At this point we realised how little understanding most people have of the developmental challenges of Auroville. This lead to thinking about levels of participation, and how to create a methodology to channel this so that we have an accountable and effective planning organisation.

Shama: I made a database of all studies and reports stored in the archives of the TDC in order to get an idea of how much previous work has been done on this topic. It really is huge, so many studies and proposals have been done and yet not implemented. The database will serve to inform and support the new members of the TDC in the work ahead.

Suhasini: So how to go forward? We had had the Retreat, this workshop, a previous workshop with Sanjay Prakash, but it seemed we were going nowhere.

Sauro: I had given an update on how the TDC had been working; that each time a new group of people is selected they take up portfolios, but that over time there is only a project-by-project discussion rather than the TDC functions as a planning body. People dropped out because of the way it functioned.

Suhasini: We came up with an alternative. Instead of focusing on restructuring the TDC by coming up with some new ideas about how the people were going to function, we agreed that guidelines were needed, and so work started on Planning Principles and Terms of Reference (ToR). These two documents would collate the intent of the project, the concerns of the residents

and the context within which Auroville is located; they would be then be guiding documents for the next planning group.

Shama: The Terms of Reference and Planning Principles were informed by a series of work sessions known as Sounding Boards. These were topic-specified sessions that focussed on real issues on the ground, using case studies. We found this to be a really effective way of gathering community specific input. After the Sounding Boards, we produced a draft ToR on which we invited and received comments. The work of integrating that feedback was extremely complex and challenging. Since it was an open process, anybody could join this work at anytime. Each point needed to be explained and illustrated, and over and again we had to bring people up to speed. It was a frustrating work and made me question if the concept of 'participatory decision making' shouldn't be

replaced by 'selected participatory decision making'. Not having a tried and tested method for participation was one of the major reasons why it has taken more than a year before we could present the community with something to take a decision on.

Suhasini: After having worked on the ToR for several months, we realised we were back to square one as it was too long and the technical portion was obscure in its vocabulary for a lay person. So if we really wanted to get a more effective participation review the way we plan and develop Auroville, this 24-page document had to be condensed into to a simple and easy to read document. These are the "Planning Principles."

What about the TDC structure?

Suhasini: We felt that was a need for two groups to comprise the planning body: one of 'political appointees' called the Interface Group, the other of technicians. The Interface Group would be the interface between the community and the Technical Group. They would undertake completing of the ToR, present it to the community and define the development priorities of Auroville for the next four to five years. The Technical Group would then translate these planning priorities into a development plan using the ToR as the framework within which the development plans would be set.

Mamata: We had three General Meetings on this topic: one was in September 2016, where the approach for different levels of participation was explained. The next was in March 2017, where we explained the Planning Principles, the ToR and the TDC structure; and the third in April, where the decision was made to call for a vote on all three key documents as a package deal, the compiled results of consultations with working groups and of inputs received from the community.

The new structure of the TDC looks remarkably similar to the present one, which was set up by the Governing Board by Standing Order. The present one too has 13 coordinators, and a technical group of people. But this has proven not to work. Why was this repeated?
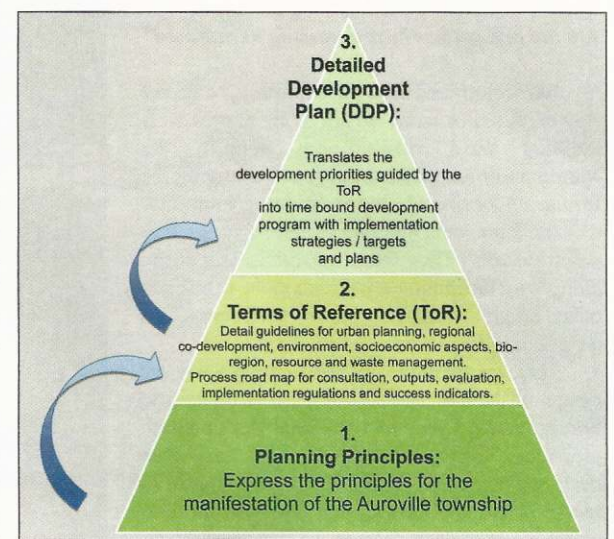
Sauro: Initially we had envisaged the Interface Group consisting of 10 people without job specifications. Five of them would be selected through the Residents' Assembly process, and five would be appointed by various working groups. In this way we wanted to involve the various working groups directly. We didn't want a group of 13 people who were unique and isolated from all the other working groups. But this proposal was not supported by the Study Group and a few others who, in the last General Meeting, strongly expressed that we should follow the principles of the participatory selection process, which says that someone who serves in one group cannot also serve in another. They also didn't like the concept of 10 people without portfolio, and insisted that we should go back to the 13 coordinators and their portfolios as has been detailed in the Standing Order.

Shama: We have told the Council that we are willing to help with the selection process; but I for one am not willing to select 'coordinators' for specific tasks. We don't need 13 coordinators who each have a specific job; we need a group of experienced and competent people in various areas, and above all people who have 'people skills' – problem-solving abilities, empathy for others and a willingness to work together toward the common goal. For that's the only way you can get the residents involved.

Is the Interface Group envisaged as a group of people who meet once or a few times a week or do you see a full time involvement? What about the financing of these groups?

Sauro: The Interface Group will need a mix – a few people who can offer a full-time commitment, others less. 13 members is a maximum, but it is not compulsory. The technical group should be full-time. But the main question will be how to get those people. And the second question, how they will be paid.

For the financing is not at all clear. The present

TDC has been able to function as it received a grant from the Government of India. But recently, we were informed that from April onwards that grant may no longer be available. This would put an effective stop to the work of the TDC. For the community income is insufficient to pay maintenances to the members of the TDC.

Ultimately, this is an issue for the Governing Board. Making a Master Plan is a responsibility which the Auroville Foundation Act has put on the shoulders of both the Governing Board and the Residents' Assembly. It seems to me that the funds required are part of the running costs of the Auroville Foundation which the Government, in accordance with the Auroville Foundation Act, should cover.

This also would include the costs of hiring outside consultants and experts to help making the Detailed Development Plans. What is the thinking about this – do we have sufficiently qualified people in Auroville to do that work?

Shama: There are differing views about the word 'outsourcing'. In terms of 'outsourcing', I have no objection to involving outsiders if the work to be done is too large for Aurovilians to take up by themselves. But the pilot flying the plane should remain an Aurovilian.

Sauro: When former Governing Board member Mr. Doshi was asked who could do the DDP, he returned the question: 'Who can do it? You are so special, you have such a particular situation, you cannot just outsource it'. He studied the issue for a few months and came to the conclusion that his organisation could do it, provided there was an interrelating process with the community which would give him the necessary input. That should now be secured by the Interface Group. For that, the Group will need to engage massively with the community.

Shama: The only way that we can get a Master Plan and DDPs that makes sense for Auroville is if the Interface Group take-in community inputs and come up with clear directions for the technical team and outside planners. That's the main thing we have been trying to change. For in all these years, the inputs of the residents – who know and understand the situation as it is on the ground – have not been valued.

Suhasini: An outsider can do the technical part of the development plan, but not the conceptual part, our development brief and development priorities. That needs people who understand where we are today and where we want to go. And even then, when you have a DDP, no matter how good it is, it needs a lot of tweaking and working to get implemented on the ground. That takes community involvement and a lot of time.

For the last years, whenever people feel adversely affected by a decision of the TDC, they either come up with petitions or want to call for a decision of the Residents' Assembly. Would that change once the Interface Group is in place?

Sauro: The planning principles have now been accepted by the community. And if the DDP would be approved by the community, this too would end a lot of discussion. But to resolve issues that would result from implementing the DDP, I propose that the Interface Group starts interacting with local area groups – groups formed of members of the communities that would be affected by a decision. A lot of energy has to go into having debates with the community to finally be able to move with the town planning of Auroville.

In conversation with Carel.

Interface Group		
Skills required	1.	Clarity in communication
	2.	Basic technical knowledge of the field for liaison with residents
	3.	Ability to work in a team
	4.	Ability to initiate & organize
	5.	Ability to make quick decisions
Roles & Responsibilities	1.	Selection of the technical group
	2.	Ensure the planning and development of the Auroville Township by:
		• Undertaking the completion and of the draft ToR
		• Identifying the development priorities including infrastructure needs in consultation with the community
		• Overseeing the preparation of the DDP
		• Consultation / communication / reporting to the community, GB and relevant authorities
		• Coordinating the funding / fund allocation and out-sourcing of works
Selection		Selected by community through Participatory Selection Process (2014)

Technical Group		
Skills Required	1.	Administrative / management skills
	2.	Policy and strategic planning
	3.	Urban planners / architects / GIS / environmental planners
	4.	Technical (engineers) and financial skills
	5.	Legal and political skills to liaise with local / state orgs
Roles and Responsibilities	1.	To prepare the DDP based on the inputs received from the TDC
	2.	To prepare and approve development proposals
	3.	To manage the office operations, administrative process, budgets, tenders, project monitoring, hire and employing technical, administrative and supportive staff & resources for the regular work implementation
	4.	To liaise with the local authorities in coordination with WC for matter related to land protection
	5.	To create sub-group, task force and appoint facilitators, resources people for the implementation of the above task after getting endorsement from the TDC as required.
	6.	To short list & help appoint external consultants, as and when required, as per the scope of work approved the TDC
Selection Process		Nominated by the Interface group

The entry process: no easy answers

The last several months have seen a major churn in the Entry Service with heated policy debates, multiple General Meetings and frequent team turnover. *Auroville Today* **tries to make sense of the evolving situation and reports on the current status.**

If you see the growth rate of Auroville's population over the years, you will notice that the rate fluctuates in a consistent pattern. One interpretation of this pattern is that we are not able to define a balanced and sustainable Entry Policy. When growth is slow, we try to open up the process and welcome more Newcomers. This leads to a sudden influx, which we are not able to cope with in terms of housing and economy. Sometimes we have concerns about the "quality" of Newcomers. The result is a tightening of the entry process leading to fewer people coming in. And this pattern seems to repeat itself every two years.

Is the current situation a mere repetition of this pattern, or is there more to the story?

The new Entry Policy

The earlier Entry Policy, which was in effect till early 2016, was implemented almost entirely by the Entry Service. They interviewed people, processed applications, and made decisions about change of status. Many Aurovilians and Newcomers felt that this was a difficult and bureaucratic process. Also, it was felt that the decision on whether to invite a Newcomer to be an Aurovilian should be moved to the community rather than be concentrated within a small group of people.

This led to a new policy being drafted. The Entry Policy 2015, which we will call the new Entry Policy, was ratified in April 2016 and came into effect from July 1, 2016. The new policy attempted to bring in a new spirit of being welcoming, non-judgemental and flexible. The policy stated that the Entry Service will "fulfil its task as a welcoming committee".

In practical terms, the major departure from the earlier policy was in decision making. Earlier, the Entry Service would make the decision to announce and confirm Newcomers and Aurovilians, based on any feedback that might have been received from the community. The aim of the new policy was to "make Auroville more open, more trusting, less judgemental – as was the outcome of the Retreat in March 2015. A person should generally be allowed to make his/her own choice of becoming Aurovilian – or not. The Mentor Pool will effectively offer assistance and support without the necessity of being 'gate keepers' to each applicant." The policy went on to say that the "responsibility to decide if a person is ready or not for Auroville will be taken out from the hands of a single group and will be shared by the Mentor Pool, Entry Service, the community at large and the applicants."

