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Sacred Groves – the trials of a sustainable housing experiment

In our last issue we focussed upon the housing crisis. In this issue we zero in on one particular housing project, Sacred Groves, that attempts a new direction in sustainable construction yet which has been plagued by controversy. Its importance lies in the fact that it is representative, in some ways, of the conflicting challenges faced by those who have collective responsibilities and those who try to break the mould.

The Sacred Groves project is an experiment in sustainable construction that is gaining recognition in the larger India. However, it has become the focus of controversy in the Auroville community as some feel that it has cost too much and delivered too little.

A brief overview

Some years ago, Auroville's town planning group, L'Avenir, formed a group of Auroville architects to look at the possibilities for affordable housing. This culminated in the concept of the 'Transit Lounge', an experiment in low-cost dismountable houses [see *Auroville Today* # 297, August 2014].

The respected Indian architect, B.V. Doshi, who is a member of our Governing Board and Chairman of the Town Development Council, was supportive of this concept, but felt that it did not go far enough. The next step, he felt, should be a large-scale experiment in sustainable construction, as Auroville was not doing enough in this respect. A young Aurovilian architect, Manu Gopalan ('Manu'), who had designed the dormitory of International House using innovative building techniques, was chosen to design a community of 108 houses using fully sustainable materials and techniques. It was called 'Sacred Groves'.

The work began in July, 2013 with planning permission for a first phase of twenty houses. However, as some of the techniques to be employed were highly innovative, the project team decided to focus initially on completing three prototype houses: for a single person, a couple and a family.

Due to a number of factors, work on the site has progressed slowly, and today 80% of the three prototypes, plus infrastructure like rain catchment tanks and accommodation for volunteers, has been constructed.

Initially, the Housing Board gave the project financial support. However, the relationship with the Housing Board deteriorated, and in June 2015, the Board announced they would not continue funding the project. At this point, the FAMC provided some interim funding.

However, during a meeting of 27th May, 2016, the FAMC decided that they would release no more community funds for the Sacred Groves project, and strongly suggested that the managers take a "different approach, immediately".

As of today, the Sacred Groves team requires 17 lakhs to complete the three prototypes. It is seeking other sources of funding to complete them. Completion, it estimates, will take another 3 months.

What is the intention?

The bare bones of the story do not explain what has been happening, and why. This is not easy to tease out as rumours and emotions swirl around the project. For some, it represents a groundbreaking experiment beset by reactionary forces. For others, it is an example of a badly conceived and managed project that is draining community funds.

Let's begin with the intention. Doshi's suggestion that Auroville should focus more upon 'sustainable' construction struck a chord with the Governing Board and International Advisory Council. It also found a ready response in Manu and Joseba, a former member of Housing Service who is a project holder in Sacred Groves. They were already concerned about Auroville's conventional approach to building, which makes extensive use of cement, glass and steel, because the production of these materials is very wasteful and polluting.

"We need to find alternatives to these materials," says Manu. "The other challenge we are facing is building waste. Construction waste represents the largest quantity of materials going to waste in India because nobody knows what to do with it. While in Auroville it is used on roads, in India it is often dumped in places like environmentally-valuable wetlands. If we can find a way of reusing such waste, we are doing a service to the larger India."



PHOTO: MANU

The three prototype buildings of Sacred Groves, with the Sacred Groves' team

The other main objective of Sacred Groves is to build permanent houses at low cost. This is of particular interest to the Housing Service, which is facing the challenge of providing adequate housing for the many people on its waiting list who have limited funds.

How has Sacred Groves tackled these challenges? Firstly, one of their guiding principles is to use natural rather than industrial materials for construction because materials like wood and earth, when 'locked' into buildings, sequester carbon dioxide rather than releasing it into the atmosphere. Palmyra and other local wood is used for roof beams while the walls of the Sacred Groves houses are mostly 'cob' – a mixture of mud and straw – as well as adobe and Earthcrete.

Secondly, they have found a way of using building waste. This involves mixing together construction rubble, earth and a small percentage of cement to create a new type of concrete: 'Earthcrete'. "We had it tested," says Manu, "and it gives us a strength/safety factor of 6.6 at the base of houses. In other words, we could use this material to construct buildings six stories high."

As building waste is generally available free, this should also help address their second main objective, the lowering of construction costs. The decision of the Sacred Groves team to use volunteers, in addition to skilled workers, for construction was also intended to contribute to this, although, as Manu points out, it wasn't the main motivation. "Volunteer builders were always part of the project design because of the immense potential to seed these ideas through informal education."

Criticisms of the project

However, the first phase of the Sacred Groves project is costing more than originally planned and the pace of work on the site has been very slow. The Housing Board grew increasingly frustrated by this. At one point, they suggested to the FAMC that the project be discontinued and, even, that the existing structures be torn down because they were concerned that they were structurally unsafe and inappropriate for this climate.

Other objections they have raised to the Sacred Groves project include poor financial management, lack of proper accounting and monitoring of progress, poor site supervision, and lack of professionalism and qualified people. Manu's competence to manage such a project has also been questioned.

It has also been questioned if the project is really innovative, given that materials like cob have been used in construction for thousands of years.

These are very serious charges. Apart from their immediate impact upon the credibility of the project, if they are substantiated it would ensure that such experiments do not happen again in Auroville for a very long time.

The response

The first thing the Sacred Groves team emphasise is that this should not be considered as just another conventional project with an experimental tinge. Sacred Groves, they say, is a unique and ambitious experiment. "While some materials we are using, like cob, are age-old, the way we are applying them is somewhat new," explains Manu, "as so far it has not been used much in an urban context or in high-density row housing. What is unique in Sacred Groves is the systemic approach. We will build high-density, off-grid, row houses entirely in natural and recycled materials, and make them self-sufficient in terms of water and power, while taking care of other factors like waste disposal, food production and the cooling of the houses. To build all these things together in a systemic way is very challenging."

This raises the issue of the competence of Manu and his team to take on such a project.

Before coming to Auroville, Manu had been working on low-cost housing for ten years with organizations like the Red Cross and Action Aid. In Auroville, he designed the International House dormitory in the International Zone. However, while the dormitory did incorporate innovative building techniques, like the use of recycled materials, Manu admits that he has never taken on a project of the size and complexity of Sacred Groves before.

Sonja, from Housing Service, feels it was irresponsible of Manu to have taken on such an ambitious project without the requisite experience. "The reality is that Manu started 3 buildings without knowing how to use the material at all..."

Looking back on all the difficulties he has encountered, Manu himself admits that it might have been wiser to have started on a smaller scale. Nevertheless, at the time he was confident he could pull it off. This was because, initially, he felt he had the support of the major working groups as well as the Governing Board, and also because he planned that 50% of the workers on site would be skilled. All this changed when the Housing Board stopped the funding for the first time, citing the slow pace of work, and financial mismanagement. Though a subsequent enquiry exonerated the Sacred Groves team of the latter, the temporary funding block meant that he had to release his team of skilled workers.

At this point, Manu decided that he didn't want to be in this situation again. Henceforth he would rely more fully upon volunteer labour. This was a critical decision. The fact that now there was less expertise on site led to a much slower pace of work, and also the decision to complete the walls in cob rather than Earthcrete, as cob is easier for less skilled people to work with. It may also have impacted the quality of some of the work.

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The Sacred Groves experiment

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However, as Manu points out, even his initial batch of skilled masons had never worked in this way before and needed to be trained, and some of the volunteers – most of whom are architecture students, while some are qualified architects with low-cost construction experience – have since become skilled at these processes. Moreover, Manu continued to employ a limited number of skilled workers on site and, since last year, Rene, a project manager and building biologist, has been the main site supervisor. At present, there are seven other trained architects on site.

The Sacred Groves team has also relied upon expert advice and the testing of the materials like Earthcrete and cob by the Engineering College, Pondicherry, and by a structural engineering company, EPMCR, which is affiliated to IIT-Madras. It is worth pointing out, however, that the Auroville Earth Institute (AVEI), which has probably the greatest expertise in earth architecture in India, has not been extensively consulted.

Manu explains this by saying that AVEI had never used cob on 'active' buildings and only recently included cob and adobe in their training programme: their primary focus has always been on cement stabilised earth blocks.

Nevertheless, a closer relationship with AVEI might have improved some aspects of the design and construction process. It might also have prevented what happened last December when part of a cob wall of one of the prototype houses collapsed after getting saturated in heavy rains. The immediate cause was a torn tarpaulin, but AVEI pointed out in their report that, "frankly, for a raw earth, multi-story cob building, construction must not continue at all during the rains (particularly without a roof)".

The fact that this is a multi-faceted experiment rather than a duplication of existing construction techniques also had consequences. It meant that it was difficult, if not impossible, to exactly predict the cost and duration, as so many processes had to be experimented with for the first time. Inevitably, there were failures. Prototyping, as Manu points out, is always the most costly and time-consuming part of such a project. Once the techniques are mastered, the work should proceed much faster and at less expense.

Achieving the main aims

In fact, even with the setbacks, Manu believes that today they can say they have substantially fulfilled the two main aims of the project. Firstly, they have proven that entirely sustainable forms of construction are possible using natural and recycled materials and, secondly, they have constructed at relatively low-cost – their latest estimate is that the prototype buildings, including the back-up infrastructure, have been constructed at Rs 14,500 a square metre which, according to Manu, is about half the Auroville average. Subsequent constructions in Sacred Groves should cost substantially less.

The slow pace of the work is perhaps the most apparent aspect of the project to those who visit regularly, leading one wag to dub the project 'Sacred Graves'. The need to experiment with new materials and techniques is time-consuming, and building with cob is not fast. In addition, the fact that every six months or so there is a large-scale turnover of volunteers, and that the new ones need to be trained, clearly takes time. The three funding cuts suffered by the project have also very seriously impacted progress.



