

Auroville Today

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MAIN ISSUE: Sustainability Issues

- Water resource management in the bioregion
- A study of Auroville's efforts to become a sustainable township
- Reviving a river

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Towards a sustainable water resource management for the bio-region

Highlights from a conference

Last month, the Auroville Centre for Scientific Research (CSR) together with Auroville's unit Water Harvest organized a three-day seminar on sustainable water resource management. The seminar, held in the Pavilion of Tibetan Culture, was not only endorsed by UNESCO under its HELP (Hydrology for Environment, Life and Policy) programme, but also received an inspiring message from the President of India who referred to Auroville as 'one of India's spiritual gifts to the whole world' and expressed his confidence that Auroville, in cooperation with other organizations, will be able to find a lasting solution to the water problems of the region. This region, often egocentrically referred to as 'the Auroville bio-region', had been defined by the organizers as ranging from the city of Villupuram west of Pondicherry to the Coromandel coast and from the city of Cuddalore south of Pondicherry to the Kaluvelly tank, a brackish water body of 72 square kilometers near the village of Marakkanam north of Pondicherry. Government representatives, stakeholders, scientists, technical and legal experts from India, France, Germany, The Netherlands and Israel came together to share experiences and proposals about how to remedy, develop and sustain water management practices with a common vision and approach. Over three days, a total of 27 scientific papers were presented. The seminar concluded with an attempt to find a common ground for future cooperation between the stakeholders of the area.

Depletion of groundwater

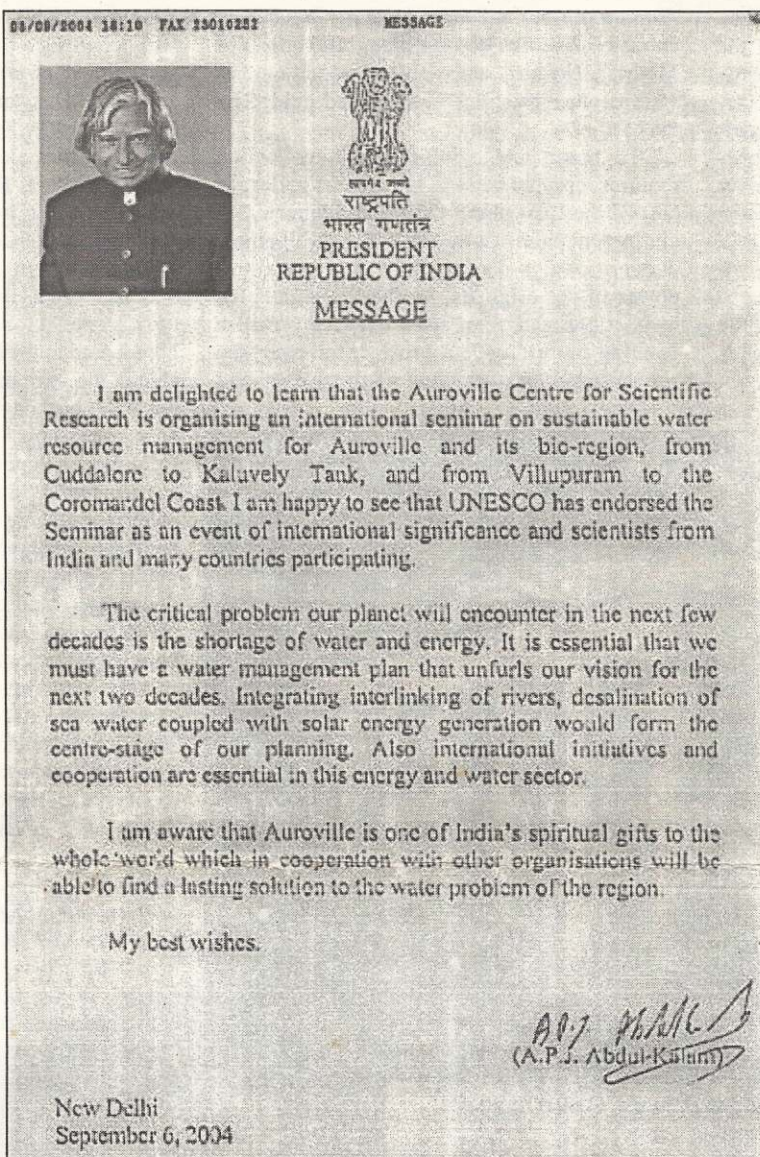
Groundwater levels all over India are fast declining and aquifers in coastal regions are turning saline. Mr. R.Chakrapani, Regional Director Central Ground Water Board, Tamil Nadu, sketched the dire state of affairs in Tamil Nadu. The available surface water resources have almost completely been harvested. Ground water is now the major source for domestic, industrial and irrigation requirements. As shallow wells have become defunct in many areas due to declining water levels and low yields, tube wells that reach into the deep aquifers have become the most common means of water extraction. However, water tables are dropping at such an alarming pace that the status of the ground water resources in Tamil Nadu's 385 administrative blocks has become a cause of concern. Eight blocks have turned saline, more than 100 blocks are

over-exploited, around 200 blocks are listed as critical or semi-critical and less than 70 blocks are considered safe. As for the main causes for the present state affairs, Chakrapani mentioned the population explosion and the consequent environmental impacts; industrial, urban and agricultural pollution; destruction of traditional water harvesting systems like tanks and ponds; and the free power which is being supplied for agricultural purposes. Water scarcity has led to loss of livelihood, irreversible socio-economic changes and population migration to urban areas. Tamil Nadu is now taking measures on all levels - government, industry, NGO's and self-help groups - to stem the tide. Amongst the most affected cities is the Chennai metropolis, home to more than 6 million people. It now imports water from the groundwater rich Neyveli basin, an area of approximately 3000 sq.kms located 200 kilometres south of Chennai in the Cuddalore district. Chennai is also planning a big desalination plant.

The status of the groundwater situation in Pondicherry is not better than in Tamil Nadu. Mr. V. Radhakrishnan of Pondicherry's Department of Agriculture explained that this small Union Territory has an estimated 35 million cubic metres (MCM) of surface water and 150 MCM of groundwater. However, the requirement exceeds the availability by more than 20%. Pondicherry's observation wells have shown that the groundwater level has dropped in coastal areas up to 12 metres, inland up to 55 metres. Radhakrishnan listed lack of surface water irrigation, mismanagement of surface water bodies and neglect of runoff as the main causes for this state of affairs. "Pondicherry has become almost completely dependent on groundwater and this is being over-extracted. Intrusion of seawater into the groundwater has been observed up to 4 kilometres inland in the southern parts of the state, 2 kilometres inland in the city and 1 kilometre in the northern side."