A Mentor Pool was set up and more than a hundred Aurovilians signed up to be Mentors. A series of Welcome Talks were conducted to inform Mentors, aspiring Newcomers and Newcomers about the new policy and entry process.

Challenges in implementation

Within a few weeks of the new Entry Policy coming into effect, feedback started pouring into the Auroville Council. By November 2016, the problems in implementation were significant enough for the Council to set up a joint Entry Task Group (ETG) with the Working Committee.

There were three kinds of problems that showed up during the implementation of the new policy. The first was the sheer number of Newcomers who were announced, which led to a severe shortage of Mentors. The second kind of problem was lack of clarity about the exact tasks of a Mentor. In trying to keep the process as flexible as possible, the new policy had ended up with very few practical guidelines. The third kind of problem, which might have been a result of unclear roles, was that several Mentors started dropping off the radar, and the entire mentoring process was called into question.

Soon, allegations were flying around about members of the Entry Service being Mentors (allegedly to more than 20 Newcomers), and relatives and employers becoming Mentors. There were also allegations of special consideration being given to some Newcomers who either skipped the Newcomer period altogether or had a very short Newcomer period.

On November 7, 2016, the Residents' Assembly Service (RAS) received a petition from 65 Aurovilians, which stated:

"We, the undersigned, request an immediate Residents' Assembly vote to suspend the current Entry Policy until a review is conducted by an independent group appointed by the Working Committee, and that all processing of entry is suspended until such a review is completed, its recommendations are published, and a Residents' Assembly vote on any changes to the policy is completed. The reasons for suspension of the policy are as follows:

1) Successful implementation of the policy is dependent upon clear and approved guidelines for Mentors. No such guidelines have been presented to the community.

2) The entry group is processing applications and assigns Mentors without approved mentor guidelines.

3) The community was assured that there would be a training program for Mentors, but no such program has been put into place.

4) The community has been misled into believing that training of Mentors would be a criterion for participation in the mentor pool. This has not been the case.

5) There are inappropriate relationships allowed between Mentors and the Newcomers. For example, employers can be mentors of employees, relatives of Newcomers can be their Mentors."

It is important to note that the Petitioners were asking for the implementation of the policy to be strengthened, not for the policy to be changed. Specifically, they wanted clear and approved guidelines for Mentors and a mandatory Mentor training program.

The Entry Task Group

As the challenges with implementing the new policy became visible, the first Entry Task Group (ETG), comprising members of the AV Council and the Working Committee, was expanded in November 2016 to include a resource person, people who were involved in formulating the new policy and a member of the Entry Secretariat. This ETG started looking at the entry process as well as the impact of this process on other aspects of Auroville, specifically housing and economy.

In the meantime, four members of the Entry Secretariat resigned. By this time, Welcome Talks were paused and new applications were not being processed. A General Meeting was called on December 20, 2016, to inform the community about updates and discuss the emerging issues and challenges.

In January 2017, the ETG was further expanded to include some of the Petitioners, bringing the group size to 17. This ETG was organised into three subgroups: structure and roles and responsibilities; criteria and prerequisites for various stages of the entry process; and review of cases. By the time the next General Meeting was called on May 11, 2017, the ETG had lost a few of its members. Perhaps the differences in philosophy and approach were too large to accommodate.

The proposed amendments to the Entry Policy

The ETG in its latest avatar has proposed several amendments to the new Entry Policy. The biggest change is the introduction of the Entry Board, which, along with the Mentors, will decide the status of an applicant. The Entry Board will be made up of seven Aurovilians, who have been residents for at least five years.

The other proposed change is the number of Mentors assigned to a Newcomer. In the new policy, each Newcomer was to be assigned three Mentors. This number is being revised to two, perhaps looking at the shortage of active Mentors. Earlier, an Aurovilian could mentor an unlimited number of Newcomers. Clearly, this is ineffective, and the proposed amendment limits the number of Newcomers to five for each Mentor.

Mentors now have eligibility criteria. Only those Aurovilians who have been residents for at least three years are eligible to be Mentors. Also, employers and relatives of a Newcomer are not permitted to mentor him or her.

In terms of process, an applicant will need two letters of recommendation from Aurovilians and will have to attend an Auroville exploration programme. And many of the guidelines for Newcomers are proposed to be changed to mandatory rules, such as living and working in Auroville.

Scope creep

It is not clear how the scope of the ETG changed from strengthening the implementation of the new policy to amending the policy itself. In an announcement in the *News & Notes* of November 12th, the Council said, "there is a lot to improve and to fine-tune to make the new policy work in the spirit it was written" and that "this is being done in the spirit of bringing about a much needed change".

In a subsequent announcement on November 26th, the Council said: "It is essential to note that the role of this task group is not to re-assess the points of the policy that have been voted and agreed upon, but rather to fill in the gaps which may exist and to make sure that the process does not leave essential questions unanswered."

Remember that the Petition sent to the RAS also listed improvements in implementing the policy and did not state that the policy itself was flawed. It certainly did not question the "spirit of bringing about a much needed change".

So, what has changed between the initial days of the ETG in 2016 and now? Because new entry applications have been on hold for several months, it is unlikely that any new information has come forth on ground-level realities. So, is this a case of "the more things change, the more they remain the same"? Or, could it be that the real reason for pausing the process was disagreement with the spirit of the new policy?

If the Residents' Assembly has voted on a decision, can a task group, such as the ETG, change the "spirit" of that decision? Don't the proposed changes look surprisingly similar to the entry process as it used to be prior to July 2016? These and similar questions came up in the General Meeting on May 11, 2017.

As General Meetings go, this one was a little light in content and debate. The presenters scrolled through a document, making it hard for anyone to read the text. And an extremely concise summary of the proposed changes was presented.

In the discussion part of the meeting, four kinds of responses emerged. One group of participants felt that we are not ready for an entry process that is self-regulating, and therefore the policy needs the kind of amendments that have been proposed.

A second kind of response was that we need to have consistent guidelines for Newcomers and Aurovilians. In this view, if we live like true Aurovilians, or at least constantly work towards that ideal, Newcomers will not need special rules or guidelines. Those who integrate will stay and those who can't will leave.

Some participants felt that the proposed amendments were a step back. They felt that it was a rewinding to the past where a few people – members of the Entry Service – made the decisions. It's just that it has a new name now – the Entry Board.

The broader issue of what it means to have a Residents' Assembly decision also came up. Going by the thin turnout of "voters", it is possible that many Aurovilians will disagree with a ratified decision. In such cases, it might not be difficult to pull together 60 Aurovilians to sign a petition to question, pause or reverse a process.

What next?

In terms of practical next steps, the ETG will seek inputs from the community on a set of open questions. An amended policy is expected to be available in July for community feedback, and a General Meeting is likely towards the end of August. After this meeting, a Residents' Assembly decision process will be initiated, and the outcome is expected in late September.

But questions remain about the content of the policy and the challenges that might be thrown up. For example, if the community agrees to having an Entry Board, how will we select the members of this critical board? Our recent experience with selection processes – both community-based and working group nominated – has not been entirely satisfactory. And when we do have an Entry Board, will the members be wise enough to rise above their individual biases and prejudices?

Sometimes it is best to remember what The Mother said. On entry criteria, The Mother said in 1969 that "*the simple goodwill to make a collective experiment for the progress of humanity is sufficient to gain admittance [to Auroville]*". In 1972, She added that "*coming to Auroville does not mean coming to an easy life – it means coming to a gigantic effort for progress.*"

Will it be possible for us to inspire future Aurovilians to make this "gigantic effort" if the entry process is mired in controversy and bureaucracy?

There is also the larger question of how we can involve the entire community in an informed decision-making process. Is it apathy that keeps residents away from meetings and "voting"? Or is it a sense of helplessness that their views will not be heard? Is it language? It looks like the Residents' Assembly Service has some critical issues to address.

Manas

The General Meeting on May 11, 2017, at the Unity Pavilion

In May this year the Auroville Botanical Gardens published its first annual report highlighting the achievements of the past year and its aspirations for the future. The means to manifest them come from doing environmental projects in India.

The outreach work of the A

Since the late 1980s, members of Auroville's Forest Group have been involved in large projects in India. Amongst the earliest are the works done for the Palani Hills Conservation Trust in Kodaikanal, reforesting large tracks of land. More recent and better known is the creation of the Tolkappia Poonga in Chennai, where a polluted and encroached arm of the estuary of the Adyar River was turned into a huge eco-park. It is now affectionately referred to as 'the green lung of Chennai'.

Auroville's environmental outreach work is widening out. Pitchandikulam Forest Consultants, which was responsible for the Poonga, is continuing its work in Chennai, this time working up-river, and in other places in Tamil Nadu. Elsewhere in India, teams from the Auroville Botanical Gardens have been working to turn the estates of large Indian hotel resorts such as Mahindra and Hyatt, and campuses of companies such as Ashok Leyland, TVS Electronics and Zoho, into biodiversity reserves. More recent is their involvement in the restoration of thousands of acres of exhausted lime quarries in Tamil Nadu.

In environmental outreach work competition is virtually non-existent. Auroville's level of expertise, knowledge and experience is much wider and more cohesive than what others can offer. A project typically takes 6-9 months for concept development, followed by 2-6 years to materialize the plans. All projects are turn-key – from defining concepts to landscaping to planting the species. The contract includes a maintenance period of one year and a guarantee that the trees and other plants survive the following monsoon; if they don't, they are replaced.

Paul Blanchflower is one of the driving forces behind the Botanical Garden's outreach projects. "We do this out of necessity," he explains. "Our annual budget for running the gardens is around 40 lakhs per year. Auroville contributes Rs 3-4 lakhs, which covers around 60% of the costs of our educational projects. The remaining 40%, and the money required for maintaining the 50-acre Garden and the people working here, along with funds needed for development, come from the income we generate through working outside."

The main objective of the Botanical Gardens is to promote the conservation of biodiversity. One of the ways they try to achieve this is through environmental education. Yearly, about 3,000 children from government schools in the surrounding area visit the Gardens to experience nature and develop an understanding of the wide range and diversity of the plant world. "Our education coordinators go to the schools to prepare the children. Afterwards, the children come here in batches of 20. We pay for transport and lunches and give them a day out. We also organize 3-day camps for the kids to experience the forests or visit nature reserves such as Point Calimere." The team also hosts private schools and colleges on request, but those courses are not for free. "So it means that a good 100 days a year we're receiving and educating children here at the Gardens."

The outreach work

The Garden's outreach work started about 10 years ago, when it got involved in beautifying the landscape around the Mahindra Resort south of Pondicherry at the request of an architect from Mumbai. "The architect was interested in vernacular architecture; we proposed planting indigenous vegetation, species from the Tropical Dry Evergreen Forest (TDEF). It jelled. Initially, we were only going to plant the beach forest. But as they liked our work, we landed up doing the entire landscaping and planting of the gardens around the resort, 26 acres in all."

Since then, the work continued. At the introduction of Ray Meeker from Golden Bridge Pottery, the Botanical Gardens did the landscaping of the Hyatt hotel in Chennai. "Ray was doing the pottery garden, we did the rest, including all the TDEF planting." That work took two years.