Preparing the cob mixture

It's also important to note that the project could not tap into any available infrastructure. In fact, they had to start from scratch.

"When we first went there, the whole area was littered with alcohol bottles, there was no road access and we did not have water or electricity," says Manu. "And we had to convince a group of young people to live there and start working! All the preparation work on the site, including building a base camp for the volunteers, took about six months. Only then could we start work on the actual construction of Sacred Groves."

Unfitted for this climate?

One of the most serious objections to the Sacred Groves project is that the method of construction is unfitted for this climate and even unsafe for habitation. The Housing Board asserted that cob construction is vulnerable to being attacked by termites and more suited to desert conditions than sub-tropical Tamil Nadu, for it is weakened if exposed to rain and damp. They pointed to the collapse of part of a cob wall of one of the Sacred Groves houses during the previous December rains as evidence of this.

The Housing Service was sufficiently concerned to request Auroville's Earth Institute to report on the safety and stability of the Sacred Groves prototype houses. In the report summary, the authors noted that, "The Sacred Groves Project is not an excellent example of cob construction. After numerous site visits and analysis of all relevant materials, we are obliged to state that these buildings are not well designed and not well built for various reasons."

"It is also by no means a 'risk-free' project, as risks exist in several areas, including that cob buildings are not commonly triple storey structures in monsoon climates; while there has been quite a lot of research, we feel that some of this research has not come to a high standard; and the quality of execution is reduced as it is built by mainly unskilled and inexperienced student volunteers, who are not sufficiently supervised."

However, regarding the concern that cob construction is unfitted for this climate, the Earth Institute stated, "This is simply incorrect. Cob construction has been used in this climate since before

recorded history and it is completely suitable."

They also concluded that these buildings are structurally safe, that they should not be torn down and the project should continue, but certain considerations for construction and maintenance must be satisfied. These include providing proper rainwater protection, strengthening the piers of the buildings and using only experienced lime plasterers for the



Building a cob wall

plastering work. The report also notes that "future inhabitants must be well educated about the maintenance and responsibilities for raw earth buildings".

Regarding termites, the Sacred Groves team have done a lot of research. They have found that the Earthcrete foundation is impervious to termites and that turmeric and *Calatropis gigantea* (milkweed) mixed in the cob walls is an effective termite repellent. None of the prototype buildings have been attacked by termites.

The cost factor

However, it is the cost factor more than anything else that has exercised the Housing Service and the FAMC.

So far, the FAMC has loaned 47 lakhs for the project and Housing has advanced 34.7 lakhs and donated an additional 3.93 lakhs for mobilisation costs. There have also been additional donations of approximately 52 lakhs from AVI USA, Friends of Auroville and Aurovilians.

Housing noted that on the original building application, Sacred Groves said that the total cost for the first ten units, including infrastructure, would be 95 lakhs, yet much more has been spent and the first three houses are still unfinished. They put this down to, among other things, weak management and poor site supervision. They concluded that "this project cannot be considered as an affordable housing project anymore", pointing out that with the public money they had advanced 15 affordable family houses and 30 single units could have been built to mitigate the present housing crisis.

Joseba disagrees. He sees the money spent so far at Sacred Groves as an investment in the future. "Future housing in this project will be much cheaper because of the experimentation we have done here."

Manu points out that the funding cuts they suf-

fered have added to the costs. Also, that the building application for Sacred Groves, which stated that the total cost for building ten units would be 95 lakhs, was submitted before a peer review of the project. The designs changed significantly after the review, resulting in higher costs.

He also says that people have not understood how the money was spent. "We took the strategic decision to put in the back-up infrastructure at the start of the project as well as to start by building a base camp. This was to make the site hospitable for as many volunteers as possible so that we could keep building at a low labour cost."

"So our original request to the FAMC was for funding to construct the back-up energy and water infrastructure for the entire project. We got a loan of 30 lakhs from the FAMC to set up the base camp, and AVI USA donated another 30 lakhs for infrastructure and the base camp."

"On hindsight," admits Manu, "I don't know whether we should have done it this way or not. But nobody told us that this money should be immediately spent on building the houses. In fact, of the 1.22 crores that was spent on the construction aspect of the project, only about 45.7 lakhs has gone into the prototype houses: it will take another 17.3 lakhs to finish them."

The investment in infrastructure will be recovered when the houses are transferred, as the cost of infrastructure will be shared between 108 houses."

The root of the issue?

However, the root of the issue seems to be that while the Housing Service has always looked upon the Sacred Groves project primarily as a means of providing plentiful low-cost housing, the Sacred Groves team, while acknowledg-

ing the need to lower construction costs, has different priorities. For them, it is primarily a research project in sustainable housing.

Manu also mentions another important aspect of the experiment: participatory planning. "In future, the users will become the focus of the project; they will be part of all the major design decisions."

Sonja says that it was never presented as a research project to the Housing Service, and that Housing does not have the money to pay for these kinds of experiments. Manu disputes this, saying that Housing did not object when the decision was taken to build three prototype houses to test all the new ecological systems involved.

However, he acknowledges that while he expects the pace of construction in Sacred Groves to pick up, this approach will always be slower than conventional or "industrial" building methods.

Housing, which has almost 150 Aurovilians on its books seeking better accommodation and under constant pressure to provide more housing for new arrivals with minimal funds, clearly feels frustrated.

In fact, there has been an almost complete breakdown in understanding, communication and trust between the Sacred Groves team and the Housing Service.

Manu acknowledges a certain responsibility here, as he had never clarified that the Sacred Groves project was very different from the Transit Lounge concept. It is also unclear if design changes and the decision to allocate the initial funds to infrastructure development rather than to prototype house construction was clearly communicated to Housing, or if Housing was kept informed about the progress of the work and the difficulties encountered.



Making adobe bricks

The Sacred Groves experiment

PHOTO: COURTESY SACRED GROVES



Preparing Earthcrete

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Joseba, who was meant to be the key communication link between the Sacred Groves project and Housing in the early stages of the project, feels that one or two members of Housing have been opposed to the Sacred Groves project from the very beginning. This may have played a part in failures to communicate the problems being encountered on site. Sonja from Housing strongly objects to his accusation, pointing out that Housing initially supported the project but some members were concerned, as a Housing report put it, that "this project was not well thought out, and that there were too many variables".

The cultural factor

Another of the root issues here may be a cultural one. At first sight, Sacred Groves has a slightly hillbilly flavour to it. Many things look improvised, somewhat funky, the dormitories primitive, and the three prototypes themselves have a rustic feel to them.

In fact, Sacred Groves seems at the other end of the universe to concepts like Kalpana, with its stylishly designed apartments and manicured lawns: it requires something of a different aesthetic to appreciate it. Moreover, for some casual visitors, it would be easy to assume that Sacred Groves is little more than a hippyish architectural playground for youth, that the workforce are poorly organized and not interested in serious research or dedicated work.

This is far from true. Anybody spending time there discovers that experiments in design, construction and energy production are going on in every corner, and that these are being carefully documented.

Every week the core team meets to plan the next week's work, and the volunteers and workers come together four times daily to share what they are doing and to make any necessary adjustments in the work. The energy is overwhelmingly youthful, but extremely dedicated. And the funky-looking buildings where the volunteers and interns eat and sleep are actually part of serious research into new construction materials and lowering building costs.

Going forward

Perhaps the crucial question is not whether the Sacred Groves project should continue or not. After all, Auroville is meant for experimentation, the Earth Institute has confirmed that the buildings are safe if kept dry, and many universities and institutes have shown keen interest in the Sacred Groves experiment. In fact, the prestigious Centre for Science and Environment in Delhi finds the project groundbreaking enough to feature it in a forthcoming book on sustainable architecture.

The crucial question is on what basis and scale the experiment should go forward.

Regarding the finance, Housing and the FAMC have made it plain they will not continue to underwrite the project with community funds. The Sacred Groves team believe that much of the necessary experimentation has now been done, and that future houses will be cheaper and faster to build. This, they

expect, will encourage potential residents to start buying into the project.

Another funding approach is to use workshops to help generate income for the project. Sacred Groves has been running such workshops for the past 4-5 months, and architectural and design students from all over India are eager participants. "Workshops can bring in a lot of income. This formula has been working all over the world," says Manu. In fact, the Sacred Groves team has already raised 22 lakhs from workshops, presentations and volunteer contributions.

Joseba points out that the educational opportunities for Auroville in this field are huge. "With the Earth Institute, the Bamboo Centre and Sacred Groves, we are creating a high-class hub in Auroville for alternative construction. The kinds of things we are experimenting with here are very new; they are not taught in architectural schools. This is why the universities are interested: this is why they are sending their students here."

So far, more than 550 volunteers and architectural interns have passed through Sacred Groves. "They bring much needed energy into Auroville," says Joseba, "and they also help spread the interesting experimentation we are doing here to the rest of India and beyond."

But do changes need to be made in the way that Sacred Groves has been working? Joseba believes that the Auroville administration should have been helping this experiment, "not putting obstacles in our way all the time." This is not entirely fair. Groups like the FAMC and Housing Service have a responsibility to the community to see that public funds are being utilised well, and the Sacred Groves team may not always have assisted them in doing this. For example, Housing complains that they have not received regular accounts, or regular communications about the progress of the work or major changes in design or planning.

Manu disputes this, saying that Sacred Groves' bills were submitted monthly to the Housing Service accountant.

However, clearly some failures in communication by the Sacred Groves team have played their part in the distrust built up in the Working Groups associated with the project, as well as negative impressions about Sacred Groves in part of the larger community.

It is also entirely conceivable that in a project like this there have been wastages and inefficiencies, particularly during the periods when there were few skilled workers on site and the site supervision was less good.