Groundwater pollution

The depletion of groundwater resources and the state of disrepair of surface water bodies are not the only concerns of the Tamil Nadu and Pondicherry water boards. Pollution of groundwater resources comes a close third. While some of these pollutants have a natural origin, such as salinity in some aquifers and the presence of fluoride and iron in others, other pollutants are man-made. They come from industrial effluents,



such as from tanneries and chemical industries, from bad solid waste management which contaminates groundwater both chemically and microbially, and from agricultural activities through the large usage of fertilizers and pesticides.

Mr. Gurunadha Rao of National Geophysical Research Institute, Hyderabad, presented a study on the impact of industrial effluents in Pondicherry's groundwater. The chemical, metal and paper industries of the Mettupalayam Industrial Estate, established during 1979 on the fringe of Pondicherry, have generated effluents that have found their way into the groundwater. These effluents came from badly constructed drains, from waste dumps and, in a few outrageous cases, were deliberately injected by the industry into the ground. This polluted groundwater is now, at an average velocity of about 30 metres a year, migrating to the Mutta-rapalayam well field which houses the main wells for Pondicherry's drinking water supply. To deal with the issue, water quality monitoring is now continuous and proposals have been made to drill a few wells for extraction and treatment of the contaminated groundwater.

Auroville's problems

Auroville is renowned for its successful reforestation work, for rainwater harvesting, for the construction of check-dams, and for programmes of tank rehabilitation in the Auroville bio-region. Is Auroville, as a consequence, better off with its water resources? Gilles Boulicot, the Executive of Water Harvest was quick to dispel that idea. "The efforts conducted so far have not altered the trend of groundwater degradation. Auroville depends on the bioregion for its water management and a large part of this area is under immediate risk of a major environmental crisis. Around Auroville, most of the runoff still flows into the sea, the area is subject to rampant pollution and the general environmental degradation is heavy. The response of the local population is lacklustre, and there is no appropriate legal structure or regional body to dam the tide." Boulicot particularly stressed the dangers of increasing groundwater salinity by seawater intrusion due to indiscriminate over-extraction. "The possibilities of further seawater intrusion are very likely and if left unattended could endanger the entire southern part of the Kaluvelly watershed, including the Auroville area.

The consequences of such intrusion would be difficult to imagine, as water for irrigation and drinking purposes would become scarce."

In partnership with Harvest, the hydro-geological situation of the Kaluvelly area is being studied by Dr. Sophie Violette and a team of French scientists of the University of Paris under the HELP programme of UNESCO. "The study has shown that the main exploitable aquifer of the area is being over-extracted by about 20 times the recharge per year. In this context, it came as no surprise that the aquifer is increasingly turning saline, not from seawater intrusion but from underground salt transfer. We expect that seawater intrusion may happen anytime in the near future," said Dr. Violette.

Other studies in the area are being made by the Foundation for Ecological Research Advocacy and Learning FERAL who gave a presentation on their ongoing study of the physico-chemical characteristics of ground water from 65 hamlets in the Kaluvelly watershed.

But Auroville is not only facing problems related to the bioregional management. It must also ensure a coherent, progressive, sustainable and integrated water management for the emerging city. Is it possible to develop a city which will not affect negatively the water resources, and even improve it? And does the future Matrimandir Lake have a role to fulfil in Auroville's water supply system? Two of the speakers, geo-ecologist J. Köhler and geologist C. Schillinger from the German institute LGA, Nürnberg spoke about aspects of the lake's management and possible storage systems to supply the lake with water during the dry season, but did not integrate the lake into a wider water supply system of Auroville.

Remedial solutions

Measures to remedy the groundwater depletion and battle groundwater salinity were offered by a number of speakers. To remedy over-extraction Pondicherry has issued executive orders regulating the construction of tube wells and the extraction of ground water; banned construction of tube wells within 6 kilometres from the sea coast; and now issues ground water clearances only to non water based industries. Farmers are encouraged, by means of subsidies, to switch to drip-irrigation techniques and renovate unused shallow wells for harvesting rainwater. Also the construction of roof top rainwater harvesting structures in private and industrial buildings is eligible for subsidy.

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Building the home for Savitri

The second structure of Savitri Bhavan will be inaugurated in November

It all began 10 years ago when a group of Aurovilians started studying Sri Aurobindo's epic poem *Savitri*. They met wherever a place was available until one day Narayan, a senior Aurovillian, ignited the flame of passion. "He suggested that there should be a place in Auroville dedicated to *Savitri*, where those interested could study it and where all the materials on *Savitri* could be gathered and exhibited. It should be a place with a special atmosphere, where even someone who doesn't know a thing about Sri Aurobindo or *Savitri* would feel an inspiring energy." Shraddhavan smiles at her recollection of the start of the Savitri Bhavan. "The idea was taken up enthusiastically. Within a remarkably short time we were granted this piece of land and one year later there was a plan. On November 24, 1995, Nirodbaran laid the foundation stone in a well-attended ceremony. Not being one of the organisers, I stood somewhat back. Nirod-da spoke very briefly and simply and read a passage from *Savitri*. Then something very powerful came down – I still shiver when I think about it. My commitment to the project stems from that moment. Nirod spoke about Savitri Bhavan being the twin of Matrimandir – probably in the sense that the one would complement the other. While Matrimandir is the shrine of the Mother, this is the home of *Savitri*."

distributed free on request to interested people."

Meditations on Savitri

Financial assistance was not the only kind of help that came. Says Shraddhavan: "When we started, we hardly dared to dream that one day the *Meditations on Savitri*, paintings made by Huta in the 1960s under the direct guidance of the Mother, could ever be exhibited here. But unexpectedly Huta showed a great interest in our project and increasingly gave support. The Mother had told Huta that all the 470 paintings in the series should be permanently displayed in proper order; but the Sri Aurobindo Ashram does not have a place for such a permanent exhibition. Ultimately, with the consent of the Ashram trustees, all these paintings have been entrusted to Savitri Bhavan, along with copies of Mother's sketches and written instructions, as well as other paintings inspired and guided by the Mother."

To house and exhibit such a collection requires a proper gallery. "A real art gallery is part of the final plan," says Shraddhavan. "In our present premises we can only exhibit reproductions, which do not carry the tremendous power of the originals. Mother gave detailed instructions and sometimes even corrected a painting herself with a brush. Moreover she concentrated on every one of them over and

deeper layers of the consciousness – and come out again after some time."