Another project was the landscaping of an empty, flat and undefined plot of 27 acres on the edge of the Kaluveli wetlands for a holiday resort. In this project, the landscape came first and the resort followed. The site was challenging. The soil was alkaline, the water table had a high salt content and during summer, hot, dry winds would extract all moisture from the ground and from the plants. Drawing on their experience, the Gardens

Team planted TDEF species that are adapted to these extreme conditions. After two years the vast area was transformed into a lush landscape with perennial water bodies that provide habitats for local and migratory water birds. That the choice for indigenous tree species was correct was proven by the end of 2015, when unprecedented rains flooded the entire area for two weeks. All the plants were under two meters of water, but the indigenous species survived. The resort will soon be open to the public.

Also private companies approached the Gardens to beautify their campuses. One is Ashok Leyland who asked the Gardens Team to do something on the 160-acre campus of its Research and Development Centre in North Chennai. The Team is now working in three areas of this vast campus, planting native forests, building perennial water-bodies and thematic gardens. "It is an amazing opportunity to create ecologically sound landscapes," says Paul. "Last year, a cyclone hit Chennai. We were pleased to see that the 15 cm of rain filled-up our ponds as planned. The gardens are only watered from these ponds."

Another company, the software company Zoho in South Chennai, requested a full landscape master plan for its 35-acre campus. Some work on the ground has begun with the creation of a shaded walkway linking the existing buildings on the site. Rocks, benches and small ponds have been installed for the employees to enjoy as they move between areas or just to take a short break between work sessions.

The quarry restoration projects

If these projects are of direct benefit for the resorts and companies, the same cannot be said for the restoration of exhausted lime quarries located in distant areas. The client here is Ramco, a large cement manufacturing company and one of India's leading business groups. "They have a commendable sense of environmental responsibility," says Paul.

Ramco requested the Gardens Team to restore its exhausted lime quarries. "They are like huge open pits in the landscape, from which first the top-layer called the overburden and afterwards the sedimentary or metamorphic limestone has been removed. Some quarries are only a few meters deep, others hundreds of metres and look like massive meandering gashes in the landscape. Each requires a different approach."

The Team studied three different quarries and presented Ramco with a few proposals. "We put many possible usages in our proposal. Recreation is one of them, but as these mines are located in far way areas, this is not likely to have a big impact – perhaps in one or two places they could build a resort. Other usages are as nature reserve, to restore the environment, and to create an ecosystem which is also of benefit to the people living in the surrounding villages."

Last year the Gardens Team, in cooperation with Ramco's own horticultural team, started pilot projects in two quarries to see what techniques can be used to reforest those areas. They planted over 60 native species on ten acres of the project and designed water bodies for places where there was insufficient overburden to back-fill the pits. In addition to the familiar TDEF species, and to provide the necessary shade for the indigenous saplings to grow up, the team also planted non-indigenous species, such as *Neem, Pongamia, Cassia siamea, banyans* and *Peltophorum pterocarpum,* the Copper Pod Tree, to create a mixed forest. This mix will also contribute to enriching the very thin layers of topsoil.

"We are also experimenting with species that do well in granite hills such as you find around Chengelpet and Gingee. We hope they'll also thrive on hills created with the overburden. We are trying out different types of *ficus,* some species from deciduous forests, and even some critically endangered species such as *Hildegardia populifolia,* a tree which is only found in the Eastern Ghats of Andhra Pradesh and near Gingee. It is an interesting experiment, to see if those rare species can get a new home there." The Gardens Team hopes that over the next years these projects will scale up in size as the potential for creating forests are enormous, even though the actual site conditions are difficult.

The Prosopis problem

"Ramco's third quarry is particularly challenging," says Paul. " This one is a 4,000 acres site, located south of Madurai where the original natural vegetation – most of which has gone –
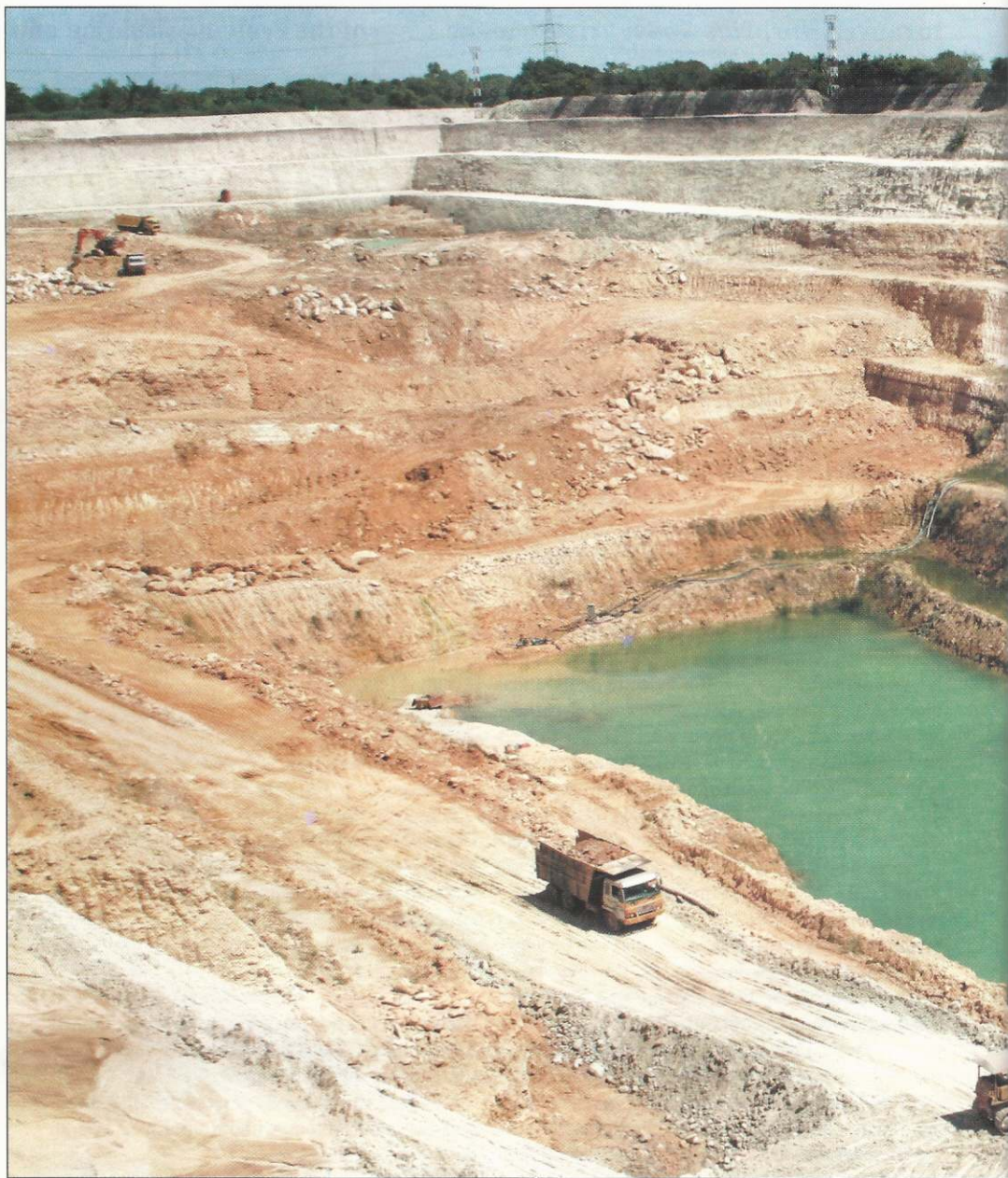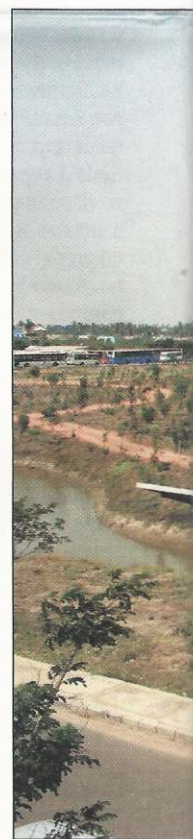

The open cast limestone mine of Ramco Cements where one of the initia

A shola plantation at the Ooty project. The white tree guards are used to promote the tree's growth and protect them from browsing.

A group of school children in the herbal garden with Kaamachi, one of the educators at the Botanical Gard

...uroville Botanical Gardens

...l pilot projects is underway in Arilayur, 120 km south of Auroville

...iew across the 20-acre Wetland Forest that the Botanical Garden team is creating at Ashok Leylands Research and Development Centre north of Chennai

...ns   An artistic impression of the Pangolin project that one day will be created at the Gardens

would have been the Southern Tropical Thorn Forest. The mine there is only about 2 meters deep. After removing the overburden of 1 metre thickness they take out the kankar, a low grade form of limestone, which is also about 1 metre thick. The hole is then backfilled with the overburden, and a kind of undulating landscape is the result, which is currently covered with *Prosopis juliflora*, an invasive thorny bush."

This area has a very low rainfall. It is dry-land agriculture, with one crop a year, and for the rest of the time the goats run over it. Fencing is an issue. "We created a thorn fence around 100 of those 4,000 acres, but in no time it was burnt down in places by the local goat herders. It showed us that we have to include social forestry in our planning. If we can develop projects with the locals and come up with techniques where they can see the benefits of having forests around water bodies, we could end up with a multi-use ecosystem, not only benefiting wildlife but also the villagers."

Paul mentions a particular problem: on December 21st last year, the Madurai Bench of the Madras high court ordered all *Prosopis juliflora* vegetation to be removed from 13 districts in Tamil Nadu. This exotic shrub, which has come to dominate the landscape of arid districts, was introduced to India in the 1870s. It was initially considered a boon to the poor as its wood provided a valuable source of livelihood

Prosopis juliflora

when agriculture failed. It is used as firewood, fodder, as shade tree, for soil stabilization, to make charcoal and as construction material in villages. But the high court declared the species as detrimental to the environment in terms of depleting ground water levels and aiding global warming, and ordered its eradication. The court later pulled up many district collectors for delay in *Prosopis* eradication, and made the order applicable to all 32 districts of the state.

"Ramco will be obliged to remove the *Prosopis* as the company is very much in the public eye. But we are not all that happy. TDEF saplings need shade, especially if they are planted in poor soil. In the early days of Auroville, the work tree (*Acacia auriculiformis*) served as a shade plant. In this area we were planning to use the *Prosopis* as shade plants by cutting alleys through them, so that the ingenuous flora could grow up. Now we have to find another solution."

But on April 29 this year, the Madras high court put the brakes on the indiscriminate removal of *Prosopis* and ordered that, till a larger bench of the court decides the issue, no *Prosopis* plant should be removed in Tamil Nadu. The order came on a Public Interest petition against the decision of the Madurai court, arguing that the removal would adversely affect the environment, wildlife in particular, and that its negative impacts had not been scientifically proved. The matter is now *sub-judice*.

Up in the hills

The Botanical Gardens currently have three projects at various stages up in the hills: a 45-acre site in Ooty, a 10-acre resort in Coorg and a smaller one in Yercaud. "In all these projects we are studying the local forests to extend our knowledge and work with our principle of using native species within the landscapes," says Paul. The Ooty project is particularly exciting. "Here we are working on reintroducing the original hill vegetation, the *shola* forests and *montane* grasslands. Our client wants to build a resort with houses buried into the hillside and covered with native grasses. We are working with a local ecologist and have already planted a large area of *shola* forests. We are now working on reintroducing the grasslands, which have been taken over by agriculture. For native grasses are the best restorers of the water table as they have hairs that absorb moisture from the atmosphere. That pulls the water and restores the springs."