Sonja believes that Sacred Groves compares unfavourably with the Humanscape project, which she says is using many of the same construction methodologies, like waste materials and earth, but much more efficiently. Manu disagrees, pointing out that Humanscape uses quite a lot of steel and concrete and does not integrate biological building principles. "Humanscape is an example of Green Building, Sacred Groves is Ecological Building," he clarifies.

Technically, the team believes that now they have solved most of the major issues. However, a much closer and ongoing relationship with the Earth Institute would seem to make sense as the AVEI

have so much experience in the field of earth architecture. Apart from anything else, their reservations about the design of the prototypes should be investigated and, if necessary, their suggestions incorporated in future buildings.

If funds are available, it would also be advantageous to increase the number of skilled workers and supervisors on site to ensure the quality of the work. This is something which the Sacred Groves team are already considering. However, FAMC's suggestion that the Sacred Groves team bring in outside contractors and perhaps adopt conventional building methods to finish the prototypes does not seem sensible. An outside contractor would have no experience of this type of building and probably no interest in such a project. And if the prototypes are finished in conventional materials, it would compromise the validity of the experiment.

A great deal of thought also needs to go into educating future residents of Sacred Groves, because this type of construction requires constant attention: future inhabitants will be required to play an active part in an ongoing experiment. As the AVEI report puts it, "It goes without saying that the long-term safety of these buildings will rely on having tenants who are, firstly, well educated about the maintenance responsibilities for raw earth buildings in this climate, and secondly, willing to take these responsibilities seriously and/or to report without delay when there are exterior or interior wetting issues."



Manu

The Sacred Groves team are in the process of writing not only a detailed manual for those who want to study or replicate these construction techniques, but also a user's manual for future residents. Manu points out that there are quite a number of people in Auroville who are seeking a different housing experience, and these would be very committed to maintaining a project like this.

Nevertheless, the Sacred Groves team have told the FAMC that they will provide a three year house-maintenance guarantee to the users of the project.

Ultimately, Auroville is for experimentation, and this should be encouraged, although not, of course, at any cost. Manu and the Sacred Groves team are extremely dedicated; they have had to be to retain their vision in the face of the criticism the project has received from some quarters.

Could they have done better? Of course: with an experiment as ambitious as this, there will always be room for improvement. At times, wrong turns may have been taken, communication poor, and the enthusiasm of the volunteers may not always have compensated for the lack of skilled workers. Although there seemed little choice at the time, redesigning the project to allow it to be constructed largely by volunteers had its risks: in some ways, as the Earth Institute pointed out, it may have compromised the quality of the work.

However, if this experiment is even partially successful, it could open up new sustainable construction possibilities not only for Auroville but for India as a whole, and the importance of this cannot be understated.

"Finally, these houses will speak for themselves," says Manu. "If this is a relevant direction, it will get picked up. Otherwise it will get dropped."

But, clearly, he is hopeful.

Alan

Sacred Groves volunteers speak about their experience

Tony

I am a physics engineer by background and I came here looking for opportunities to work in the field of physics engineering, energy etc. Rene contacted me and said they wanted to see if there are different ways of producing electricity, so for me it was a perfect opportunity.

We already know about solar and wind turbines. The challenge we have set ourselves is to find other ways to produce electricity while preventing pollution.

I started with building a machine that is able to recycle dead lead acid batteries. I use two batteries, one of which is dead, the other one running well. The good one powers a motor which changes it into high peak voltage which is sent to the second battery in short bursts. The high voltage cleans the plates inside this battery by detaching and recombining the molecules. In this way, the lifetime of lead acid batteries can be greatly extended.

The second experiment I have been involved in is running a generator on waste cooking oil. The diesel engine we use has to be adapted a little bit but that is not a big job. We get the oil free from Tanto restaurants and from Mango Hill hotel. The Sacred Groves generator has been running some time now on cooking oil with no problems.

Sacred Groves is very supportive of experimentation; doing these kinds of experiments in other places would not be easy. Of course, we don't have the facilities of a research lab here. At the beginning I found it really hard – you can spend an hour just to get hold of basic materials. So I had to learn patience and make do with what I could find; that's why I have to improvise a lot. But this can be a very interesting challenge. Often I set out with one idea and arrive at something completely different.

This has been a really rich experience. I have learned here how to manage a project under challenging conditions. I was only going to come for six months, but I'm enjoying so much what I'm doing, I will try to extend my stay.

Sarine

I joined Sacred Groves two years ago. Initially I only planned to be here for four months, but I am learning so many things here – it's a special space, a very creative environment – that I stayed on.

I am an architect by profession. During the last year of my college course, I went to Kerala on an internship to study sustainable architecture. This is where I began to understand people's real needs. People don't need huge spaces and a luxury lifestyle. They just need something comfortable that fits with a simple lifestyle. But at present architects are not trained to provide this.

So I had a choice: either to take the usual line or to try to fulfil people's real needs. Sacred Groves is helping me discover ways to do this. For example, my interest here is in rediscovering the lost knowledge of working materials that are simple and eco-friendly, like mud.

We have been working with cob, which is completely raw earth, but it takes a lot of time and requires a lot of people. So now we have started making adobe bricks, which also use raw earth but which are easier for conventional masons to work with. We have also done a lot of experiments with natural plasters, using lime and mud, and we are experimenting with different forms of mud flooring. All of these experiments are being carefully documented.

We don't put any industrial products in these houses, so we are working on producing organic false ceiling tiles: we are almost ready with this. Soon we will start work on making the lime plaster.

All of this could have been done faster, but during these two years we have experienced funding cuts and these have really impacted the work. However, it pulled us together and we had to think of alternative house. Originally, in Earthcrete, we were going to do all the prototype walls entirely in Earthcrete. We shifted to cob because it requires less expertise and can very easily be adapted.

Minky

I completed my architectural degree and I have been here for one and a half years now. I did a sustainable architecture option at university but it gave me only a superficial view. However, I was interested enough in the topic to search for sustainable architecture opportunities in cities, but there is nothing.

Then I got to know about the work being done in Sacred Groves. When I saw what was happening here, I was very happy: there is so much experimentation in sustainable techniques, there is a strong work ethic, and the interns and volunteers mix together well.

I began by coordinating a small work project, then slowly I took up the responsibility of house mother. The social component is a very important part of this experiment. We have young people here from all over India, and we try to build a sense of family through sharing meals and celebrations together. We also come together four times a day in the circles. Here we firstly talk about the work, but after that we can express anything that is on our minds. If somebody has an issue, we try and solve it there and then.

It's difficult for these young people to be suddenly in the middle of such an open society as Auroville. So we have basic guidelines, like no smoking or drinking on site. When I first came, there was a bit of an issue for a short time about people drinking alcohol and smoking in Center Field, but we spoke to them about it, they cooperated, and it has never happened since.

Another important guideline is to keep Sacred Groves clean. We segregate all the waste and try to avoid using plastic. As we are trying to achieve off-grid living here, we also have to learn to control our energy consumption as we are largely dependent on solar and wind.

In other words, in Sacred Groves we give a platform for people to change themselves. It's up to them whether this happens or not, but I think most of them are trying to change.

Now we have found one place in India where they are really doing sustainable architecture. It gives us the confidence to try out these ideas ourselves: we really want to take what we have learned here out to the world. In fact, this is already happening. Sacred Groves is already having a big impact outside because people come here from all over India and they take back what they have learned.

From interviews by Alan

A decade of Pour Tous Distribution Centre: the evolution of an Auroville institution

Mother gave broad and clear directives that form the basis of Auroville's socio-economic organization and vision: a communal economy with no private property and no exchange of money between community members, each of whom would contribute to the collective in one of three ways – work, kind, or money – and whose basic needs, would, in turn, be provided for by the community.

Pour Tous, founded in 1974, was the first communal Auroville institution to act as an anchor for that envisaged ideal economy. The community's first collective provisioning operation, it began by providing a basket of basic needs in kind to all Aurovilians at no cost. However, with the emergence of the maintenance system in 1983, Pour Tous decisively shifted from a communally-funded to an individualized and monetized model of food distribution. At first, each individual or family was given an account in which to deposit funds, and encouraged to deposit these in advance of their food requirements to facilitate bulk purchasing. The system eventually came to operate as a standard grocery store. The community basket service was phased out, each person or family shopped individually and paid for each item taken, and a profit margin came to be included in the prices.

In the early 2000s, funding for a new facility for Pour Tous located in the centre of the city prompted a group of concerned individuals dissatisfied with the fact that Pour Tous, as an institution, had devolved into a shop – “30 years to arrive to the point where we were just selling and buying from each other!” – to gather and reflect on how this new outlet could be run in a way that would re-affirm Auroville's evolution towards the communal economy it aspired for. In the words of one of these early stakeholders, Nicole, “we realised that if we were not going to run this outlet as a community service without the exchange of money, because it was at the centre of Auroville we could say goodbye to Auroville as a society without the exchange of money, where people are supported, they give what they can in terms of work and involvement and they receive what they need without exchange on money.”

The model that emerged was a community cooperative, in which members would contribute a certain amount monthly, and then take whatever they felt they needed, without paying for the individual items provided, which would be limited to ‘basic needs.’ The service would be centrally-supported, and not self-supporting, meaning that the cost of operation, overhead expenses and the maintenances of Aurovilians working in the service would be borne by the collective – at the time, the “Central Fund”, which was administered by the “Economy Group”.

The concept was presented to the Economy Group. One hundred and sixty people were ready to participate in the experiment. However, it was strongly challenged for a number of reasons. It was argued that fully supported services were too much of a drain on the collective economy; the PTDC model did not warrant collective funds as it was based on membership; and the model of participation would likely be abused – people would take more than they contributed, and City Services would have to cover the losses.