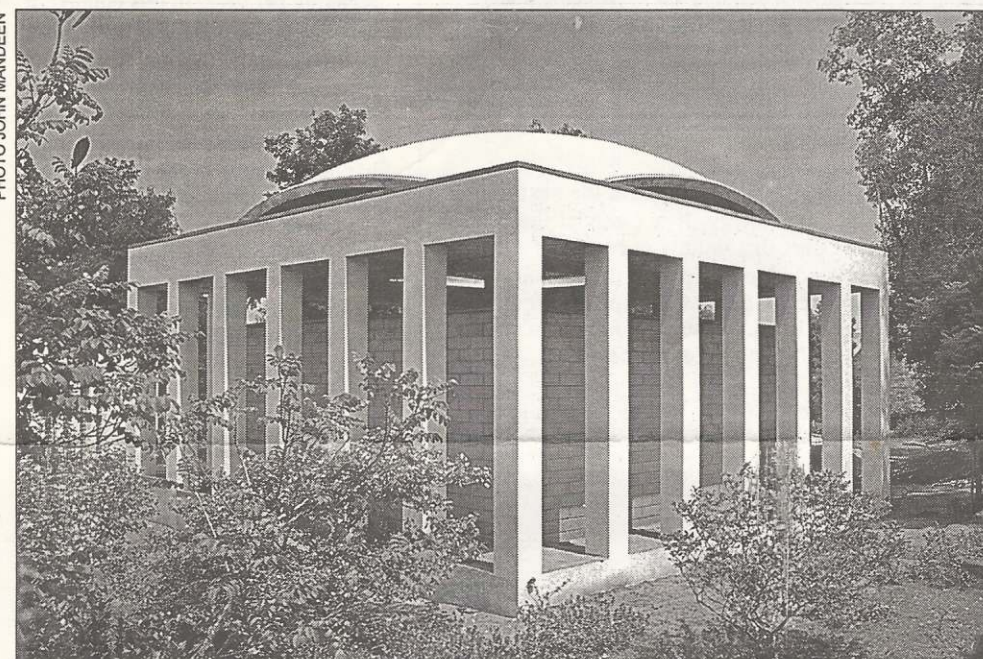
Another focus has been added recently. An increasing number of people visit Auroville for continuing education in fashion design, alternative technologies, sustainable architecture, afforestation or organic farming. Says Shraddhavan: "More and more people in Auroville are beginning to feel that everyone who comes to study something in Auroville should be offered an orientation course about the specific aims and ideals of Auroville. We at Savitri Bhavan are also participating in providing such sessions, which are being well appreciated."

Savitri Bhavan also has an audio-visual section, run by Vladimir, which prepares recordings and other study aids. All the recorded talks given at the Savitri Bhavan, such as those by Shraddhalu, Professor Nadkarni, Georges van Vrekhem and others, are processed here on various media – tape, CD, video and DVD. Vladimir was also responsible for digitising the recording of a complete reading of *Savitri* made by Nirodbaran in the late 1980s. It was made available in the form of MP3 files on CDs as part of his 100th birthday celebrations last year. These CDs are now distributed through VAK Bookshop in Pondicherry.

Gradually Savitri Bhavan is gearing up to support academic studies. *Savitri* was declared by The Mother, after the first edition had been published, as a poem which nobody could truly understand. Medhananda added in 1958 that the mind that can understand *Savitri* hasn't yet been developed. But now Shraddhavan feels that the meaning of *Savitri* is coming nearer, even though surely nobody can claim to understand all the poems many layers of deep inner meaning – to do so, one would need to have the spiritual experience it is based on. "But it is an ocean; we'll never get to the end of it." Work has been started on a bibliography of *Savitri* materials, and several other interesting research projects are going on. "From time to time we receive queries from students in different countries who have chosen to write a thesis on *Savitri*. In due time, perhaps, Savitri Bhavan could become a focal point for Sri Aurobindo Studies where students obtain recognised credits. But we would not like to place too much emphasis on academic studies. The activities we are organising aim to make Sri Aurobindo's vision and work more accessible to people of very varied psychological types and cultural backgrounds. What we want is not just an intellectual grasp. We approach his writings for help and light, for the psychological insights and spiritual support that can show us the way to a new and better human life and society."

The second building

For a time the first building was adequate to accommodate these growing activities. About 18 months ago a possibility emerged for expanding the facilities. "Our hopes were raised when we heard that, as part of the Rs 22 crore grant approved for higher education facilities in Auroville by the Ministry of Human Resource Development of the Government of India, Rs 51 lakhs had been allocated to Savitri Bhavan. But this money has so far not



The brand new addition to the Savitri Bhavan

Since that time, Shraddhavan has been increasingly committed to the Savitri Bhavan, together with a strong supporting team which includes architect Helmut. "The needs of the project led me into areas where I had neither experience nor had ever felt the desire to work, such as accounting, fundraising and administration. For when the idea took off, there was no money. There was only the support of many good-willed people. Among them was Dr. Beena who, together with her parents, was instrumental in organising a benefit performance by Indian film star and Bharatanatyam dancer Hema Malini with her troupe in the town of Navsari in Gujarat," Helmut interjects, "When we reached the railway station we were amazed by the crowd of thousands of fans who wanted to see Hema-ji. She was probably used to it, but for us it was an unbelievable experience!"

Though this performance raised almost six lakhs rupees (US \$ 13,000), the amount was not enough to begin construction of the main building. "Helmut proposed to start instead with the smaller, free-standing caretaker's residence, and adapt that to our activities," says Shraddhavan. "Once we started construction, help began pouring in, and the building was inaugurated just a few months later, again by dear Nirodbaran, on August 8, 1999."

"In the meantime, while we were fundraising in Navsari, other members of the team had put up a keel-roofed shelter on the site, and it was there that the first regular programmes were started: Ananda Reddy with his weekly classes on *The Life Divine*, and our guest speakers on Sundays. At the same time we started our magazine *Invocation* which carries transcripts of the talks, and other materials on *Savitri*. It is now going out to people all over India and to 35 other countries. In 2004 we also began publishing a Tamil version, *Prarthana*. Both the journals are

over again and put 'something' in them. It was Mother who said that these paintings should not be judged from the ordinary aesthetic point of view, but that one should concentrate within and contact what is behind the surface. After all, these images are inspired by mystical poetry, which many people find quite unapproachable too." Adds Helmut: "That, in the beginning, was also my problem. Most of the paintings I could not appreciate – though others were overwhelming from the moment I first saw them. Now I find that they have grown on me, I gain more and more from them – and this is always a very good sign with art."