All these projects are great examples of how commercial ventures can see the potential benefits of working with sustainable landscaping. The project developers are not only concerned about creating beautiful resorts in an environmentally responsible manner, but also about giving their guests a deeper and more meaningful recreational experience that will ensure that they return again and again to see how nature is developing and benefiting.

What can the government do?

Paul confirms that environmental awareness and people's sense of responsibility to do something for the environment are on the increase. "There is a deepening level of understanding what forests can bring – water, erosion control, pollinators, minor forest products, biodiversity. Many

individuals, from school children to people from the upper layers of society, are ready to work for the environment. Many corporates are committed and would love to do more."

He argues that the government should take an active role. Stimulating environmental education is one way; motivating and empowering individuals to plant and protect trees on their own land and on public lands another; while creating financial incentives in the form of tax deductions would be a major stimulus to environmental regeneration.

Botanical Garden dreams

While the outreach work is exciting, the main reason for it should not be lost: to pay for the costs of the Auroville Botanical Gardens – its educational programmes, its maintenance and its further development. Plans for the future include erecting a watchtower for the kids and building a new water body of around 260 square metres, hopefully big enough to become home to *Victoria amazonica*, the iconic water lily that has enormous floating leaves. Along the margins of the pond will be the Gardens' collection of native water grasses, sedges and reeds. The pond will become a new focus for visitors in the early evenings, as it will be next to the children playground, another development they hope to fund this year.

A larger project is the Indian Cultural Heritage Garden that will introduce visitors to the species that are associated with a variety of India's sacred traditions. Astrological significances, planetary connections, stalwarts of the *ayurvedic* and *siddha* medicine preparations and plants that have special significance for the gods and in *pujas* will be represented in the garden.

A project that is already underway is a Japanese Garden which will have a Pavilion of Silent Reflection at its centre, bringing the qualities of beauty and stillness into the Botanical Garden. It will be a place where people will be inspired by the harmony of nature and spirit that Japanese gardens are famous for.

The last and largest project is the Pangolin, a lath house for shade plants. Envisaged as a climatically controlled area covering approximately 2,000 square metres, it will house shade plants from a number of genera such as ferns, palms, orchids, cyrads and a host of lesser known plants. A 200-metre long elevated ramp will take the visitor over a moist evergreen tropical environment with flowing waterfalls and streams. The landscape will be seen from above giving a unique perspective of the growing plants while avoiding damage to plants that could be caused by too much human traffic. At a costs of over Rs 2 crores (US $ 500,000) this is a far shot, but, says Paul, it's a worthy aim.

Now that the gardens are taking shape and developing, they will become more open to the public. A small stage has been created to host small cultural events in the late afternoon and early evening, in order to draw more people into the gardens. "We will start with a monthly programme of music, poetry or small theatre performances that will be linked to seasonal events in the gardens, perhaps the summer flowering of the trees, the return of the migrant birds or simply the rich lush greens of monsoon."

The success of the Auroville forests has been described as a testament to the passion and commitment of the early settlers. The success of Auroville's environmental outreach programmes is a promise for a greener India.

Carel

Four ways in which Auroville could contribute to the re-afforestation of India

1. Discuss and develop ideas for general policies regarding afforestation in India with relevant bodies.
2. Sensitize involved individuals as to the role that native species have to play in afforestation programmes.
3. Help to develop materials that will encourage leaders to take up the challenge and get involved in afforestation.
4. Train and create teams that can work in a range of locations to develop site specific protocols for the establishment of the forests.

More than a language lab

The Auroville Language Lab opened its new building in February 2017. *Auroville Today* reports on the developments.

When I first heard about the Auroville Language Lab, the immediate association was grainy black and white pictures of people with headphones, sitting in booths listening to audio tapes. The use of technological devices in language learning is as old as the phonograph. After Edison's invention of the phonograph in 1877, the first record sets for learning English and Spanish were available in 1893. The first dedicated laboratory for foreign language study was set up in the University of Grenoble in France in 1908. An American, Frank Chalfant, studied in Grenoble and took the idea to Washington State College. The rest, as they say, is history.

Language labs have evolved from the early phonograph days to modern digital labs, but the idea seemed to be past its glory days of the mid-20th century. So, I was curious to see what such a lab would look like in Auroville, a township with more than 50 languages.

Tucked away in a little-known corner of the International Zone, the Language Lab is housed in a new building. As I changed into special chappals and walked inside, I saw the list of languages being taught in the Language Lab – English, German, Hindi, Sanskrit, Italian, Tamil and Spanish (listed in that order). French was conspicuous by its absence.

"The classes start after 4:30 pm," said Mita (Radhakrishnan), who started the Language Lab with Tapas (Desrousseaux). She had sensed my unsaid question about the empty classrooms surrounding the large courtyard. Upstairs from the language learning level is another set of large rooms dedicated to Tomatis listening and therapy. The building itself has a look of 'near-completion' – some of the flooring is unfinished and the passive cooling system is not yet operational.

Sustainable architecture

The passive cooling system is one of the most interesting features of the new building. Three wide cooling towers provide the inlet for air. The air flows through sieves of activated alumina, which absorbs moisture and dehumidifies the air. A network of underground air channels supplies the air to vertical shafts placed in every room. The rooms have exhaust systems, which help the airflow. Also, the central courtyard has a domed metal roof with air outlets, which adds to the convection of warm air out of the building.

Even without the full cooling system being operational, the building is surprisingly cool. The large central courtyard helps, as also the use of lime for mortar and plaster.

All carpentry is done using 'cyclone wood' or used wood. Water is conserved through rainwater harvesting and reuse of grey water. The new building is turning into quite an architectural landmark and more than 600 students of architecture have already visited it.

The new building of the Language Laboratory

Sitara is using innovative material with her small group of students learning basic German. The German course is structured based on the Common European Framework of Reference for Languages and can lead to the A1 certificate if the students want to take the exam. Mita's English class has the largest number of students and uses a variety of instructional materials, such as videos, presentations and worksheets.

Classroom instruction is well supported by the 'Mediatheque', a large multimedia lab for language learning. Each of the computers is loaded with learning resources touching more than 100 languages. The resources range from well-established language programmes, such as *Rosetta Stone*, to more informal learning resources, such as videos downloaded from the Internet.

I talk to two young men from the bioregion, who are using a multimedia programme called *Connect with English*. They enjoy the real-life situations depicted in the videos and seem to be making progress. They are also students in Mita's English class, and they use the 'Mediatheque' for additional learning and practice.

Tomatis therapy

The Auroville Language Lab is also home to the Tomatis Research Centre. The Tomatis Method is one of two methods of Auditory Integration Training (AIT), the other being the Berard Method, which is more popular in North America. "AIT is based on the concept that electronically modulated or filtered music provided through headphones may be helpful in remediating hypersensitivities to sound and auditory processing deficits thought to be problematic for children with a variety of conditions including autism."

Developed by Dr. Alfred Tomatis in France, the Tomatis Method involves listening to sounds

otolaryngologist, the Electronic Ear produces its beneficial therapeutic effect by increasing tympanic pressure and by exercising the two muscles of the tympanum, the malleus and the stirrup bone muscles.

The Tomatis Method is also used for foreign language learning. Although the earliest experiments of Dr. Tomatis had nothing to do with languages, he soon discovered the potential of ear training for language learning. Different languages have different overtones, or combinations of frequencies, generated by the varying positions of the

Using media tools for language learning

tongue in in the mouth. Our ears are attuned to the frequencies of the language we grow up with, which makes learning a foreign language somewhat difficult. So, according to the Tomatis approach, learning a foreign language can be easier if we train our ear to listen to the new frequencies. This is usually done through a two-step process. First, a listening test is conducted that tells you which frequencies you hear well and which ones are not being heard. In the second step, you hear processed music – the frequencies that you hear well are suppressed, while the ones you need to hear better are amplified.

The website of the Auroville Language Lab (aurovillelanguagelab.org) lists the following conditions that can be treated with the Tomatis Method:
– Autism and other communication disorders
– Learning disorders including dyslexia, dysgraphia, aphasia, etc.
– Hyperactivity and attention deficit disorder
– Certain kinds of hearing loss
– Language delays and other language problems including stuttering
– Depression and lack of confidence
– Problems in expression and voice control (including loss of voice).

It also mentions the use of the method in stress and anxiety reduction, release of creative potential and improving concentration and memory. A presentation on the Tomatis Method talks about addressing problems related to 'adopted kids', 'teenage angst' and 'midlife crisis.'

Can one kind of therapy address such a wide range of problems? How effective is the Tomatis Method? The scientific literature on the subject is equivocal. One study, conducted over a year, found no beneficial effect for children with learning disabilities. The study was repeated over a longer period to see if that made any difference, but the outcome was still negative. In fact, the control group, which did not receive Tomatis therapy but only received placebo treatment, had better outcomes.
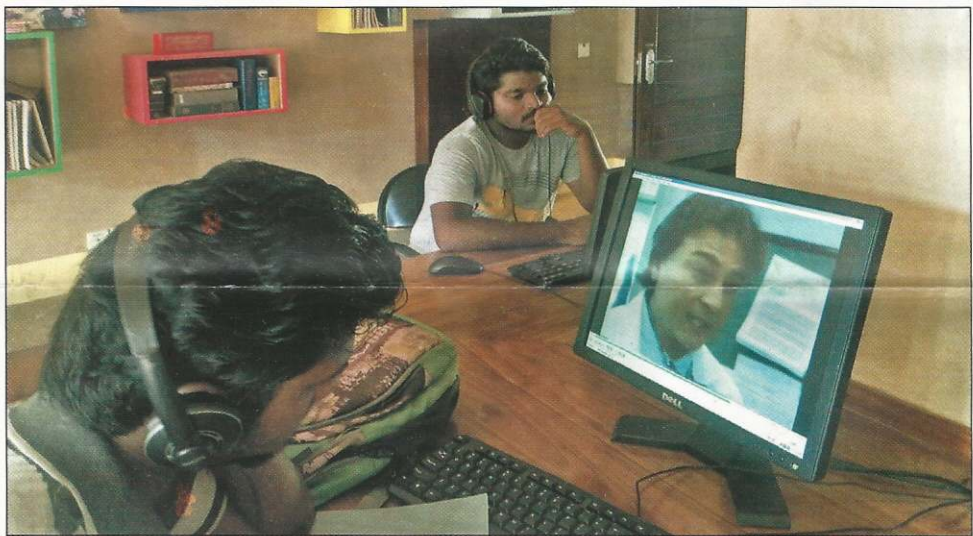
A more recent survey of the literature looked at the effectiveness of both AIT methods – Berard and Tomatis – in reducing aberrant behaviour in people with Pervasive Development Disorders (also called Autism Spectrum Disorders). The paper concluded: 'Given the numerous flaws in design methodologies, and a lack of empirical data, it is suggested that AIT be considered an experimental treatment option until more definitive evidence is available'.

But empirical evidence might not show the complete picture. The lived experience of children who use the Tomatis Method tells a very different story. In one case, the child was born with 'serious bilateral cochlear damage'. She heard very little and was socially withdrawn. After several listening sessions conducted over three years, her hearing improved dramatically and she 'became confident, outgoing and made tons of friends'. In another case of an Aurovilian child diagnosed with Attention Deficit Hyperactivity Disorder (ADHD), significant improvements were visible after just a few listening sessions. In a third case, a mildly autistic child was fully integrated in a regular school after undergoing Tomatis therapy.