Each day at PTDC starts with a brief concentration, offering the work, to which all are invited

After difficult meetings, the Economy Group decided to award the new Pour Tous a small budget – 17,000Rs a month – and a time for experimentation. The service began to operate in 2006 with many Aurovilians working there on a voluntary basis, and membership more than doubled in the first year. At the end of that year, the Economy Group called for a General Meeting to determine whether the experiment should continue to run and be supported by the Central Fund. The community at large chose to go forward with the project. Ten years later, PTDC operates as a centrally-supported service, with a monthly budget of Rs 53,000 allocated by the BCC. Membership has grown to 1300 people, which represents the majority of the Auroville population.

The Model

Participants choose from one of three fixed monthly contributions, as approximates their needs. The standard (medium) contribution is determined on the basis of the in-kind ‘lunch scheme’ allocation of the City Services maintenance. The funds are collected into a single common account and are used to purchase a range of items according to certain criteria that correspond to the category of ‘basic needs,’ as determined by PTDC management. Participants may select any of the items available in the cooperative, and their selection is tracked at a checkout counter – for stocktaking purposes and to monitor the usage of each participant – although no statement is provided.

Participants are expected to contribute in relationship to their usage, which is posted three times a month on the public notice board at the entrance of the cooperative on the 16th, 26th and last day of each month. Usage represents the tally of the cost of the items selected that month by the participant to date. Participants who consistently ‘overuse’ are requested to increase their contribution, and participants who have more and need less are invited to contribute beyond their usage to support those who have less and need more. All items at PTDC are made available to participants at cost-price. This

does not include any operational expenses of the service (i.e. transport, maintenances, infrastructure repairs), since these are covered by City Services.

No item in PTDC carries a price, as the service would like people to focus on their needs without being influenced by the price of items. However, a binder with the price list for all PTDC items is available for people to consult. One of the key criteria for the selection of items available at PTDC is affordability, so that individuals subsisting on the modest Auroville maintenance – the economic demographic PTDC is particularly designed to serve – would be able to provide for their daily life while remaining within their PTDC contribution budget. Aside from affordability, other criteria for selection of goods reflect “conscious” consumer choices: health, quality and eco-friendliness.

PTDC attempts to strike a balance between meeting people's needs without upholding a uniformity of needs while at the same time not encouraging a “consumer society,” by offering a small range of items per category. Auroville products are prioritized, and several Auroville commercial units offer their goods at cost or at a discount. In addition, PTDC operates a volunteer-run kitchen that provides a daily lunch to participants at cost price, and a recycling centre for reusable containers of the items it carries.

In Practice: Celebrations & Challenges

What does the PTDC model achieve, in practice? Opinions strongly differ when it comes to PTDC's economic set-up and functioning. Some feel that PTDC represents a significant step towards the future of the Auroville economy in terms of the realization of its ideals. They highlight PTDC as the first major breakthrough towards an economy with no exchange of money, in contrast to previous experiments. Uma, a participant and member of the Economy Action Group and commercial unit executive, states, “What this new Pour Tous has done is it's managed to make a certain entry into that new economy and held it. It has crossed over this survival crunch... it has landed in the consciousness of people. And that I find a space for celebration.”

Ann, a participant who managed Pour Tous from 1983 to 1990, considers PTDC to be ‘the future of the Auroville economy’. “In any case of what I call the base economy – food, education, health... I think PTDC will one day cover all this, and perhaps even go further.”

When asked what it is about the PTDC experience that inspires support, participants point to how PTDC fulfils the mandate of meeting the basic needs of Aurovilians. Uma says “...it allows the collective to transcend a survival space, which in an economy is always – ‘how much,’ ‘how I live,’ ‘what are my living costs’ – and the whole life revolves around this self-pity of living. For me, PTDC allows me to transcend that... PTDC gives me that freedom to look at life from another level. And I'm utterly grateful.”

They also see it as a step towards ‘no exchange of money’ in Auroville. As Ann says, “I couldn't care less at the end of the month when my balance is positive that it goes to the common pot, I find that fantastic... It's no longer me or you, we are one. We are one. It's the collective.”

Others, however, fail to see how the economic model of PTDC is a move towards “no exchange of money” or a collective economy, because each person still contributes in money, their consumption is individually tracked on the basis of the cost of the items they select, and they are expected to contribute more if their expenditure does not meet their budget. However, several participants raised the point that this criticism indicated a failure not of PTDC itself, but of the present Auroville maintenance system, that provides maintenances primarily in money, channelled into individual accounts, with which individuals are left largely to provide for their basic needs.

Another point of contention is PTDC's ‘no pricing policy’. Despite there being a binder in the cooperative with a pricing list, and people's usage being posted three times a month, some participants feel that not having individual items' prices marked and not receiving itemized statements makes it challenging for them to be conscious about their usage. This they consider to be counterproductive. “I have never understood how the ‘no exchange of money’ idea of PTDC precludes putting the price on items,” says Priya. “Especially when everyone is expected to keep within the limits of the monthly contribution that they make. With this expectation, why refuse to put the one piece of information on each item that will help participants to keep within their budget?”

Others feel that it is an advantage not to see the prices because it allows them to relate differently to their provisioning; that having PTDC track their expenditure for them is another step towards a communally organized economy, and that being alerted when they reach the limits of their budget is “necessary at this stage of our consciousness.” Ann says that it also encourages each participant to be conscious: “It forces us to be conscious about what we are doing... There are people who complain afterwards, saying how come you don't show the prices? It is up to us to be conscious. And this is why I like this PTDC. It's an adventure, also, of consciousness.”

PTDC manager Anandi recognizes that the decision not to price items so as to encourage participants to base their choices on need is a challenging experiment for many. For some, the exercise feels flawed because every item does have a cost.

A Participatory Platform

What PTDC has emerged as is a platform to which Auroville's commercial units feel they can contribute effectively and directly to the community – something that is inspired by PTDC's track-record of management transparency and efficiency. Paul and Laura, executives of Maroma, note that the spirit of service behind PTDC, concretized in the model of offering items at cost price exclusively to Aurovilians, enables them to offer Maroma products to the community where there were no channels to do so before. As such, they consider that PTDC could become one of the main actors anchoring the communal economy Auroville strives for. Several unit executives with profitable businesses expressed that they foresaw donating their products to PTDC in the (not too distant) future. In this way, the present PTDC is a preparation for what could eventually become a communal cooperative with no exchange of money

continued on page 5



At 12 a.m., connoisseurs line up to collect a healthy PTDC lunch



PTDC's biscuit and vegetable counter

continued from page 4

for the goods themselves — and so no exchange of money at all, whereas currently it operates on the basis of no exchange of money for services rendered.

PTDC has also created a viable avenue through which individual community members who have the means and inclination to do so can contribute to the collective. Several PTDC participants mentioned feeling

kitchen — so that, interestingly, PTDC creates a space through which people do participate in the three specific ways Mother delineated for Auroville.

Regardless of whether people consider that the economic model of PTDC

very positively about not using up the total of their contribution, knowing it would go into the collective pot. PTDC makes appeals to the participants at large when collective usage is higher than collective contributions, and people come forward offering to make a higher monthly contribution because they know it will be helpful to others. Many also contribute in work and in kind, in addition to money — bringing fruits and vegetables from their home gardens or orchards and cooperating in the volunteer, often in the

is a step in the direction of the socio-economic ideals of the community, participants feel a sense of intention and connection manifest in the cooperative, which would ideally be the aspiration of any Auroville institution striving to actualize the township's overarching mandate: the evolution of consciousness.

One thing that all participants seem to experience and that differentiates PTDC from any other outlet, is that the atmosphere feels more “conscious” — something which people attribute to the selection of products, the intention and attitude of those working there, and the behaviour of other participants. People feel especially satisfied with the choice of Auroville goods because knowing and trusting the people producing these gives them a sense of connection to the items and to one another. Many note that the attitude of those working there — a team of exclusively Aurovilians, Newcomers and Volunteers, with no hired labour from outside the community — reflects a genuine dedication to their work, which reverberates into the atmosphere of PTDC as a whole, making it “energetically beautiful.”

The physical layout was intentionally designed with all shelving placed along the walls, leaving a largely free and empty space in the middle so that people could comfortably interact. People greet and converse with one another, many eating together at shared tables thanks to PTDC's popular and much appreciated lunch service. The cooperative has emerged as an active hub of community life, a place to “check in with the community” and its “current vibe.”

Everyone recognizes that PTDC is a work in progress that requires evolution to continue to support the community in progressing towards its ideals. Perhaps its most significant social contribution is not basic provisioning for community members, but connecting and enabling Aurovilians to participate in shaping and embodying the conscious society each aspires for.

Suryamay

(Adapted from the academic article: “PTDC: Auroville's Communal Cooperative as Participatory Platform for Conscious Citizenship”)

Promoting locally-grown foods

Like the name, India, it was with some surprise that I learnt that the common south Indian fruit, tamarind, has a Persian etymology. The Persians gave the fruit the melodious name of *Tamar-i-hind* or the “date of India”, which was subsequently Anglicized to tamarind.

It was even more of a surprise to learn that the tamarind tree (*Tamarindus Indica*), a leguminous tree in the family *Fabaceae*, despite its deceptive name, originates from Africa. A tropical evergreen, it has been cultivated in India for so long that most consider it to be indigenous to India. Before the onslaught of globalization that gave us modern highways — those blazing rivers of monochrome asphalt criss-crossing the country — our cities were linked by a single-lane avenue, often lined on both sides by tamarind trees, which were dutifully branded and numbered by the government. Tamarind trees were specifically chosen for their huge canopy so that they would provide shade as bullock-carts ferried the trade to the cities. In recent years, hundreds of really old tamarind trees have been felled in Tamil Nadu to widen highways, for yet faster and faster traffic.