A place for study

Before Savitri Bhavan was inaugurated, Auroville did not really have a place for studying the works of Sri Aurobindo and The Mother. This has now become a major focus for Savitri Bhavan, which has been offering regular classes on *The Life Divine*, *The Synthesis of Yoga*, *The Human Cycle*, *The Ideal of Human Unity*, *Mother's Conversations* and of course *Savitri* itself. And to make *Savitri* accessible to non-native English speakers, Shraddhavan has started to teach English through *Savitri*. "This targets not only many newcomers to Auroville, but also Aurovilians. Koreans, French, Italians and a group of young Tamilians are enthusiastically participating, all people who are interested to know more of Sri Aurobindo. We study one page at a time – the correct pronunciation, going through it word by word, sentence by sentence, understanding the meaning of the vocabulary, the sentence structure, and the images being used. The marvellous rhythms and the whole richness of the English language sink down into



Helmut and Shraddhavan

materialised. Then we were encouraged to apply for another government scheme under which we might get a grant specifically for an art-gallery. We learned that we would be expected to provide at least half of the funding independently. Since we had started the first building with only half the needed amount, we decided to go ahead with this one as soon as we had half the estimated building cost in hand."

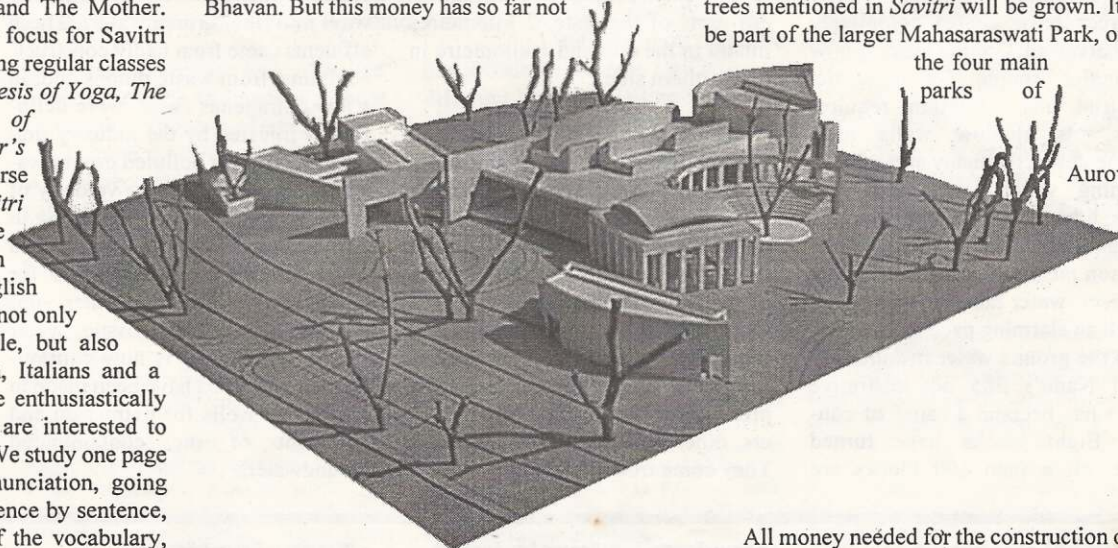
"When the concept of Savitri Bhavan was designed, we had planned that this second building would be the last one to be constructed," says Helmut. "But here in Savitri Bhavan we have noticed that the buildings follow the activities planned, and the next activity on our schedule is the exhibition of Huta's *Meditations on Savitri*. The original plan envisions an art gallery as part of the main building. But we lack funds to manifest that building. Instead, we have decided to adapt the future library building to display the paintings. It is a closed walled structure with indirect light coming in from the top, and in this way the pictures will be protected from ultraviolet light which destroys the pigments. When we get to do the dedicated art gallery in the main complex, this building can very easily be re-adapted to become the library."

The first-brick laying ceremony for this second phase building coincided with Savitri Bhavan's 8th anniversary in November 2003. Through the generosity of patrons around the world, the building is now complete – even though the hoped-for grant from the government never materialised. "Were the Auroville International Centres involved?" Shraddhavan shakes her head. "Sadly not directly, even though a detailed presentation was made for their meeting in Brazil. But the AVI Centres channel donations to us from individuals, who mostly support our work because of their love for Sri Aurobindo's *Savitri*. The Mother had told Udar '*Savitri* is a mantra for the transformation of the world' and we find that more and more people are responding to this great poem."

With the second building nearing completion, Helmut is already thinking about finishing the entire complex. "Roughly about 1.2 crores (US \$ 270,000) would be needed. The next step, estimated at about Rs. 22 lakh, would be the entrance and administrative section, with a properly equipped storage room for the paintings. After that would follow the permanent art gallery, an audio-visual studio, a conference hall, and additional rooms for classes and research as well as an open-air auditorium for small-scale music, dance and drama productions related to *Savitri*," explains Helmut. "Later we also hope to add a hostel to accommodate speakers, visiting students and staff." A Savitri Park is planned around Savitri Bhavan where all the flowers and trees mentioned in *Savitri* will be grown. It will be part of the larger Mahasaraswati Park, one of

the four main parks of

Auroville.



Scale model of Savitri Bhavan photo courtesy Helmut

All money needed for the construction of the complex as well as its running costs – on average Rs. 50,000 per month – comes entirely from donations. But Shraddhavan is not anxious about

Isaiambalam's innovative roof-raising

Matrimandir helps in replacing roofs

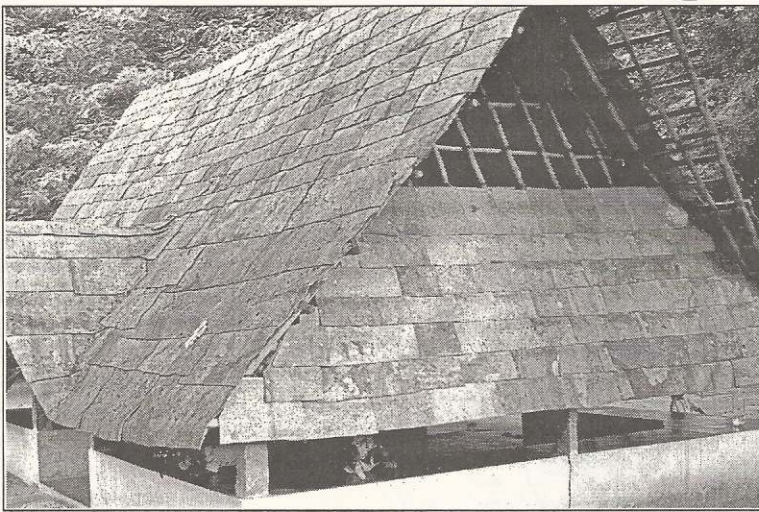
When on Friday July 16th a fire blazed through the thatched roof of the cramped single-storied school in Kumbakonam in Tamil Nadu, leaving 93 children dead and many wounded, little did the schools in Auroville foresee the impact it would have on them. A directive issued by the Tamil Nadu Government ordered all schools and public buildings to dismantle any thatched roof and shed before the end of the month. For some Auroville schools which had all their classrooms totally thatched, like Transition crèche and Isaiambalam, an outreach school in Alankuppam, roof-changing became a matter of utmost urgency, overtaking all other priorities on their lengthy wish lists. The heavier than usual summer monsoon in addition promised to worsen the situation.