According to Mita, Tomatis therapy is an alternative to mainstream drug-based treatment. As such, it might be best studied through a case-based approach rather than statistical analysis. And we must not underestimate the effect of empathy, care and love on the lives of children with learning disabilities or with pervasive development disorders.

Going forward

The Language Lab has been operating in some form since 1998, when Tapas used to teach French classes in her home. After the fateful meeting with Dr. Tomatis in December 2001 in France, the team moved into a formal facility in 2004. And now the Auroville Language Lab has its own building, waiting to realise its potential.

"For the last two years, we have been totally immersed in constructing the building," said Mita. With the constant challenges of dealing with architects, contractors and material, she has had no time to think about anything else. Now, as things are beginning to settle down, she will perhaps have more time to focus on developing the programmes of the Language Lab, particularly its research aspects.

One promising area of research is the use of Tomatis listening for learning Indian languages. If the Tomatis Method is to be used for learning Tamil or Sanskrit, the equipment must be set up with the specific frequency parameters for those languages. Dr. Tomatis had identified the audio parameters for several European languages, but none for Indian languages. The Language Lab is currently looking for researchers who might be interested in this field of work.

The other interesting area being explored is the integration of the Language Lab with Auroville schools as well as outreach schools. Mita says that children who undergo group therapy using Tomatis listening tend to build a special bond among themselves. It's as if the resonance of frequencies creates a resonance among the children. Tomatis listening can also help these school children in their language learning.

Of course, there is the unfinished work of constructing the building. The Language Lab does not have the funds to complete the work, but Mita has no doubt that a way will emerge. "The whole thing has been a miracle," she says. I suspect hard work, dedication and sacrifice had some role to play as well, considering that Mita had sold her flat in Delhi to help finance the new building!

Manas
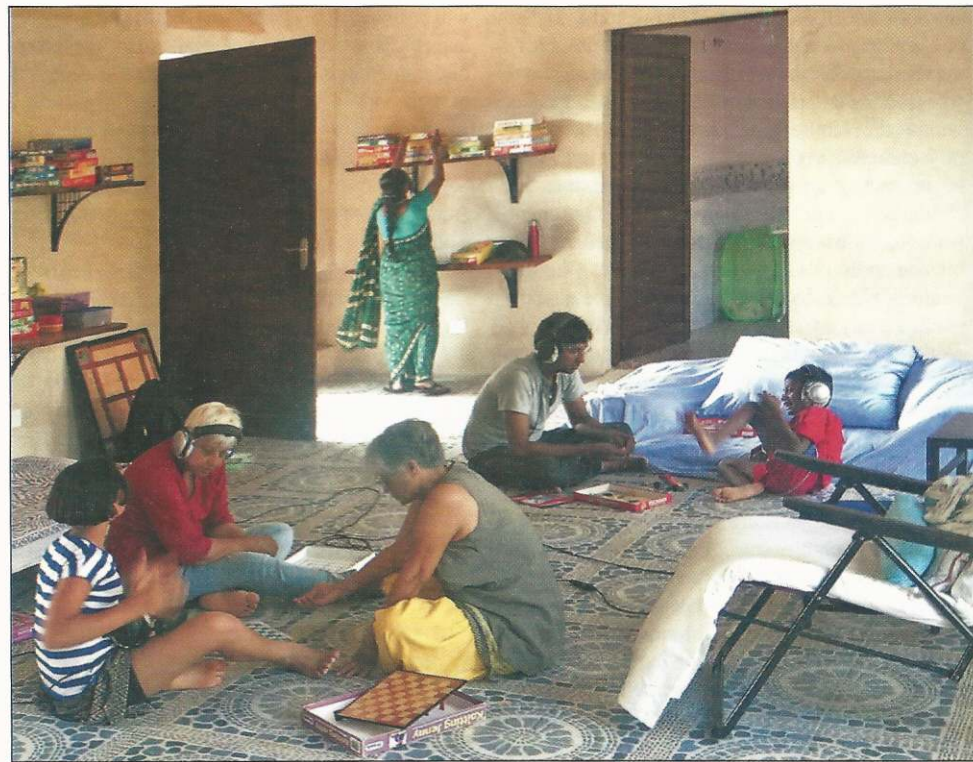
Children undergoing Tomatis therapy

Language learning

The building starts bustling with activity in the late afternoon. The sun streams into Susana's class of beginning Spanish. Six students sit at colourful desks, working on their language skills. The atmosphere is warm and interactive, and the students seem to be enjoying the class. Down the corridor,

and processed music through a special device called the Electronic Ear, which suppresses lower frequencies and amplifies higher frequencies. The headphones include a bone conductor, which helps transfer the sounds to the auditory system of the brain. According to Dr. Tomatis, a French

The slow rise of the Pavilion of a united Korea

The Korean Pavilion Group is amongst the most active pavilion groups in Auroville. Hye Jeong, who has been living in Auroville since 2002, explains what is being done and why.

By the end of last year, South Korea ranked 13 on the population index with 32 South Koreans having made Auroville their home. Though the figure is well behind that of countries such as India (1080), France (377), Germany (244), and Italy (150), South Koreans rank first among those who are actively working to establish the national pavilion of their country in the International Zone.

It all started in 2004, when the Koreans organised a Prayer for Peace gathering in Auroville. While many concentrated on peace in the world, the aspiration of most Koreans was for peace in their own divided country. This was the beginning of the idea to actively start working for the Korean Pavilion.

"The Mother has spoken clearly about the meaning of Auroville and the real purpose of the national pavilions. But for us, there is an additional motivation: the Pavilion would be a symbol for the reunification of our country," explains Hye Jeong. "We plan a 'Korean Pavilion', the Pavilion of a united Korea, not 'the Pavilion of South Korea', and we hope that in an occult way, this would contribute to the reunification and help bring Korea the peace which has escaped it for so long." Korea lost its independence more than a century ago. From 1910 to 1945 it was occupied by the Japanese; after the Second World War it was split into two countries which are still in a state of war as only an armistice was signed. For many Koreans, the present political situation is very alarming.

The Korean group started studying Korean culture to understand the particular genius of

The master plan concept for the North-East Asia sector of the International Zone, made by Ganesh

1. NORTH EAST ASIAN CENTRE
   - MUSEUM
   - EVENT HALL
   - LIBRARY
   - MULTIMEDIA CENTRE
2. ENTRANCE FACILITIES
3. GATE
4. SITE FOR THE KOREAN PAVILION
5. VEGETABLE GARDEN
6. DORMITORY
7. ASIAN ART AND HANDICRAFT BUILDING, ASIAN COOKING SCHOOL AND RESTAURANT

movements of the city," says Hye Jeong. Other aspects of Korean culture that should be reflected in the Korean Pavilion are the refined sense of subtle beauty and its 'soul quality' sense of collectivity– the collective mind, the collective attitude, a less individualised approach.

"It's an architect's challenge," admits Hye Jeong. "Last year, we invited Ganesh [an Indian-origin Auroville architect who has agreed to design the pavilion, eds.] to Korea to give him an

culture: the refinement of manners – "an area," she says a bit mischievously, "where many Aurovilians could improve." The tactful attitude and approach of being able to put oneself in the situations of others and connect emotionally to them is something Hye Jeong wishes to introduce to Auroville."In Korea we have the concept of 'man is Heaven (God) and therefore all men shall be treated as one'. We believe that this will bring world peace and unity. It will be the hallmark of the Korean Pavilion," she says.

The North-East Asia Centre

The Korean Pavilion will be located opposite the Language Laboratory in the North-East Asia part of the International Zone. Ganesh has finalized a proposal for the Master Plan of this section which evolved from several months of early morning Dreamcatchers meetings, in which nationals of all East Asian countries participated – except for Mongolia, as there are no Mongolian residents in Auroville. The North East Asia master plan is now under study by the Town Development Council.

There have been historical conflicts and hostility between Taiwan and China, and between Korea, Japan and China. The North-East Asia Centre should be an occult help to resolving the conflicts between these countries. This building will house all common facilities: an event hall, a multi-media centre, a museum, an Asian kitchen and restaurant, workshops and boutiques, and a hostel. While the Pavilions will serve as educational and as cultural centres, and will be visited by people who want to study these topics, the North-East Asia Centre will host all events and be open to day-visitors.

"It was interesting to experience how unified the approach of all these different countries was," says Hye Jeong. "For example, we all agreed that bamboo forests should be planted around the pavilions to hide them from direct view – a meandering pathway would lead to each pavilion. We also agreed that we need running water streams; and that we do not want large pavilions, but smaller ones."

Korea and Auroville – a two-way bridge

Over the years, the Koreans have brought many aspects of their culture to Auroville, from Korean shamanic dance to Korean Buddhist meditation and Korean cuisine. But it has become a two-way traffic, as Auroville has also something to share with Korea. A Korean liaison group has introduced Auroville to Korea in several events and the lessons that can be learned from Auroville have not gone unnoticed. The government of South Korea's capital Seoul in particular has shown interest.

The chair of the Governance Committee of Seoul expressed concern that Korea is losing its values and that many Koreans feel like refugees in their own country. They have left their home towns in the countryside to find work in the big cities, at the loss of their community lives. They interconnect with their smart phones, but are lonely in their high rise apartments where they often don't even know their neighbours. Many of these displaced Koreans would like to return to their home village after retirement, but often cannot because of economic and social circumstances. For these people, community structures have to be created and it is in this field that the Seoul government is interested to learn from Auroville.

Another problem is the influx from guest workers, in particular from countries such as Vietnam, China and the Philippines. Korea has very much a mono-culture; guest workers are still not universally welcome and intermixed marriages are often frowned upon. "Korean society is generally not good at embracing differences," says Hye Jeong, "and there is a certain amount of racism and lack of integration in Korean society. Here too, Auroville is an example."

Last, there is the unenviable position of young Koreans. They are products of an educational system that many consider as having failed. The educational rat-race, the intense competition for socially-respected jobs and the high rate of unemployment make their lives very stressful. Their generation is known as the 'three-renunciation' generation who have neither the time nor resources for dating, marriage or children. Here too, life in Auroville can show the difference.

"Many Koreans are longing for social change and a better society; for them, such a new community like Auroville would be very interesting," says Hye Jeong.

It will take time for the Pavilion of a united Korea to manifest. But beginnings have been made, a mutually beneficiary interaction has begun and funding has come in sight. "With the establishment of the Korean Pavilion, there will be an interface between Auroville and Korea and which can contribute to the development of Auroville," predicts Hye Jeong. "I hope our work would be a stimulus for other countries to start materialising their pavilions; more importantly, it would be a small step toward world peace."