Yes, a slow peaceful way of life has yielded to the restless frenzy of our modern life. So it was with some amusement that I watched my mother, who was visiting me earlier this summer, spend hours under the tamarind tree near my house, gathering the fallen fruit. Thinking I could mone-



The tamarind fruit inside its rind

tize the fruit of her labour (mind you, a single tree can produce 175 kgs of fruit per year), I checked with Foodlink if they would buy my tamarind harvest, but it turned out that their stores are still stocked from last year's harvest (cleaned, de-seeded, and dried tamarind can be stored for months).

I then checked out Auroville's stores and food-processing units as to why our tamarind stock was not moving. And it turned out that the price of Auroville tamarind, like our grains, is higher than that of outside suppliers. Auroville produce, especially those that need cleaning and processing, such as grains and tamarind, have a higher price-tag for farmers pay fair wages to hired labour. In other parts of India, prices of agricultural produce can be low due to lack of labour costs: for either, as with my mum, the extended family helps out in the daily tasks of the



Tamarind trees line many interior roads in Tamil Nadu

farm, or as the latest study by Global Slavery Index states, there is still widespread labour below acceptable wage-levels in the country. I was also told that even though Auroville tamarind is processed under clean, hygienic conditions, the packaging is not as fancy as the tamarind packs imported from outside, and so is not popular among consumers.

And here lies the nub of the matter: I fear that our dysfunctional economy pivots around our inability to close supply chains locally. By monetizing everything, such as counting the contribution of a commercial unit solely in terms of rupees donated, we fail to appreciate local labour and stimulate local employment. Having part of our monthly maintenance (which anyway most deem to be insufficient) in kind is merely a band-aid solution to the deeper problem of how we can have goods, especially local produce, circulate within our community. This problem cannot be tackled by Foodlink alone: It requires a wider community discussion and envisioning of a different economy — one that is closer to our ideals. Otherwise, as with so many other areas of Auroville, we are merely giving lip-service to our ideals, while succumbing to the pull of market forces in our lives.

I do not have answers, but I know we have a problem. And as always, when perturbed, I do some honest manual labour to calm down. So I set about pulping the tamarind that my mum had been cleaning and made a delicious jam out of it, using brown sugar and a dash of cinnamon, for tamarind is a surprisingly nutritious fruit packed with high doses of vitamin C, iron, and calcium. It also contains other essential minerals, phytochemicals and antioxidants that help prevent diseases, such as cancer, digestive disorders and

high cholesterol. Specifically, the tartaric acid that gives tamarind its sour taste helps in improving glucose tolerance and lowering overall glucose levels. It also improves intestinal absorption, dramatically increasing the rate at which nutrients are absorbed into the bloodstream from consumed foods. These are only some of the reasons why a tamarind pod a day would keep the doctor away!

Foodlink, meanwhile, is investing in fancier and costlier packaging for its organic tamarind as well as encouraging farmers to process the fruit into jams and chutneys. For even though tamarind is a prized condiment in south Indian cooking, many are not used to its sharp, sour taste and more likely to buy tamarind jams and chutneys than the fruit itself.

V for Varagu

Having forked out a significant portion of my maintenance for a simple breakfast at Bread & Chocolate, Auroville's latest up-market eatery, I did not dare to go back there for lunch despite rave reviews about their Saigon Bowl, which has quinoa as its base.

But why quinoa? What's wrong with good old varagu? Varagu, samai, tinnai — all those delicious, nutritious, drought-resistant, locally-grown grains, now face the danger of being up-staged by quinoa, a pseudo-grain, traditional-

ly grown in the Andes. Once upon a time, millets reigned supreme in India: in the 1950s, 40% of the cultivated grains comprised millets. However, since the Green Revolution, with state policies supporting the production, distribution, and consumption of rice and wheat with large-scale subsidies, the share of millets in total grain production had dropped from 40% to a meagre 20% at present.

Millet farming can be totally eco-friendly: traditional millet cultivation does not require any irrigation facilities or inputs, such as chemicals and fertilizers. Best of all, most millets can grow in arid conditions in relatively poor soil and better withstand changes in the weather. With the threat of climate change and the need for food-security looming large over the nation, environmental activists in India have been pressuring the government to give incentives to farmers for millet cultivation and distribution. Activists would like to see that millets are included, along with rice and wheat, in the government subsidized mid-day meal scheme, and public distribution (ration) scheme.

As processing millets can be labour-intensive, in Karnataka, thanks to the efforts of Pipal Tree, a non-profit organization, the government has included “millet cleaning” as an acceptable job in its National Rural Employment Guarantee

scheme where every indigent person in rural areas has the right to 100 days of employment a year. This means that the government pays the wages, but the labourer works for the millet farmer.

Such efforts, however, are now further threatened by the entry of quinoa into the Indian market. While quinoa has been imported in small quantities for over a decade now, what is new in the past couple of years is an aggressive marketing campaign to promote it. As with soy, activists suspect involvement of multi-national food corporations in the massive publicity campaign associated with quinoa. As of yet, quinoa cultivation and consumption in India is at a nascent stage, but there is reason to be concerned that the hype over quinoa will adversely affect the cultivation of millets. While not as water-intensive as rice, quinoa cultivation in India requires irrigation, unlike millet cultivation. The nutritional profile of quinoa and the different varieties of millets are very similar (quinoa's protein profile is actually better than that of millets, but amaranth, another pseudo-grain, locally grown, belongs to the same goosefoot family as quinoa and has the same protein profile). But eating millets is not just good for your body, it is good for the body of the earth.

As I confessed, I haven't yet tried the Saigon Bowl of quinoa. I am sure it is tasty, but as of yet, the most-delicious dish that I ever had in Auroville was varagu puliyodharai — the winning entry in a food competition held a few years ago on Earth-Day in Auroville. Varagu puliyodharai is basically your south-Indian tamarind rice, with the rice substituted by varagu. And that's another victory for varagu over quinoa. Varagu is tastier and quite easily substituted for rice. Quinoa is bland in taste and can even be bitter if not prepared properly.

In my activist zeal to promote the cultivation of millets in the bio-region, I too wanted to succumb to the seductive pull of the market and sell locally-grown millets outside of

Auroville. As with all market-driven arguments, I believed that by finding new markets and creating demand, I'd boost the supply, that is foster cultivation of millets. But Tomas of Annapurna, who currently processes all the grains grown in Auroville, wisely counseled that the role of the Auroville farmers is to first secure the needs of the community, and not to cater to outside market forces.

Nevertheless, this year, on an experimental basis and with the support of the new management team at the online store of Auroville, surplus produce of locally-grown Auroville red rice and varagu are currently available from auroville.com.

Bindu

Auroville welcomes new Secretary

We are happy to welcome Mr. Mohan Verghese Chunkath I.A.S. (ret.'d) as Secretary of the Auroville Foundation. He assumed office on Monday, June 13, 2016. His term of office is three years.

Mr. Chunkath was born in Thrissur, Kerala, on March 10, 1956. He holds a post-graduate degree in Zoology. He belongs to the 1978 batch of IAS officers.

As Additional Chief Secretary, Mr. Chunkath has been heading the Tamil Nadu State Department of Environment and Forests since December 2012. He was promoted Chief Secretary in May 2014 and held this post till December, 2014, when he became Additional Chief Secretary / Director, Anna Institute of Management and Director General of Training. He retired from this position on March 10, 2016.

Mr. Chunkath has held various positions, including that of Collector of Dharmapuri district and Secretary in charge of Higher Education Department. As the Chairman-cum-Managing Director of the Tamil Nadu Energy Development Agency from January 2008 to May 2009, he identified solar energy as an area to be promoted vigorously. He served as an Independent Non Executive Director of Seshasayee Paper and Boards Ltd., from February 2, 2013 until July 2014. He was ex-officio Director of Tamil Nadu Water Investment Company Limited, nominee director of the Tamil Nadu Forest Plantation Corporation Ltd., ex-officio Director of the Tamil Nadu Tourism Development Corporation Ltd. and ex-officio Director of Adyar Poonga.

Mr. Chunkath is a well-known scrabble player and he has won many tournaments. Three years ago, his publication *Nature Rambles* (Mover Books) was launched and the former Chairman of the Governing Board of the Auroville Foundation, Dr. M. S. Swaminathan, hailed him for showcasing urban biodiversity heritage through 200 examples of the variety of nature in Chennai.

Mr. Chunkath and his wife Mrs. Sheela Rani Chunkath (who was then additional Chief Secretary TN and Managing Director of the Tamil Nadu handicrafts Development Corporation, now retired), were the Chief Guests at the presentation in Auroville of the book *Economics for People and Earth – The Auroville case 1968-2008* authored by Prof. Dr. Henk Thomas from The Netherlands and Chartered Accountant Manuel Thomas, on October 2nd, 2013.

The Working Committee invites all Auroville residents to meet Mr. Chunkath on Tuesday June 21st at 4 pm at the Unity Pavilion.

The Working Committee



Mr. Mohan Verghese Chunkath in his office at the Auroville Foundation Bhavan

It is the plight of IAS officers to be regularly transferred, and it often means living apart from one's wife and family. Now again, you are living apart from your wife as she has started a 5-year study of Ayurvedic science in Chennai.

Yes, but we were lucky that we could spend a lot of time together. The difficult times were when we were posted as Sub-Collectors and later as Collectors in different places; but, later, we were both serving in Chennai. In all, I think we have been living apart for about 4 or 5 years. The present separation is due to the fact that Sheela had started her ayurvedic studies just before I was sounded whether I would be interested in taking up an assignment as Secretary of the Auroville Foundation. Sheela wants to complete her ayurvedic studies and this will take her 4-5 years. During this period we hope to be able to meet during weekends.

You both have been living and working in Tamil Nadu all the time?