The situation became a fund-raising nightmare for the schools under SAIER, which has been perpetually strapped for money. Recalls Subhash of Isaiambalam, "For us, it was a time of great confusion. The fire had happened on Friday. Saturday was a holiday. On Monday when we opened school, we gathered to silently meditate for those who passed away, we provided snacks for the children and then sent them home. But soon after, a crowd of unruly youth from the surrounding villages descended on the campus, and insisted that we pull down the roofs immediately or else face consequences, even though the Government had given us until the end of the month to do it." Isaiambalam gave in and all the roofs came down, leaving the classrooms topless and exposed to the elements. Just

a shell of the roof remained, a criss-cross network of woven wood strips. "We began to teach the children in our office spaces and common hallways."

SAIER immediately called all schools together to determine ways of dealing with the crisis. "We had to be creative," says Subhash. "A lot of alternate materials were discussed." The only criterion that the new roof needed to fulfil was that it be made of a non-flammable or fire-retardant material. Plastic, tar sheets, canvas tent and tile were all explored as alternatives. "We decided on a Kerala terracotta tile roof, and began to solicit quotations," says Sankar, a teacher at Isaiambalam who took charge of the roof-changing operation. Quotations started coming in, and the minimum price for 1 classroom came to a whopping 1 lakh rupees. "That's when Sanjeev called us and told us to check-out the roof of the Matrimandir nursery building. He said it was using a very 'special' material." It was indeed special, consisting of a one centimetre thick layer of Kemperol, the material used for the waterproofing of the Matrimandir. Due to a defective primer, the waterproofing had come loose, like an orange peel, from the skin of the Matrimandir. Matrimandir was being stripped of this leathery 'peel' and it would be thrown away. "It was free and we were told that it has a life of 1000 years!" With such an irresistible offer – Kemperol normally costs a thousand rupees a square foot – Isaiambalam decided to take a gamble and jumped.

"So with just the costs of wooden reapers, (now of termite-proof eucalypt-



One of the Isaiambalam classrooms with a roof of Kemperol sheets

tus rather than the traditional casuarina) wages and transport, our investment is minimal. But the cutting of the Kemperol-peel proved slow and costly. "The cutters were charging us by piece rather than by the usual day's work. And they could cut only 40 to 50 sheets a day. So we hired additional workers from the nearby leather workshop to make the work go faster." Of the 7500 sheets needed to re-roof four classrooms and one kitchen, so far only 3000 have been cut covering two and a half classrooms. Says Sankar, "We had to stop as there are no more sheets available at Matrimandir, but Walter has promised to give us top priority and get the sheets to us as soon as he can." But the cover was satisfactory. "A few holes had to be plugged with the first rains, as the sheets sometimes warped," says Sankar almost apologetically. "But there is good ventilation." So

does the roof-story for Isaiambalam end with a 'happily ever after' at least for the next 1000 years? "Yes, but for the wooden structure which has a life of only 3 to 4 years," smiles Sankar.

The innovative roof certainly looks beautiful – its warm variegated honey-beige tone feels oddly alive in the dappled light of the evening sun streaming through coconut tree fronds. Just outside the classroom on a sandy pit, little girls are playing Kabaddi, holding their breaths and trying to tag the opposite team while chanting *kabaddi-kabaddi-kabaddi-kabaddi*. Do they like the new roof over their classroom? "It's not bad," says one girl solemnly. "It smells like sugar," chirps another bright eyed little one, as a faint aroma of sugarcane molasses wafts from the resin that covers the sheets.

Priya Sundaravalli

TRAFFIC

The long and winding roads

Do we have to wait until something serious happens?

I read the news today oh boy.

*Four thousand holes in
Blackburn, Lancashire.*

*And though the holes were rather
small,*

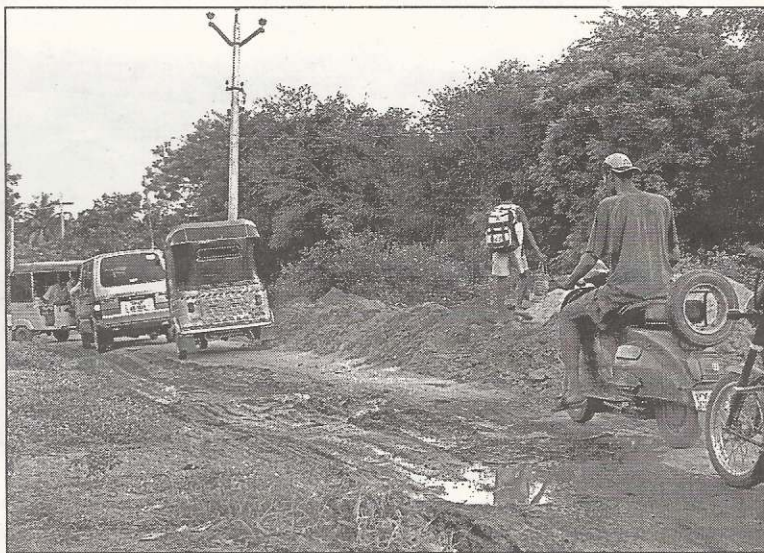
they had to count them all.

*Now they know how many holes it
takes to fill the Albert Hall...*

I don't need to read the news or listen to the song *A Day In The Life* of the Beatles to know how many holes from the tar road to the beach are needed to fill the Town Hall. Because that building is not big enough to host all the 4,365 potholes that I have counted this morning.

It's not that I want to complain, not at all. I just remembered that last year Sunaura in her article about Auroville's dirt roads was daydreaming away about gliding with a magic carpet over the speed bumps. And coming from the land of the *autobahn*, I, too, have real difficulties with unmarked speed breakers and ill-maintained streets. The road from Kuilapalayam down to the East-Coast Road (ECR) is the worst. Here we unfortunate bikers and cyclists rattle and roll and nearly break our necks if we want to leave the secure circle of our township to get to the beach, Pondicherry or elsewhere. Elvira's daughter Tara, 4 years old, made her point: "I want a nice road. I don't like that there is no space. I want that the cars let people pass!"