In conversation with Carel

The Auroville talk at the Town Hall of Seoul City on October 15, 2016
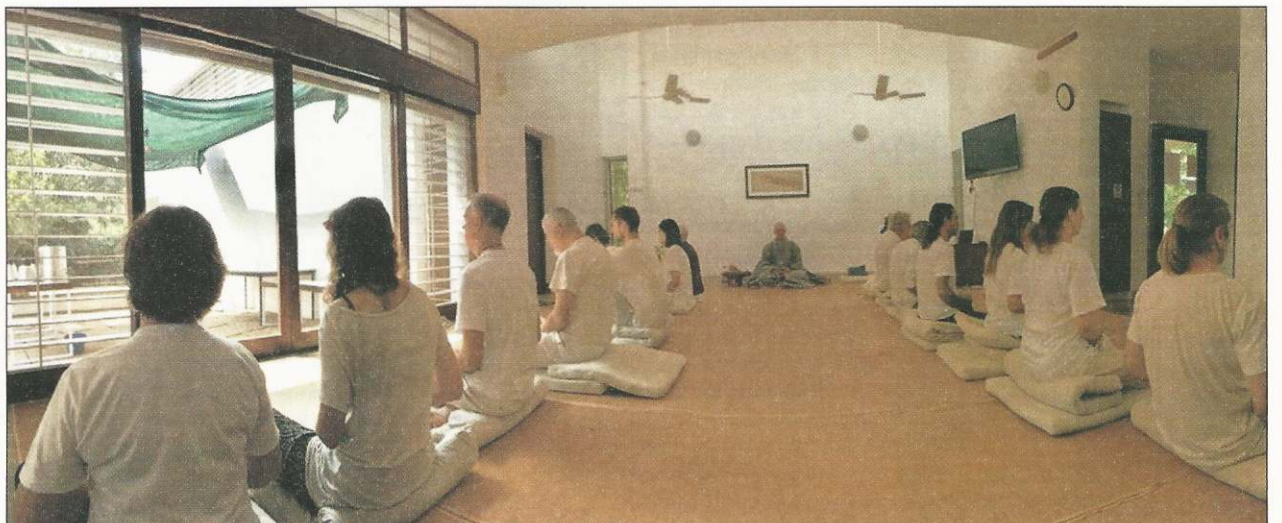
Korea and what it has contributed to the evolution of mankind. They looked at Korea's place in the group of nations known as 'East Asia', comprising Korea, China, Taiwan, Japan and Mongolia; they started introducing Korean culture to Auroville; and they began thinking about how the Korean Pavilion could reflect the essence of Korean values and become a bridge between Korea and Auroville.

"It is difficult to define what Korea has contributed to the evolution of mankind. It is too broad to specify," says Hye Jeong. "For the time being it is more important for us to focus on how the Korean community can contribute to Auroville and how the Korean Pavilion could reflect the best essence of Korean culture."

Korea is a mountainous country, with many Buddhist temples hidden in the forested valleys and countryside. They draw large numbers of people, who come not only to meditate but also to experience the peaceful settings – for many of these temples have existed for more than a hundred years old and vibrate calmness and emptiness and a deep connection with nature. "Korea has these two characteristics, the high dynamics you find in the big cities versus the contrasting tranquil and slower paced countryside. Both are reflected in the personality traits of many Koreans. For them, going to the mountains or visiting a temple to experience inner and outer peace is a refuge from the over-dynamic

idea about our country and its customs. He was stunned. It was different from anything he had experienced before." A Korean professor of architecture will collaborate with Ganesh to express the essence of Korean beauty in the pavilion and convey the connection with nature through its landscaped gardens. Some first sketch designs have meanwhile been made.

"The Auroville culture is a unique mix of Indian and Western cultures, but very different from Korea's," says Hye Jeong. She recollects that when she first came to Auroville, she had great difficulty in understanding the mindset. "I was wondering why I had to spell out everything in detail, why couldn't they understand? In Korea, people understand what isn't said explicitly." This experience made her realize a special value of Korean

The Seon workshop at Savitri Bhavan on February 4, 2017

Art for healing

The Art Cart

Working with natural materials to create art

Born in the USA to a Gujarati mother and having lived in New York for ten years where she studied art therapy, Krupa came to India eight years ago and travelled to over 80 places, seeking to reconnect with her roots and to manifest her dream in a place where it would have maximum impact. Auroville was one of the stops, and it triggered sensitivity in her to the gaps in society. She also personally perceived hierarchy of caste and gender, and saw room for addressing these through art. She started to volunteer at Thamarai and like many others who begin an adventure by following their passion, Krupa stayed in Auroville. Driven by her own journey as a child using art to allow her to escape and imagine an alternative reality, Krupa continues to delve into art as an intimate space for reflection and growth. In Auroville, her vision is to share this with as many others as she possibly can.

Through an organisation called 'Art Therapy without Borders' and with other numerous partners in this adventure, Krupa uses art therapy as a remedial experience. In the US, during a specific artist residency of the University of Delaware, she worked with hundreds of students in a school, in various departments, as well as with the staff, families, and children of a children's hospitals, to promote art as healing therapy. She has also presented art therapy in a TEDx talk on the subject. In her experience, art therapy is a unique experience, where creative art such as painting or drawing helps to increase the emotional well-being and the mental state of people and patients as well as their coping skills.

Sankalpa

Sankalpa is a powerful Sanskrit word meaning intention, affirmation, resolution, determination and willpower. Krupa chose this word specifically to help her find the continued strength to establish and evolve this vision despite all obstacles. Started by Krupa eight years ago, Sankalpa is now a sub-unit of Thamarai.

Krupa and Sankalpa are most widely known in Auroville for the 'Art Cart' a travelling mobile cart which has art supplies and invites people to create together. The Art Cart is parked most of the time in the Visitor Centre's Zephyr Café. It is a form of outreach that facilitates a space to meet in a common language.

Sankalpa also has an Art Centre located in the International Zone. The materialisation of a vision that Krupa had during a particularly insightful meditation, it has taken her eight years to manifest it. She hopes that it will bring people together through art. In her centre, Krupa and students facilitate workshops in art therapy, art and yoga, and mandala drawing with intentional affirmations.

Deeper art work is also done with children and adults who have experienced trauma and Krupa also trains parents and teachers in art therapy. To promote social healing practices, Krupa emphasises the importance of spaces in Auroville that are safe for artists to express themselves without fear of judgement. "Sankalpa is perceived as arts and crafts but in fact it's a space where anyone can come and discover their own artistic voice and feel confident about their expression," she says. "In many cultures, people are also conditioned to believe what's right and wrong, and we are here to say that there is no such thing."

Another partner in Krupa's adventure is in Kuilapalayam and is called 'MindVISA', an exchange program for students that encourages peer-to-peer learning and where Krupa holds art sessions. Throughout the program, participants use structured dialogues, games and activities in art, music, dance and theatre as a way to increase self-awareness, confidence and understanding.

Krupa shares that more and more Aurovilians are interested and involved. Children with behavioural issues are an important part of her work in Auroville, and she associates more and more with Auroville Village Action Group and The Learning Community (TLC), where art and play in a collective maize not only gives a sense of building capacity and develops mastery, concentration and fine motor skills, but also works to reflect on challenges, solutions, and collaborative interaction. She says, "Although I also see self-doubt and fear in creating anything at all, over

The art mandala

extended periods of work self-esteem and sense of self-worth and mastery increases. Generally, towards the end of a session, I see relief and calmness, catharsis, pride and increased self-awareness."

Art as outreach

Artists often struggle with credibility but Sankalpa's work with trauma-informed therapy acknowledges that there is a sensitive way to hold space for any kind of hardships that people may have lived. Work with children and women and using art as a tool to cope with reality by externalising emotions has its clear advantages and is very rewarding. However, Krupa shares that she sometimes feel overwhelmed and has to leave particular exhibits "because the training I have received sometimes allows me to access unimaginable layers of information beneath and woven into each piece of art."

Staying true to her roots, here in India she focuses on using indigenous art forms by working with local and natural materials, while sharing the therapeutic value of henna, kolam, embroidery and mandala patterns. This is therapeutic and especially relevant when connecting with local people and within this area's cultural context. In Thamarai

one of the projects was to get local children acquainted with primary and secondary colours in their environment, for example food, animals, plants, patterns, as well as imaginary visions. Other examples include decorating discarded CDs with glitter, feathers, and other shiny treasures, painting of prayer flags, and drawing of mandalas.
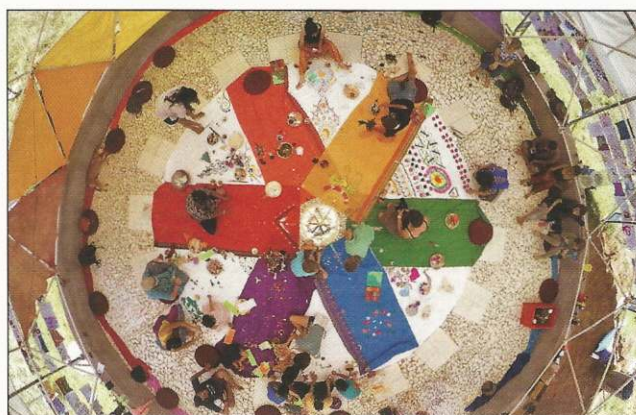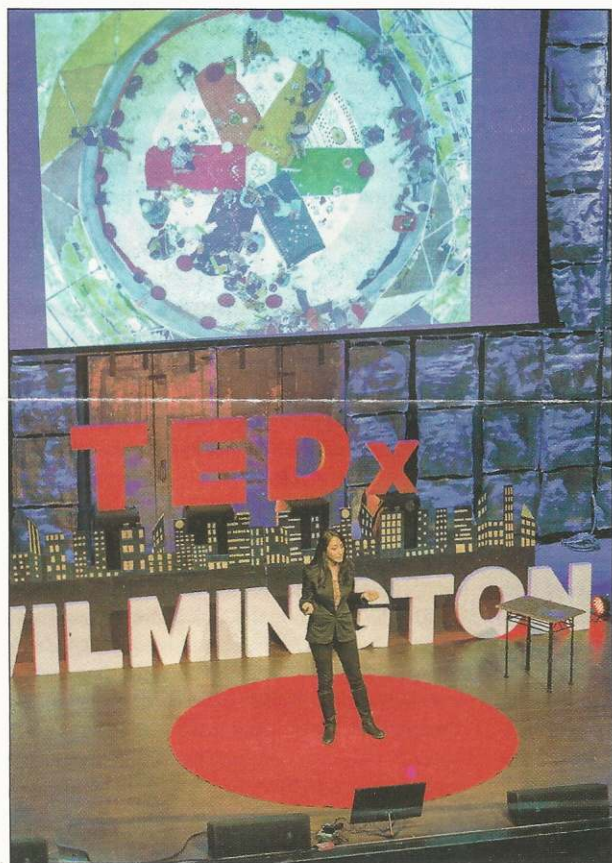
Krupa shares that one of the most profound experiences she has had with creating safe spaces of expression is when a young Tamil girl who participated in a doll-making workshop wanted to join the Sankalpa project. This was a clear message that she internalised the impact of the empowerment that she received through the healing process. "In the local community just the acknowledgement that there is a safe space and that there is a willingness to share the difficulties that people go through is an indication that although a characteristic of the local community is resilience, there is also space for something else," she says.

Another memory she recalls with fondness was a project with the Life Education Centre, where local women painted their entire life stories on their sarees that they then wore. It was very powerful. Followed by a guided meditation session, 12 women expressed their new year intentions (sankalpas), dreams and wishes with fabric paint. Some of the sankalpas included hopes for education and learning opportunities, as well as vocational opportunities in sewing, and hopes for independence in mobility by, for example, learning how to drive a motorbike.

In the context of Auroville and the bioregion, Krupa explains that "art also acts a bridge between people by creating a common language, weaving cultures together and embodying creativity. Especially when women and children are inhibited by a lack of self-confidence in their creativity it becomes vital to allow them a space where there is freedom to express their ideas that are often not expressed in words. It is an extremely useful tool for externalising realities and has been used for a long time. Sri Aurobindo guides our understanding that art is a physical expression of inner truth and wider consciousness."