No. At one point I took a sabbatical and went on a study-leave in the USA and did a Masters in demography at the University of Southern California. Sheela came to the USA one and a half years later. She had got a Hubert H. Humphrey Fellowship and studied in Minnesota – and again we were apart. But my 6-year old daughter Anupama was with me; I was looking after her in Los Angeles and she went to a Magnet school there.

My daughter fell in love with the USA. After studying biotechnology engineering at the Anna University in Chennai, she went to Cornell to do a course on computational biology, and later she became an actuary. She is now living and working in Boston, married to a Belarusian. In fact, it is because of a pre-planned visit to see her that I will not be able to attend the forthcoming meetings of the Governing Board and International Advisory Council this September.

Your interest in zoology has continued in many of your postings. In particular, you were connected to the Adyar Poonga project in Chennai, where part of the estuary, a dump site, was transformed into a nature park. This was a joint project of the Tamil Nadu Government and Auroville.

In some capacity or the other I was always associated with the Adyar Poonga – later renamed the Tolkappia Poonga. When I was Environment and Forest Secretary of the Government of Tamil Nadu, I was director of the project, but before that I had already met Joss from Pitchandikulam Forest through my friend Manuel Thomas. Manuel had told me about the project, Joss was having some problems and I set up some meetings for him. The Adyar Poonga was a very nice project, and a beautiful example of a successful collaboration between Auroville and the Tamil Nadu government.

The Adyar Poonga has had some beautiful offsprings. The 100-acre Chepauk beautification project was clearly inspired by it, as was Adyar Poonga II. Now they are talking about cleaning up the entire Adyar river itself, closing sewage outfalls, and, similarly, the river Cooum. It will take time, for sure. But it is bound to happen.

Your background as zoologist was useful for your posting as Environment and Forest Secretary?

Yes. I had done an earlier stint as Director Agriculture and another one as Secretary Animal Husbandry. I found that my life-sciences background gave me a better start. But at the same time, there is so much to learn, for what you learn from textbooks is very different from what you discover in the field.

You have had a great many postings. Was this disturbing?

I have had my share of both long and very brief postings. They taught me to take things as they come; for if you wait for things to be 'just right' and only then take a decision, it tends to become very difficult. So I've learned to take decisions much quicker.

This is in line with a change in the nature of governance. Earlier, there used to be more interest in long-term projects, but nowadays the project-cycles are short. This is partly due to the change in election cycles, which are out of sync. Earlier, the local elections and assembly elections used to run together; now they are out of phase by about 2-3 years, which means that every 3 years you are gearing up for an election. As a consequence, the type of projects that are taken up by the government are much shorter.

You met more Aurovilians during your time in Chennai?

Yes. I had contacts with Harini and Lucas through Manuel Thomas, and I met Toine when I was Chairman-cum-Managing Director of the Tamil Nadu Energy Development Agency. I share Toine's interest in developing alternative energies, such as wind and solar, and am happy that this interest is now picking up at the government level. Tamil Nadu is a pioneer in wind generation and wants to similarly succeed in promoting solar energy.

My regret is that in India, research on solar thermal power generation hasn't picked up as much as it should have considering the plentiful sunshine. A lot of research is done in Australia and Germany, and some large hotels in Dubai already have air-conditioning systems using solar thermal energy. Solar thermal energy would be very suitable for the states of Gujarat, Rajasthan and Tamil Nadu. Research has shown that the ideal solution would be hybrid systems of solar thermal with gas or biofuels. The Indian Institutes of Technologies should take a lead role in this. I've mentioned to Toine that maybe Auroville could start doing field research in solar thermal for air-conditioning and refrigeration.

Would you as Secretary of the Auroville Foundation promote research into this kind of energy generating system for Auroville?

Promote, no. As Secretary of the Auroville Foundation I cannot allocate funds for research – the Foundation doesn't have that type of money. But I would love to stimulate it, and help find research budgets.

How do you see your role as Secretary of the Auroville Foundation?

I have two areas of direct responsibility: looking after visa formalities for Aurovilians and as custodian of lands belonging to the Foundation. In all the other areas, I think the Foundation secretariat can play a supporting and stimulating role but, in essence, the Aurovilians should be left free to run the show and resolve their own problems. If the Foundation comes in to decide on issues, it would most probably muddle things up. The Secretary may help the Aurovilians find long-term solutions for the problems they are facing but the role is primarily that of a facilitator. For the Secretary is essentially a bird of passage, who is here for three or maybe five years. Institutional mechanisms need to be built by the Aurovilians themselves.

You could have retired and enjoyed life. What made you decide to join Auroville?

Auroville has always fascinated me. To mention a few of the strands that attract me: organic farming, alternative energy, and what happens in a system such as this – the 'what is making this place tick' intrigues me. I am not religious, but I feel that there is something very special about this place. So when the offer came – I hadn't applied for it, but I was asked – I said yes. It sounded a really interesting assignment.

Are you familiar with Auroville's spiritual background?

I have very little knowledge. I know a little more about The Mother than about Sri Aurobindo. I would like to first get an overview of their work. I have started reading – I am quite a voracious reader – but I've found Sri Aurobindo's books tough, not simple to grasp. Paulette gave me a whole bunch, and I have started with an easy one, *Sri Aurobindo's Humour* by Nirodbaran.

Your first your impressions after joining?

I was quite elated to come here. My only regret is that I haven't been able to give as much attention to Auroville as I would have liked, as my mother is not keeping well. I have been going up and down to Chennai very frequently, but I will need more time to interact with the Aurovilians. I keep an open office – people are welcome, preferably with an appointment – and I have done many early morning walks with Hemant. This is a good way to get to know some aspects of Auroville. But I haven't been able to get the full picture as yet.

What I have seen has made me very happy. It was what I expected, in fact a little more than I expected. I have been made very welcome by many people, (*laughing*) to the extent that I've started wondering if I can live up to their expectations. So it has been a sweet entry into an organisation which I believe I can grow into. I think I'll be here for the long haul.

In conversation with Carel

The Working Committee's announcement had been long-awaited. The former Secretary, Mr. N. Bala Baskar, had left in August 2014. Ever since, Mr. P. Srinivasamurthy, the Auroville Foundation's Under Secretary, had valiantly held the fort.

AVToday: Mr Chunkath, why does someone with your educational background opt for a career in the Indian Administrative Service?

Chunkath: I did my Masters in Zoology at Delhi University with specialisation in entomology. But it so happened that I was under-aged for my Masters degree, being just 20 years old. There was a rule that you had to be older to do research and start your Ph.D. A very confusing period followed. I joined a research lab, did some field research on solitary bees – bees that don't live in colonies – I contributed to editing a research journal and became a lecturer at a college. But when I tried to register for my Ph.D. some months later, I was told that direct admission to Ph.D was no longer possible as the Delhi University was introducing an M.Phil. degree which had to be completed before joining the Ph. D. programme.

This unexpected blow led to introspection. I decided to resign from the college and lab and say goodbye to an academic career. Instead, I decided to write all the competitive exams, the Forest Service exam, the State Bank of India exam, the Agricultural Research Service exam and the Indian Administrative Service (IAS) exam. I passed all. The first one I passed was the Agricultural Research Service, and I got a posting in Kasaragod in Kerala with the Coconut Research Plantation Institute. I was all set to join, when the IAS results came in. I was invited for an interview. My father was quite keen that I join the IAS. I qualified and then was in two minds what to do. But my family and friends convinced me that the IAS was the best thing that could happen to me. So I dropped the idea of joining the Agricultural Research Service and instead joined the IAS.

Any regrets?

That's a tough question. I've found that one's career is never smooth, it always has ups and downs, and in those down moments you are inclined to question your decisions and wonder if you did the right thing. And so it was for me. But on the whole, good things have prevailed. At the IAS Academy in Mussourie, I met my wife, Sheela. We met in July, I proposed in November and we got married in January of the next year. That was a big bonus from the service.

I would say that in a career spanning roughly 30 years most officer would have 10 good, 10 bad and 10 mediocre years. Mine was a long career as I joined the IAS very early, when I was just 22, as an IAS probationer in Mussoorie. My original cadre allotment was Uttar Pradesh, but because I got married, I was able to apply for a cadre transfer. Sheela had been posted in Tamil Nadu, her home state, and my request was granted. Our district training was together, and we both went to Trichy as trainees. Thereafter I went as a Sub-Collector to Mannargudi near Thanjavur, my wife went to Cuddalore, and after a year and a half both of us were transferred, I to Coonoor in the Nilgiris district, and she to Coimbatore district.

Suspended over a chasm

It's not difficult to predict the changes a business consultant would advise to make Auroville a commercially-viable concern. The first step would be to ensure that the potentially-productive units ones are optimally utilised, through ensuring that they received the required funds for development and the best management, while unproductive units would be closed and incompetent managers and employees fired.

Meanwhile, all those 'business-unfriendly' agreements – like refusing to allow Auroville entrepreneurs to own their businesses, or making it impossible for Aurovilians to enter into joint ventures with outsiders, or requiring units to contribute a minimum of 33% of their profits to the community – would be ruthlessly eliminated.

And in this new business-friendly ecosystem, no doubt the consultant would also advise us to license the Auroville name as a money-making venture, to fully commercialise our educational and environmental expertise, and to ruthlessly exploit the commercial possibilities of the Matrimandir.

In other words, Auroville would no longer be Auroville.

Why? Because Auroville does not exist for the maximising of productivity or profit. Rather, it is an experiment in human and 'super-human' development, an attempt to individually and collectively collaborate in calling a New World.

And this requires very different conditions from those that operate in the marketplace. Mother defined those conditions in 'The Dream', 'The Charter' and 'To Be a True Aurovillian', conditions which, if acted upon, would create the best possible environment for this experiment in consciousness development.