The Health Centre reports that every day at least two people who smelled the tar at close range seek treatment for light bruises or bigger injuries. It's not only the potholes in the asphalt, but also the bunds plus the heavy traffic at rush hours, the trucks and tourist buses and at nighttime,



A bumpy ride through mud and potholes down to the East Coast Road

blinding headlights that force motorcyclists to throw themselves into the ditch rather than be run over. Or into the trenches that are always being dug for water pipes, electricity cables and phone lines, and which afterwards are only casually filled up again.

What to do? Obviously complaining doesn't solve problems, as the Health Centre has already written letters to the Working Committee and the Road Service asking them to do something about this serious matter – with no visible effect as yet. It's not that the groups are not doing anything. Rather, the Auroville road budget is pathetically meagre and there is little hope that more money will be made available in these times of budget cuts. Moreover the Kuilapalayam/East-Coast Road is under the charge of the Kottakuppam Town Panchayat which would have to be consulted before anything is done.

Once upon a time there were various roads from Auroville to the coast road. Shankar recalls: "A footpath

wound through peanuts fields, but bullock carts and cars took the better mud road through the canyon towards Pondy. The Bommaiypalayam road that connects the villages on the East-Coast Road with the villages on the Tindivanam Road, a road that goes through Kuilapalayam and Edyanchavadi, was tarred and paid for by the Government of Tamil Nadu around the end of the 1980s.

The present road that runs from Kuilapalayam down to the ECR did not exist. In the early 1980s people from Kuilapalayam had a meeting to discuss the need for a new road. Then, at Pongal time, everyone who could hold a mumpri or crowbar met and in an *action directe* constructed a new road which ran straight across the fields to the beach road. The landowners who owned the land across which the new road was being laid instantly came running, trying to prevent the diggers and levellers from finishing their muddy business, but they were told the work wouldn't stop. The road

was finished and the next morning the police were on the site. The landowners from Periyarmudaliarchavadi filed a case against the Kuilapalayam elders, who explained that they would compensate the owners. They did this partly by collecting some contributions from their own people and from Auroville and partly by giving some land in exchange. Also Auroville donated the land over which some of the new road was laid."

In 1998, with funds from the Collector the road was improved by laying asphalt. Rathinam remembers: "There were no plans; no one really knew anything about correct measurements. At that time, the Kuilapalayam-Auroville Development Council was established as a joint committee to monitor the road situation."

Since then, houses and shops have shot up like mushrooms along the new road, lorries use the road more and more and tourist buses and private cars use this access to get to Matrimandir. Due to this overload the condition of the road deteriorated badly. Although Auroville Groups and panchayats cooperated and looked into the matter of either improving the existing roads or creating a new one, nothing was done.

As Shankar puts it, "Something will happen only if we make petitions and exert soft pressure on the higher authorities. But everyone involved should also cooperate. Some two years back the Kottakuppam Town Panchayat started to collect a toll at the entrances to Auroville and Repos beach to pay for road improvement, but they stopped after three days as people complained and did not pay."

What is it that paralyzes everybody involved, if I may innocently ask? Concussion?

Julietta

In brief

Budget cuts

Faced with the possibility that government grants for SAIER may not materialize, commercial units have agreed to guarantee about 50% of the amount needed. Having to come up with the remaining 25 lakhs for the rest of the financial year, the new Economy Group proposes to cut all community budgets except maintenances by 15% from November onwards. Before implementing the cut, the Economy Group appealed to the community to collectively raise the missing amount. The new Economy Group's main objectives are to seek solutions to constitute a fairer basic Maintenance and to find ways to become more self-sufficient, as it has become increasingly obvious that depending on outside sources for the monthly running expenses of Auroville is not desirable.

Partners of Auroville

The FAMC, Entry group and Housing Group have approved a proposal to rename the Friends of Auroville category into 'Partners of Auroville'. The main change will be that that investments of 'partners' for their part-time housing are to be made in collective projects and no longer in separate individual houses. The proposal still awaits approval by the Residents' Assembly.

Unit Contributions

The FAMC is reviewing the way in which the 33% contribution on profits from units is calculated. Currently the contribution is based on income from the previous year. Instead, the FAMC wishes to follow the income tax example, basing the contributions on the current financial year. This will diminish ambiguities and be in line with the recommendations in the White Paper on Auroville's economy of May 2000.

Police outpost

The former telephone exchange building in Kuilapalayam, owned by Auroville, has been given on temporary lease to the Tamil Nadu police. The Auroville Security Task Force considered a police presence necessary to prevent untoward happenings in the area and will benefit both villagers and Aurovilians. The decision was approved in the General Meeting of October 14th. The following day a former member of one of the gangs was murdered in Kuilapalayam.

Archaeology

The Auroville Planning and Development Council has stated that archaeology is a concern of Auroville as a whole. A paper 'Archaeology, how to proceed further?' was posted on the intranet. Builders in archaeologically-sensitive areas have been asked to keep aside some budget for archaeology work.