Inge van Alphen

To view videos, images, read more and join programmes visit: www.sankalpajourneys.com.

Krupa at the TEDx talk

Connecting with our food

Just as much it fills my heart with joy to see a sapling poke its head out of the ground and slowly grow and unfurl its leaves to the light, so also it is a gives me immense joy to see a new educational initiative take root and steadily grow each year. A couple of years ago, I joined Foodlink, the Auroville Farm Distribution Center. I strongly felt that as the name suggests, Foodlink should link farmers and consumers by creating awareness about the importance of local, organic food. Also, given my previous experience as an experiential educator, where I would have students work in farms and forests for at least three months, I was dismayed to discover that teaching children on how to grow food was, by and large, not included in school curriculums in Auroville. I discussed the issue with farmers and school teachers to see if we could start a project together.

Udavi school

Last year, with the enthusiastic support of Priya from Buddha Garden and with encouragement and funds from SAIIER, Foodlink started a pilot project in Udavi School to teach one class

of students on how to grow seasonal vegetables. This year that initiative was repeated with the same group of children in the same location, and it was gratifying to see them apply the practical skills that they had learnt last year with great dexterity.

Equally gratifying for the children and Priya was the fact that this year there was a higher yield of vegetables. Presumably, as is the experience of farmers in organic farming, over time the soil quality improves leading to better harvests. The students grew beans, lady fingers, maize, brinjal, tomatoes, and chillies. The food production cycle could also be taken a step further this year with students learning to grow seedlings from seed (in the first year seedlings had been provided by Buddha Garden). Seeing the perseverance of the children, Ravikrishna, another teacher
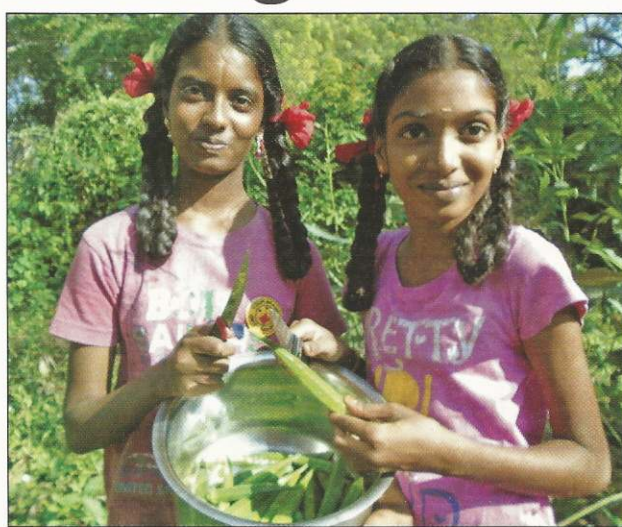
Udavi students proudly display the harvest

from Udavi School, joined the team and proposed setting up a permanent garden with him taking primary responsibility for it. The students helped measure the area for the garden this year, and next year, they plan to set up at least eight vegetable beds and plant a fruit orchard. Undoubtedly, this educational initiative at Udavi School will continue to bear fruit in the coming years.

Deepanam school

Discussions with Deepanam school children and teachers had revealed their previous challenges in growing vegetables, and the children indicated that they wanted to learn about rice cultivation.

Consequently, Priya put together a project that comprised weekly classes about food growing in general and grain cultivation in Auroville. As millets are recognized as a healthier alternative to rice and wheat, and are climate change resilient crops, we felt the need to convey the importance of millets in ensuring greater food security and agro-biodiversity.

The classes at Deepanam included growing a small patch of rice and kambu in the school garden and two site visits to Annapurna farm to watch rice planting and rice harvesting. At Annapurna farm, the students also learnt how having integrated practices such as keeping livestock (cows) are a key to sustainability. The crops provide fodder for the cows and the cows provide nutrients (dung and urine) that enrich the soil.

The students also learnt about various post-harvest rice processing activities, some of which are labour intensive or require machinery, to make the grain ready for consumption. All grain grown in Auroville is processed-milled and de-stoned at the Annapurna granary. Paddy (rice in husk) is processed in the following different ways:

– Complete rice (red and brown varieties): where only the husk is removed from the kernel totally (10,000 kg of these two varieties are grown and consumed in Auroville)

– Raw rice (Ponni varieties): where the husk, bran and germ are removed from the kernel

– Par-boiled rice (Ponni varieties): where paddy is soaked, steamed and re-dried before husk, bran and germ are removed.

The classes gained a sobering relevance about how climate change was going to affect food production when the students learnt how the failed monsoon and subsequent unseasonal showers impacted the rice harvesting process. The Deepanam class was deemed to be a success and there are plans to offer a similar class next year.
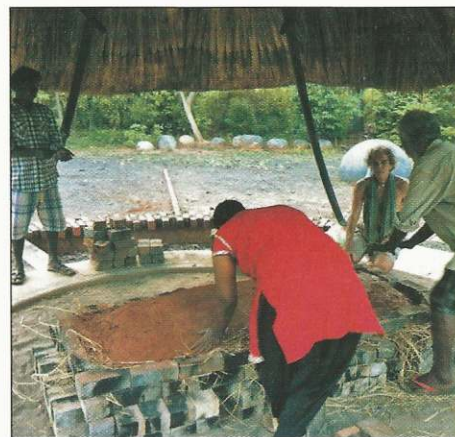
Bindu

Farewell Matters

The Farewell Centre, Auroville's funeral home, was inaugurated in March 2016. Since then it has received thirteen Aurovilians and Newcomers.

Cremation training: preparing the base

Placing the dummy

Covering the dummy with earth

Keeping an eye on the fire

The Farewell Centre aspires to provide an environment of harmony and quiet and care for the body as the inner being takes its leave during the hours and days after death. The Aurovilians involved have been learning how to respond to death more consciously, to work together, trust one another and maintain as much as possible an attitude of openness and receptivity, together with spontaneity and a grounded practicality and earthiness.

The phone rings. An Aurovilian has passed away. The doctor has issued the death certificate. At this point the family may choose to contact the Farewell team for help. If they do so, a member of the team will come to assess the requirements and the condition of the body.

The first step is to establish whether the body will stay home or go to the Farewell Centre. If the family wishes to take care of the body at home, the Farewell team will provide information as to the practical needs; if the Centre is chosen, an sms is sent out to approximately ten people who will step in at various stages of the process.

In case the body is taken to the Farewell Centre, a team, currently of four, takes care of the washing and dressing. Each body is approached with the sense that a presence is still there, as is often the case. The team has learned its task through experience.

To give the different parts of the being sufficient time to leave the body, and to provide a space for each of the relatives, friends and well-wishers to have a concentrated moment of farewell, the body is kept, often for several days, in a cool box at the Farewell viewing room.

During this period a vigil is arranged during visiting hours and longer, if that is possible. Persons staying by the body hold an atmosphere of calm in the viewing room as well as attend to practical issues such as making sure that not too many candles or incenses are lit (they spoil the air-conditioning), that loose flowers are not placed anywhere in or near the building on the floor (they attract ants), or that the generator does not fail in the middle of the night. Vigils are organised by two members of the Farewell team: family and friends often take turns, yet there are rarely enough volunteers.

The funeral is generally held at the Auroville Burial and Cremation Grounds at Adventure. The most recent development at Farewell has been to organise teams of Aurovilians to take up this aspect of the work. For regardless of whether the body is to be cremated or buried, several teams are needed:

– A team to clean the Grounds. There are neither funds nor the people to maintain the Grounds all year long, hence the space is cleaned only at the occasion of a funeral. This team is as yet rarely made up of Aurovilians.

The Auroville Farewell Centre

– A team for flower decoration arrangements. One team member organises this, messaging a list of volunteers. Here, friends and family often participate.

– In the case of burial, a team is needed for the digging and filling. This is arduous physical work and although several individuals have signed up and recent burials have seen Aurovilians help with filling-in the grave, the team is not yet large enough. As of today, burials still depend on paid labour. Other Aurovilians are contributing in various ways, such as the making of the bier, the stitching of the cloth being used, etc.

– In the case of cremation, a team of Aurovilians will take charge. In December 2016, twelve Aurovilians received a cremation training using a dummy. Since then, the team has conducted three cremations, further developing their understanding of the process. An additional team collects and brings all necessary material to the site: wood, straw, cow patties, camphor, ghee, etc. Until recently, these tasks were fulfilled by a professional team from the Pondicherry Cremation Grounds, following a method used by the Sri Aurobindo Ashram (which consumes much less wood than the traditional pyre).

– As a last step of the process, two days after the cremation, the ashes must be collected and handed to the family.

Challenges and steps forward

Considerable progress has been made, as more and more of us learn to accompany each other through this part of the journey. However being in Auroville one must always ask, what more can we do and how?

Two aspects complement one another: the requirements of the Farewell Centre and the attitude of the Aurovilians to death and what happens to our body once it is pronounced 'dead'.

The Farewell Centre needs support both financially and in terms of physical participation. Fundraising has not been easy, as not many people are inspired by this cause. Auroville has not allocated a budget to the Farewell Centre to cover its running costs nor does it receive any maintenance for the people working there. The only expenditures currently covered are the costs incurred from the time of a death to the completion of a funeral, either by Auroville or by the family and from occasional donations. Aurovilians work there in addition to their main activity, and those who volunteer have to be willing and ready whenever the need arises to make themselves available. Ideally, with additional participation, the maintenance and care of the Burial and Cremation Grounds at Adventure would be part of year-long work. With appropriate attention, it can easily become a place of beauty. As of now, there is no caretaker at the Grounds and the only regular visitors are goats and cows.

As the population grows and ages, the matter of choice between burial and cremation may be of more consequence. A proper planning of the Burial Grounds will become necessary, and the cremation place is in need of improvements.
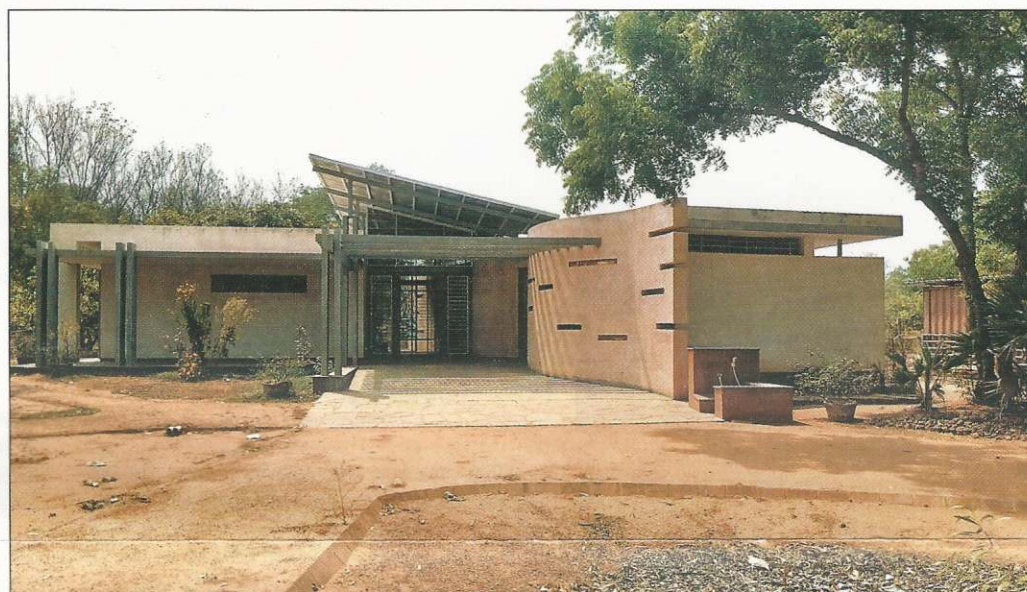
Death is a part of our journey which we often remain reluctant to look at or speak of, thereby leaving it in the care of cultural or religious traditions and habitual responses in the face of this abrupt separation. But Auroville is an adventure in consciousness. Therefore we must confront and address all our questions regarding death in this light, both as individuals and as a community, and we must try and discover together the ways of the future in material and practical terms as well as in terms of our inner search.