However, as T.S. Eliot put it in *The Hollow Men*,

Between the idea
And the reality
Between the motion
And the act
Falls the Shadow

And the 'shadow', in the context of Auroville, is our inability to make the best use of those conditions.

We should not be surprised. The reality is that most of us are unreconstructed human beings. And if you put people like us into a space like Auroville, where there is such extraordinary freedom to experiment and so little in the way of controls, the likelihood is that some of us, or some aspect of each of us, will take advantage of that freedom to promote personal wellbeing over the larger progress of the whole.

For while, in many ways, we have rejected the old world, we do not yet have the capacity to live the new. And so we hang, suspended, over a chasm.

In this precarious situation the key question becomes, how do we act? How do we move forward?

How, to take a very real and concrete example, should we deal with behaviour that seems to be endangering the integrity of Auroville and its ideals?

Should we adopt the 'old world' ways until we are ready for something else? In other words, should we formulate clear rules, set up some form of judiciary, and not hesitate to use strong measures, culminating, if necessary, with ejecting the 'culprits' from the community?

Some, perhaps many, Aurovilians feel this is the only way at present as they consider there is already far too much 'slippage': too many people taking advantage of the freedom we are given here. In fact, we are in the process of setting up a Review Group that would have expulsion from the community as its ultimate sanction.

But others are less sure about taking this approach. Partly, no doubt, this is based upon a visceral aversion to what is seen as imposition and authority, a remnant of the 60s 'meme' still strong in the community. At a much deeper level, it may be based upon the realization that we are all, in some way, responsible for the errant behaviour of individuals as, collectively,

we have failed to create an environment where such things are impossible.

But it may also reflect an intuition that by using the old ways we somehow block progress towards the new.

This will cut no ice with those at the rock face of Auroville, the ones who daily have to dirty their hands dealing with our problems. "The people who are blocking the New World are precisely the ones we need to get rid of", they would doubtless reply.

But it's worth remembering what Mother replied when asked if we should use organizational methods here that have proved effective elsewhere: "This is a makeshift which we should tolerate only very temporarily".

In other words, she was not going to make it easy for us. By denying us the old world props of social cohesion – laws, police, jails etc. – all of which are based upon a form of imposition, she was forcing us to find another way. A way beyond the limitations of the mind, a way that is truly transformative.

Is it happening?

It's very difficult to say. One can point to potential new shoots poking above the surface – experiments in exploring more 'intuitive' ways of meeting, decision-making and conflict-resolution, or in strengthening community through providing for basic needs etc. Essentially, these are attempts to find different ways to deal with our difficulties, including our refractory individuals, through creating a different 'climate' grounded upon the essential values of Auroville.

At the same time, fewer and fewer people seem to understand, let alone try to live, those values in their daily lives here.

We seem to be engaged in a race between the upward and the downward forces in human nature, and as in the ordinary world, the gravitational forces seem to be winning in Auroville at present.

But we shouldn't get sucked into the numbers game, where the assumption is that only

the majority win. Sri Aurobindo wrote that for his work to have a solid base, to be actualized, he did not need hundreds of thousands of disciples. It would be sufficient to get "a hundred complete men, purified of petty egoism, who will be the instruments of God".

We're not pretending that we are anywhere near achieving this in Auroville. But it's worth remembering the extraordinary transformative power of a drop of something a little more truthful. And this, perhaps, indicates we may be looking in the wrong direction when we assess Auroville's progress solely on the basis of community-wide criteria, like how we are dealing with providing the basic necessities for life here.

Perhaps the real progress is happening at the individual, at the micro-level. That every time we overcome our ego, our immediate wants and demands, by listening to the still, small voice of another guidance, we are opening a small crack in the door to that new world. That every time we seek harmony over conflict, compassion over blame, understanding over presumption, we are collaborating in the building of a network, an alternative community within our midst, that may become an increasingly powerful force for the changes that we seek.

In the meantime, it would be irresponsible to ask those at the rock-face to give up the tools that have seemingly worked in other settings and societies.

But we mustn't lose hope, we mustn't stop trying new ways, even as we continue to wring our hands over our dysfunctional organization and over people abusing the system; even as we hang over the chasm. We have to believe that this extraordinary experiment where, ultimately, we are required to progress by the force of consciousness alone, is not only possible, but the only way to call in a new world.

And that all the help that we need is there, ready and waiting. If we are humble enough to ask for it.

Alan

NEW BOOKS



Snakes of Auroville and Pondicherry, written by Deepanam school teacher Rajeev Bhatt, is an easy introduction to the snakes that are common in this area. The booklet is beautifully illustrated, one or more photos showing each snake, with a brief description giving details. A special section deals with 'look alikes', harmless snakes that are remarkably similar to poisonous ones, with the advice 'avoid handling'. And where handling is required, the author gives suggestions on how best to do that.

While most snakes are 'common', some, such as the striped keelback and the olive keelback, are in danger of disappearing, most likely due to being poisoned by the spraying of DDT and other chemicals.

Published by the Sri Aurobindo International Institute of Educational Research, and available at the White Seagull bookshop at the Visitors' Centre. Price in India Rs 150.

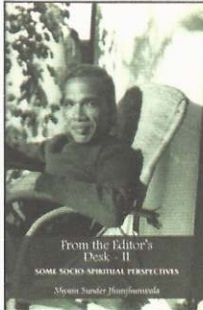


Sustainable Palate is an unusual cooking book, a collection of recipes for preparing traditional vegetables, grains and millets grown in and around Auroville. Bhuvana Sudharsan, who authored the book, recounts how the people of Tamil Nadu prepared

these traditional vegetables, such as the many different gourds, parts of the banana tree, and the great variety of greens, but that the younger generation is increasingly becoming unfamiliar with them. Local communities need to be encouraged to retain their connection to their traditional food and culture, she writes. In cooking lessons at the Life Education Centre, she showed how each of the dishes has to be prepared – some best in stone or clay pots – and how the spices have to be tempered in hot oil before being added to the dish. The result, she writes, is that the authentic taste of vegetables is retained and the dish doesn't cause heaviness after eating.

Published by the Sri Aurobindo International

Institute of Educational Research, and available at the White Seagull bookshop at the Visitors' Centre. Price in India Rs 280.

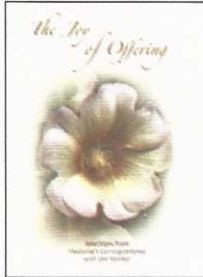


From the Editors's Desk II contains a compilation of selected editorials from the monthly journal Sri Aurobindo's Action, written in the periods 1976-1985 and 1998-2004 by Shyam Sunder Jhunjhunwala, who passed away in July 2011. The compilation, selected by his daughter Manju, contains his views

on various topics such as culture, ecology, social development, evolution and yoga, seen from the Aurobindonian perspective, as well on Auroville, for which The Mother had appointed him her secretary in 1971.

The book is the companion to the book 'Some Socio-Spiritual Perspectives', also a compilation of his editorials, which was published in 1998.

Published in a limited edition. For information email sriaurobindosaction@yahoo.com.



The Joy of Offering contains selections from Madanlal Himatsingka's correspondence with The Mother. Madanlal, who passed away in 2004, was a great devotee of The Mother and one of her tireless fundraisers, in later years for Auroville, and in particular for the Matrimandir. His power for

fundraising, said The Mother, was due to the link between him and Ganapati, the Indian god of material knowledge and wealth, represented with an elephant's head. The correspondence provides an insight into Madanlal's personal and business problems, and the ever-comforting replies and blessings of The Mother for the realization of his aspirations and spiritual growth.

Published on the occasion of Madanlal Himatsingka's Centenary on July 16, 2016. Available from VAK bookshop in Pondicherry. Price in India Rs 200.

Marika

Marika Clerici-Bagozzi of Samasti community passed away on June 30th at her house in Samasti at the age of 79. She had been unwell for some time.

Most Aurovilians will remember Marika practicing homeopathy at Pitanga, giving homeopathic remedies to humans and pets, having herself a large feline 'family', as she called them, plus a few dogs. Few were aware of her past as an Italian 'grand dame', a classical singer, whose noble ancestry went back to the XIIth century crusades. She hailed from Milano, living in a house that was filled with art treasures. But her decision to join Auroville, in 1984, met with opposition from her family. This lasted long. But hers was a conscious choice, leaving behind a glamorous lifestyle, properties and family – for that Lady who doesn't want me yet, *quella Signora che ancora non mi vuole*, as she used to say about the Mother.

Together with her friends Anna-Maria and Paulette, Marika was involved in the drafting of the first concept note for a preliminary master plan and a CIRHU album, and putting up a preliminary exhibition. She also became involved in assisting those in need of psychiatric help, and was known for helping out people in need, especially workers, advancing or gifting money, and so fulfilling the Catholic creed of the wealthy sharing with the less fortunate. She was also an active member of the Italian Pavilion group.

Marika's remains were buried at the Adventure burial and cremation grounds on July 6th.

Lambert



Auroville with her husband and their two children.

Lambert Zirnheld, an Aurovillian of French origin who lived and worked in Auroville from 1979 to approximately 1989, passed away in France on July 12 at the age of 76 after a short struggle with cancer.

Lambert came to Auroville with his partner Vidya and their young baby Lila. He was the enthusiastic and quite professional football coach of the young Aurovilians and ran a flourishing farm in Douceur community. He was the one who gave to the old Auroville bakery, then still in Kottakarai, the recipe for French bread and the much appreciated French croissants.

Lambert's daughter, Lila, continues living in

PASSINGS



Construction and other challenges in Auroville

Peter Klingspies, a young Aurovilian who returned to Auroville in 2012 and works in Sumark Construction, shares his thoughts on his life and what it means to work in construction in Auroville.

Auroville Today: Tell me about your earlier life in Auroville.