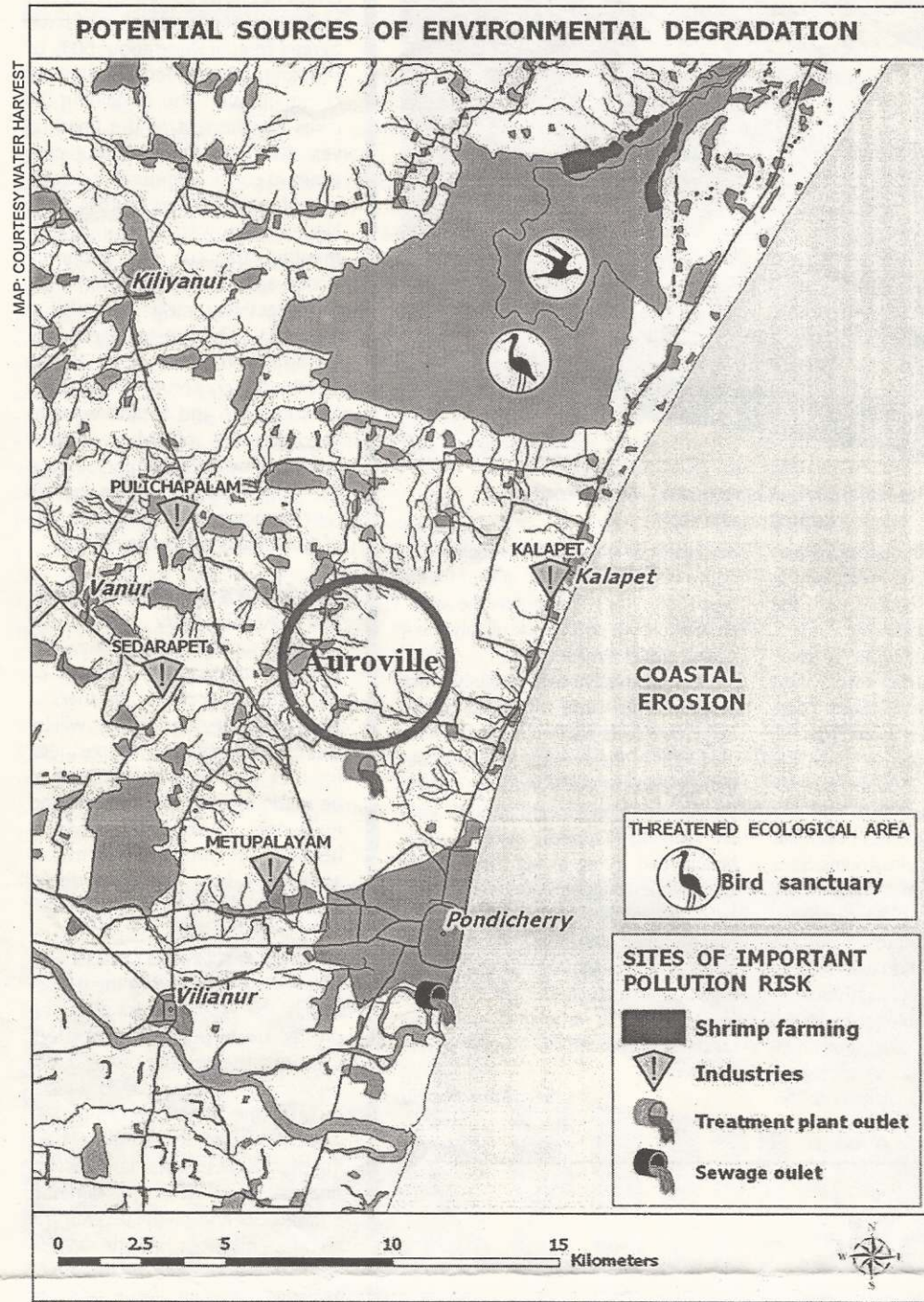
Waste Water

An analysis of the wastewater treatment systems in Auroville has shown that, though an effort is made to reduce the potential pollution impact as well as the groundwater demand, many buildings in Auroville, such as commercial units, some schools and Bharat Nivas, still do not have a wastewater treatment plant.

Transition School

Transition School reported that another 6 lakhs is required to finish three more classrooms. Right now there is no possibility for children to join grades 4 up to 8 and Newcomers' children cannot be accommodated.

Towards a sustainable water resource management for the bio-region



Map showing the bioregion with its many kolams and the Kaluvelly tank.

continued from page 1

In contrast, the treatment and recycling of waste water for re-use in agriculture and industry has not yet taken off, notwithstanding its tremendous potential.

Also Tamil Nadu has made rainwater harvesting mandatory for all government buildings. In various locations in Tamil Nadu experiments are being done with forceful injection of rainwater through injection wells. But by far the most interesting of the remedial measurements is the renovation of the water storage tanks and their feeder channels in Tamil Nadu and Pondicherry. Most of these tanks were constructed by the Pallava Kings during 500-900 CE. For example, the Bahour Lake, the second largest tank in Pondicherry,

was in existence before the Chola Period. (850-1150 CE), and the Usteri lake, the largest lake, was built by the Vijayanagar rulers around 1110 CE.

Auroville's involvement in tank renovation programmes in the bio-region is extensive. Funded by national and international organisations, Auroville's units Palmyra and Water Harvest have renovated many irrigation tanks.

Mr. Anandane, Project Director, gave a presentation on Pondicherry's Tank Rehabilitation Project. He explained how the system of surface water management, which depended on irrigation tanks and their feeder canals from rivers, became obsolete when borewell technology became available, togeth-

er with a government subsidy on electricity and the Green Revolution which stimulated ground water exploitation. "While in 1930 an area of 8,500 ha was under irrigation by tanks, it had been reduced to 6,500 ha in 1962 and became almost negligible in 1988."

In 1999, the Government of India concluded a bilateral agreement with the European Commission to rehabilitate all the 84 remaining tanks and feeder systems in the Pondicherry area. The main objective of the 38.5 crore (US \$ 8.3 million) project – for 80% funded by the EC – was to diminish the reliance on groundwater resources. A secondary aim was to empower communities to own and manage their tank system and stimulate surface water usage. This social mobilisation is done by several NGOs who have experienced that women's participation has proven to be essential. Anandane considered the project a success, though a few villages continue to expect the government to solve their problems.

Innovative concepts

The seminar also discussed a few more far-reaching solutions to stem the tide. Boulicot suggested that a feasibility study be made of turning part of the 72 sq. km swamp of Kaluvelly north of Auroville into a major fresh water resource area. Closing the swamp's outlet to the sea would affect the interests of part of the local population, such as those involved in salt extraction or shrimp farming. "But a large freshwater body would benefit all people in the area," says Boulicot. "With the involvement of the major stakeholders, the rejuvenation of the irrigations tanks and related drains and a concerted and long-term planned water management, this region could be transformed into a model sustainable area."

Another solution offered is seawater desalination. Messrs. Gopalaswami and Kumaravel, connected to the Suryal desalination system designed in the UK, made a passionate plea for Auroville to enter into this area of research. As desalination is highly

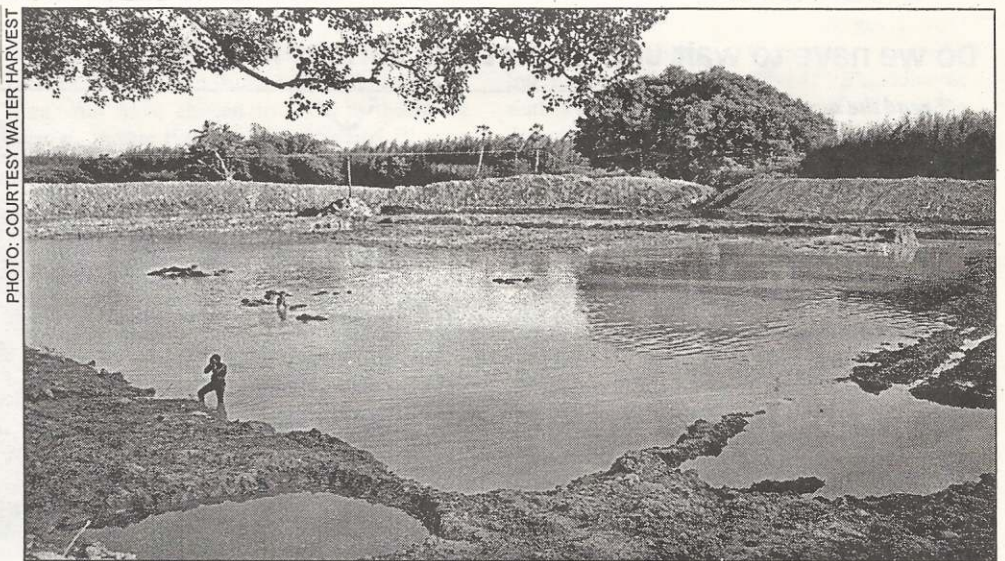
energy-intensive, they advocated that Auroville use alternative energy sources, preferably a combination of solar and biomass. "Then Auroville could truly be a global model for environmentally friendly living and a bridge between the past of global water depletion and the future of perennial supply of sweet water from the ocean using renewable energy." It is however understood that desalination of seawater cannot at present be considered an option for agricultural activities, but only for drinking water supply.