Recently, as students of Auroville asked questions about the process of death, a one month workshop was held at one of the schools, looking at what death is, how it is dealt with in different parts of the world, and in Auroville.

According to The Mother, there are no two identical cases, and it may be up to each Aurovilian to help discover a new living awareness which progressively finds its own physical expression.

In this sense Farewell represents and provides a direct training, a way of learning to anchor ourselves at once spiritually and in this present physical condition.

Aurévan

Anie Nunally

On April 26th, Anne Nunnally (called 'Anie' by The Mother), a dear friend of Auroville, passed away at the Sri Aurobindo Ashram Nursing Home at the age of 80.

Anie, who was a professional singer and musician, first came to Pondicherry in 1968 with her husband Narad. She lived in the Ashram for several years before returning to the USA, from where she maintained an intense correspondence with The Mother and supported the Ashram and Auroville in many ways. She was active in the Sri Aurobindo International Center in Manhattan, served as the first board member of the Foundation for World Education (FEW) and was from 2009-2015 President of the Board of the East/West Cultural Centre (EWCC) in Los Angeles.

In 1999, Anie interviewed 12 disciples who had been close to The Mother. These interviews, which give a glimpse of how lives were transformed by the action of Sri Aurobindo and The Mother, were later published in the book 'The Golden Path'.

In February 2016, Anie came back home to Pondicherry, along with her Aurovilian friend Mikael Spector. She intended to work on a follow-up volume but could not do so because of a kidney failure followed by a series of strokes.

Friends from the US and France contributed to a fund for her hospital stay and dialysis supplies; eventually she was taken up in Dr Dutta's Nursing Home. Anie's body was cremated on April 27th in the Ashram's cremation grounds. A retrospective album of photos is online at https://goo.gl/photos/Z9aAtm6Jn2udMQBr9.

Paulien Zuidervaart

On April 25th, Paulien of Vikas passed away in the Intensive Care Unit of the East Coast Hospital in the presence of her sister Mariette and her friend Betty. She had been suffering from cancer and was 64 years old.

Paulien, a Dutch national, had lived in Findhorn for seven years before joining Auroville in 1998. In her first years in Auroville, she was involved in forming a kind of job-service for the then Entry Group and also worked for an ecological project. In 2005, she found her 'swadharma' working with children through the 'sand box' medium, a practice which she refined over the years. After serving at the Nandanam Kindergarten for several years, she moved to Transition Primary School, where she specifically worked on a one-to-one basis with children who needed special attention, using the sand box as one of her tools. She also became one of the founding members of The Learning Community (TLC) and participated in the TLC Pitchandikulam team, facilitating afternoons of forest exploration with the younger children of TLC.

Paulien's body was cremated at the Adventure Burial and Cremation grounds on April 28th. It was a very beautiful, very Aurovilian event in the late golden hours of the afternoon, with her colleagues of the Auroville Choir singing the Earth Aspiration song before and during the ignition of the fire. Also the TLC children were present and sang in her memory.

Siegfried Latzke

Siegfried Latzke, a German national who came to Auroville in 1998, left his body on 22nd April, surrounded by his family. He had been diagnosed with cancer four weeks earlier. He was 70 years old.

For the first seven years, Siegfried worked in the Bommaiyur Toy Carpentry unit, living in Alankuppam village. Afterwards he started a jam making unit.

Siegfried's remains were cremated at the Adventure Burial and Cremation grounds on Wednesday, April 26th.

Smart mobility in Auroville

Chandresh, one of the founders of the Electric Vehicle Service group, talks about Auroville's mobility issues, the failed and successful attempts to move Auroville towards smart mobility, and the future prospects.

Mobility is a matter of serious concern. Right now, Auroville is extremely unsmart in its mobility choices. The main means of transport is the individually-owned petrol-based two-wheeler and, increasingly, a petrol or diesel car. During the guest season, the number of vehicles increases almost three-fold. Since most roads are unpaved, they raise a lot of dust, which affects our health. That, and the noise and the speed with which people travel, create an environment which is the opposite of what Auroville should aspire for.

How can we change this? One way is to promote more collective transport. Another way is to go for electric motorcycles. A third way is to cultivate a cycling culture by improving our cycle paths. In all these areas we have experimented, with mixed results.

The bus service

When I joined Auroville ten years ago, we started a community bus service. At that time, electric buses were not an option because of the prohibitive cost of replacing failing batteries.

The bus service: an experiment that could not continue

Diesel buses were the only possibility. We made a survey of eight entry points into Auroville, during morning, noon and evening during peak hours, and we devised a basic service with a frequency that would meet 80% of the Aurovilians' needs. But this project needed Rs 1 core to kick off, and we couldn't raise the funds.

We decided to start with a smaller service. We purchased two vehicles through donations. Our business model proposed charging a minimum of rupees five or ten a person to ferry all the visitors between the Visitors' Centre and the Matrimandir. With that income, we calculated, we could sustain and grow a public transport system for Auroville as a whole. But the groups in charge of the Matrimandir and the Visitors' Centre said 'No, this is a spiritual place and we should not charge people.' This was a damper on our ideals. Instead, we started a regular morning and evening bus service to Pondicherry, which we managed to run for eight years. But the project could not be financially sustained. When the continuation became financially impossible, and Auroville's Budget Coordination Committee decided against
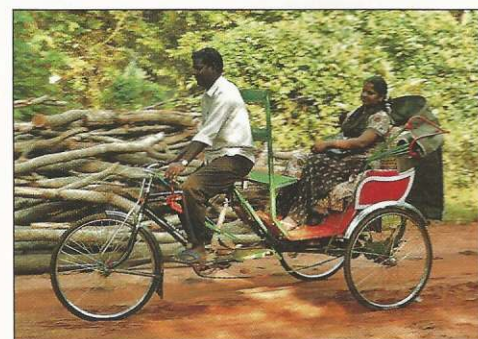
The electrified rikshaw

supporting the deficit from the central budget even though the amount required was quite small, the project was discontinued.

Electrifying rickshaws

Another idea was a three-wheeler electric rickshaw. We built two prototypes, converting existing tri-cycle rickshaws. They were used

CAD design of an electric rikshaw; the passenger sits facing the back

for some time to ferry students on field trips. But we had to abandon them as the project was not economically viable because of the high cost and low quality of the batteries that were then available.

We also did a CAD design of an electric rickshaw where the clients sit facing the back instead of the front, to get in and out more easily. It could pull one or more modules, like an
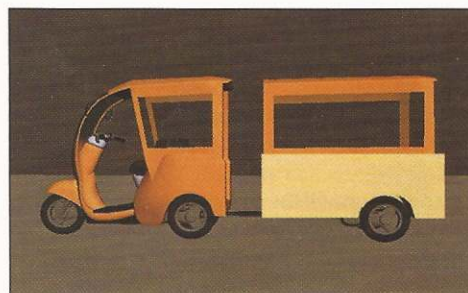
CAD design of an electric rikshaw train

electric train. Again, batteries were an issue and the project failed to take off. But the idea is not dead. Now that the new lithium battery technology has reached the Indian market, it could be revived.

Electrifying motor cycles and bicycles

A third idea was to use alternative energy for individual transportation, by developing electric motorcycles and bicycles, pedal-assisted for the winter and fully motorized for the summer.

The electric motorbike project was quite successful. We created our own electric vehicle, the Humvee, converted many petrol two-

wheelers and went through the necessary learning curve to maintain them. After four years, more than 150 electric vehicles were plying the Auroville roads. Some of these are still in use.
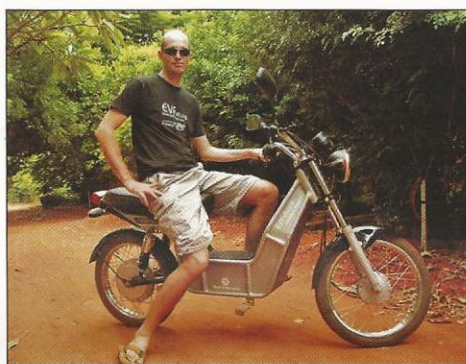
The Humvee, Auroville's own electric motorbike

The set-back was that, at the time, the batteries and motor components had to be imported from China. We had to pay 36% excise duty. As there was no government subsidy to support this initiative, the electric vehicle became too expensive for Auroville residents.

We were less successful with our idea of promoting electric bicycles. In 2006, when there were not many electric bicycles in India, a generous friend was ready to donate 500 electric bicycles to Auroville. A container with bikes and spares would be sent from China. I published an announcement in the News and Notes, asking who would be interested in the idea of free electric bicycles. Only 5 people showed up! So, I concluded that Auroville was not ready, and declined the offer with thanks.

A bicycle collective

In 2009, we coordinated a six-week workshop with architects, design students, interns, industrial designers and a few experts in the transport domain to study different ways to make Auroville a bicycle-friendly place. One of the ideas was to have six or seven free bicycle kiosks in Auroville to provide 'free' bicycles to the community for short trips. People would walk from their home to one of these kiosks, take a bicycle to go where they like, and drop it at any other kiosk, a system similar to what exists in some large European and American cities. The kiosks would be maintained and some could have a coffee shop next to it. That was the vision. But it didn't materialize. Theft was too great a risk and the support structure could not be set up. Moreover, people want the freedom that individually-owned fossil fuel motorized transport provides.

Solutions for the future

For me it is obvious that Auroville must promote a cycling culture. If we could focus on improving our bicycle paths, make more of them, maintain them and really ensure that they can only be accessed by bicycles and not by motorbikes, we can create a campus-like feeling in Auroville where everybody cycles. To improve security and riding safety, we could install lampposts with sensors – the lights will turn on when someone comes through. Measures can be taken so that at night people can drive safely to their homes. A fund could be setup to provide free high-end bicycles to children, to motivate them, and to teach them how to maintain the cycles.

Auroville should also start promoting electric bicycles and motorcycles. A new commercial unit, Kinisi, has recently been created. It will help Aurovilians choose their next vehicle from the best electric bicycles and bikes that are now available in India. As these are still expensive, we are proposing that people pay what they can – say the same as for a non-electric vehicle – and get an Auroville loan to pay for the difference. The loan is to be repaid from the savings on petrol.

The Electric Vehicle Service group has also started addressing the issue of servicing and maintenance of e-bicycles and e-bikes. We are getting ready to provide top-notch service to all electric vehicles. An Electric Vehicle Service Station is being built in the Service area and we will cooperate towards building charging points all over Auroville.

Today, there are no barriers to go for smart mobility. When people realize that going electric is cheaper than staying with petrol, and if they get a loan incentive to make the switch, the momentum towards electric transport will pick up quickly. This will benefit the individual and the community and make the City that the Earth needs less polluted, quieter and greener.

In conversation with Marlyse

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A sea of motorbikes shows the Aurovilians' preferential mode of transport – not smart