I was born in Goa and came to Auroville for the first time when I was six years old. Back then, after finishing Transition school there was the option of going to Kodaikanal International School or to the Lycée Français in Pondicherry, or abroad. I went to the Alliance to learn French to see if I could go to the Lycée. Fortunately, just then, Chali and Luk started the Center for Further Learning, which later became Future School. After I graduated from Future School, I took off to Amsterdam to do a Bachelor in Economics and Business. After that, I found work for a few years in Amsterdam, and then went to Malaysia for a year.

What brought you back to Auroville?

I'd come back to Auroville a few times for holidays. But the decision to come back took me long to make. At one point I decided that I didn't want to be part of 'the system'. I didn't want to take a mortgage, buy a house, etc. I realised that I wanted to do something else with my life, something which has a purpose, along with other people trying to achieve the same. Then, naturally, I began thinking about Auroville. A big worry I had was the financial aspect. I did not want to have to go out of Auroville for work every few years, just to have an income. I also wanted something in Auroville where I could focus my energy full-time. While I was out, I met Kevin a few times, and we often talked about the possibility of doing something together, and if it would be possible to restart Sumark Constructions, which was a dormant company at the time. Kevin was settled here in Auroville, had done some construction projects and needed someone to help him. That was my ticket back into Auroville. I came back to Auroville and joined Sumark. That was in 2012. Invocation phase IV and the Future School Multi-Purpose Hall were our first projects.

What is Sumark today?

Sumark is a construction company. We design, construct, and do project management. Kevin is not a certified architect but he is very capable in making construction and design drawings. These are then scrutinized by a structural engineer. In the case of Invocation IV, we split the project up into three phases because of the lack of clients at a certain point. There is no organisational body in Auroville that can advance a significant amount of money, so it's always a struggle to find clients in order to continue to build and not lose our labour force. Sumark has a team of 50-55 people; masons, carpenters, painters and helpers. Some of our other projects were the Basketball court in New Creation, and the sump in Transition for the water. Invocation is now in the process of being finished, and we don't have another project lined up. There are a lot of promises, some ideas in the pipeline, but as of yet nothing concrete.

How do you get work in Auroville as a construction unit?

L'Avenir d'Auroville, Auroville's town planning department, has created a work allocation team. When there is a project above a certain budget, there is a tender process. Although it seems this would give all contractors an equal chance, architects usually work with the contractor with whom they have had a good experience. Since we are relatively new, this does not work in our favour. The

work can be split up but ultimately the architects, project holders and L'Avenir decide who gets the contract. The tender is a necessary but painful process where the cost of everything is calculated. It is very tedious but there is no easy alternative. Alternatively, individuals approach you to build a house, extension, etc. Sometimes they already have selected an architect, or they themselves have a very clear idea of what needs to be built.

Could there be another way of allocating construction work in Auroville?

One way would be to have a team that splits up the work evenly and among Aurovilians, rather than to outside companies like MML which is constructing Sunship and Kalpana. The problem is that outside companies are often cheaper and faster as they can work on bigger projects and therefore invest in



Peter Klingspies

machinery. They have the shuttering ready, all the machinery such as cranes and JCB. Of course, I understand that this is why they are hired. Auroville units cannot invest in this because the building market here is not big enough at the moment, so no one invests in decent machinery, such as cranes or forklifts, for example. In Pondicherry or Chennai, a construction unit will have a few cranes and they will be able to work much faster.

There were several ideas to invest in machinery in order to keep work inside Auroville. When Citadines was being built, Eric thought about acquiring a crane for Auroville that could be shared among different constructors, but it didn't happen. It would have helped a lot to bring our price down in the long run and then we wouldn't require outside contractors to build the city. We should do it centrally so that our machinery gets rented or shared. Some things we do already share with Auzolan. For example, stone cutting machines and table saws. The question is who maintains and repairs the equipment, but that can be thought about. The easiest way is if someone would buy and maintain it while others use it. If Auroville funds it, it would be more complicated. Also, to reduce prices we could get cement and tile dealerships in Auroville. We need someone that we trust who could do those things. But at present it's easier and cheaper in the short run to hire external companies. As an example, I wouldn't buy a JCB because other Auroville contractors may still hire from outside, and then I would make a huge loss.

Where do you see Sumark going in the future?

For Sumark to keep operating in Auroville I think we have to come up with our own projects. That means being the project holder, construction

team and, possibly, even architect. We would have to do everything from getting the building permission, making the designs (or overseeing them), finding the clients and constructing the building. Ideally, we want to do construction in Auroville, but we may have to look outside Auroville as well. However, I trust that there will be sufficient work within Auroville and a project will come along. In line with what Mr. Chunkath, the new Secretary, said, right now we have 2,000 people, but imagine what we would need for 10,000 people: more Solar Kitchens, grocery stalls, and services. So if and when Auroville grows there will be plenty of work in construction.

What is different in Auroville compared to outside?

From a project perspective, if we had 30 or 40 lakhs in a bank account related to our project, anywhere else, it would be earning interest for the project. That doesn't happen here. The interest earned on money in the Unity Fund goes to the common pot to pay for Auroville services and not to the individual project. However, when you take a loan as a unit or project, you have to pay interest on it. So, a lot of things are a one-way street. I understand why it's done, but if you look at it from a project holder's perspective it can be seen as unfair. But that's just the way the Auroville economic system is set up at present.

What are the pros and cons of working in Auroville?

I would prefer giving, for example, a plumbing job to an Aurovilian. Even if I pay them more, at least it means that this person doesn't have to go abroad to work. Or maybe they can invest in tools and soon become more efficient at what they do. Sadly, we don't have so many Aurovilians people who want to do hands-on work. I would very much like to see Aurovilians take up some of the construction jobs. I think in a few years this will happen, especially with more focus on tools and machinery.

Initially, working with some of the working groups was frustrating. As they have no obligation to answer or respond, it can take months before they reply. As project holders, we have an obligation to provide documentation and replies but they don't have an obligation to answer within a certain time frame. It's a bit of the one-way street again. But, we have built up some relationships and the frustration we felt initially has faded. Also, I feel the groups are shifting and starting to become more interactive and pro-active. This is very positive in my view.

Another drawback for me is the taboo around money. We should not let money rule our lives but we need it as an exchange. Even if we rename it or remove the physical aspect of it by having an 'account' or 'aurocard', it's still there, just in a different form.

I feel that sometimes there is a lack of trust. Maybe it is because of bad experiences in the past where people hoarded things for themselves. But working groups and individuals should work on trusting each other. When we can foresee issues, we should prevent them. But we don't all know the 'right' and 'only' way. People have different approaches and these should be celebrated. Something will naturally fail along the way, but we should draw lessons from those without restricting ourselves from taking up new experiments.

On the positive side, it is great that we know people personally; you're not just a number in a system or a person who has to sign a document. While there are obstacles, there is a lot of support. Overall, there is much more support and family feeling in Auroville than obstacles. Moreover, we are all here to build and be part of Auroville together. So the feeling of community and purpose is a very binding and positive factor.

What do you think Auroville needs at present?

In the past year there has been a lot of talk about attracting young motivated people to join Auroville. However, when people come to Auroville they should be able to support themselves with the work they do. If you come in your twenties, or even if you are forty, and you have to rely on a maintenance, it's hardly possible. Especially if you have just moved to Auroville. A foreigner will have to get a visa, renew their passport and visit their relatives. And there are the expenses such as transport, the fridge breaking down, a new chainset for the motorbike or cycle. Whatever it is, it is very hard to do on an Auroville maintenance.

Moreover, not being able to have a maintenance for the first year or so makes it even harder. These factors are quite a hurdle and I would be supportive of them being reduced. I would also open up places that people can rent cheaply. Moreover, I think that if someone needs an income of, say Rs. 20,000 a month, and they are able to work to attain that, then it should not be an issue or even taboo to have that. In the past, people opened units in order to generate some income for themselves. I think that in the future people should be able to work somewhere and 'earn' the resources they require.

Another thing that I think needs to change is the fear of change. Lots of people are clinging on to their backyard and scared of further development. But when we have more people, we will have to develop more facilities and services.

What do you have to say about the housing situation in Auroville?

I don't think there is any lack of housing, no one is sleeping on the street. If I compare it to Amsterdam where people are renting out half their bedrooms, we definitely are not in a crisis. The problem is that people want housing, and they want it for free. Not everyone wants to invest, or put their money in housing because you don't get your investment back if you decide to leave Auroville. I would like to see a very diverse housing situation in Auroville where people may start with a little keet hut and improve it as and when they can or need. And different types of housing to meet different needs. We could have cheap and low cost dorms for people who spend their days out working. Since there is no place like that in Auroville at present, I know of Newcomers, Aurovilians and volunteers together renting houses in the surrounding villages.

What does your day look like?

Kevin and I combine site supervision, office work, material purchasing, client meetings, accounting, and designing. It's a very mixed job. While we often meet the clients together, Kevin does all the drawings and design decisions along with changes, while I take care of the accounts and usually do the Pondy trips to buy the material. The day starts at 8 am, with the first hour setting up work and deciding on what is required, followed by meetings, purchasing or office work. The afternoons are mixed too, and we usually end by 4:30-5. We've offered the team to have Saturday off and work longer days instead, but that's not been accepted so it's still a Monday to Saturday routine.

What are your interests/hobbies?

Workwise my interest is in setting up a system that functions well and keeping on improving it. I hope that I can start developing some economies of scale or using more machinery and technology to improve on efficiency.

In my free time I enjoy team sports, basketball, badminton, football. I also like getting out and doing some fishing. Unfortunately, there are no big rivers or water bodies (other than the ocean) around. However, I find it very relaxing and it allows me to get out of my fixed routine.

From an interview by Inge van Alphen

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