But as the main problems of the bio-region are over-extraction and lack of regulation, the need for an integrated water resource management for Auroville and the bioregion became the focal point of the seminar's conclusions. The Dutch engineer Jeen Koostra has developed such a management system for the Ambaji-Danta Region in Gujarat, a 600 km² area with a population of 140,000 people living in 193 villages together with tribal communities. "Though there are certainly limits to such a management system, it has proven to work and there is no reason why it could not work for the Auroville bio-region," said Koostra. His ideas were supported by senior hydrologist Dr. Israel Gev of the Water Authority of Israel, who proposed that a Master Plan for Water Resources be developed for the entire Auroville bioregion with active participation of the governments of Tamil Nadu and Pondicherry. By evaluating accurately the water demand and the various water resources, including recycled sources (wastewater, desalinated sea water) and the future trends, it should be possible to develop a scalable development plan that includes the socio-economic factors.

Given the encouragement of the President of India such a plan may not be a distant dream.

Carel

A scientific monograph on the conference will become available from CSR, Auroshilpam, Auroville. Email csr@auroville.org.in.



A catchment tank in the bio-region renovated by Water Harvest

Reviving a river in Gujarat

How a private initiative revitalised an area

While most speakers at the conference dealt with issues of Tamil Nadu and Pondicherry, some speakers drew attention to the water problems of other areas in India. Mr. Anupam Mishra, Secretary of the Gandhi Peace Foundation, gave a presentation on traditional water conservation methods in Rajasthan. This Indian state, home to the great Thar Desert has only sporadic rainfall and the groundwater is scarce and often saline. "In the daily life of the people of Rajasthan, water is the fulcrum on which their lives revolve. They do not allow a drop to go waste and have developed rich and varied traditions of rainwater harvesting and water management to meet their needs," explained Mishra, showing pictures of harvesting systems that each collect only a few litres a day. He gave the example of the district of Jaisalmer where, according to a state

report, more than 99% of the 515 villages have their own water resources – wells, step wells, and privately and publicly owned water storage areas – often situated in beautiful buildings.

Magasaysay award winner Rajendra Singh passionately reported on his work of reviving the Arvari river in the state of Gujarat. Years of drought had caused the river to become a monsoon drain and the degraded and barren land in the catchments had forced people to migrate out of their villages. In 1985, Rajendra Singh started the Tarun Bharat Sangh (TBS), a non-government organization to bring people together on the issues of management of forests and water resources. "It was very difficult to motivate people to work together in common interest," recalled Singh. "We started building one *johad* (a pond like water structure) to recharge ground water and as a water basin for

the wildlife and cattle of the area. It was successful and it inspired a few people to take up the building of more such structures. Then more followed. Ten years later, it was difficult to keep people away from working for the common cause!" Awareness campaigns were run in the villages with the help of children. Religious traditions were used as a uniting factor. Village councils were constituted with the specific purpose of rejuvenating the Arvari river and protecting the forests, using historical and traditional practices. Women were mobilised to actively participate in such efforts. Finally, with 400 *johads* along a stretch of 45 kms, the water situation in the region had improved considerably.

But then another issue surfaced: Who owns the river and the reservoirs? According to an old colonial law, all waterways are owned by the State...

which promptly gave a contract on Arvari river to private fishing contractors! The villagers successfully fought this and this triggered the formation of an Arvari Parliament in which the 72 villages situated along Arvari river are represented. The 'River Parliament' has taken total responsibility for the planning and enforcing of a sustainable use of water, particularly in agriculture. In nearby wildlife sanctuaries, Forest Protection Committees are being formed in partnership between the forest department, villages and TBS.

The lessons learned from Arvari are now being applied to the larger region and advertised across the country. The 750 villages of the Arvari region have shown that an area of 6,500 sq.km, in which over-exploitation of groundwater was once rampant, could be turned into an area with sufficient water for agriculture and drinking purposes. Singh warned that the

role of the government should be one of providing support and motivating people, and helping them plan and support projects based on people's priorities. Says Singh, "In August this year, large parts of India were reeling under drought while other areas were suffering from floods. Droughts and floods are, in fact, two sides of the same coin. We have seen that in places where water conservation structures were in place, surplus water was trapped and seeped into the earth, while in areas where no harvesting structures exist, the same amount of rainfall caused floods. The Government spent 150 crores (US\$ 32 millions) in flood relief. This money should have been differently allocated. Drought relief is not to be solved by the interlinking of India's rivers, as is being advocated by many government officials, but in changing government attitudes."

Carel

The President's address to the legislators of the Pondicherry Legislative Assembly

The President visited Pondicherry on the occasion of the Golden Jubilee of the de facto merger of Pondicherry with the Indian Union. Fifty years earlier, on November 1, 1954, the French Government had signed the Instrument of Transfer, handing over Pondicherry along with Karaikal, Mahe and Yanam to the Government of India, marking the end of 280 years of French rule. Pondicherry subsequently became a Union Territory.

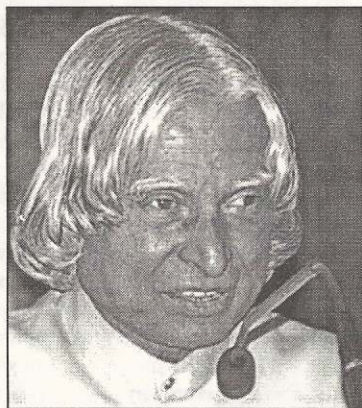
The President, addressing the Pondicherry Legislative Assembly, proposed ten missions for the Union Territory. As three of these missions touch upon areas which are also of Auroville's particular concern we publish here the relevant excerpts of the President's address.

Mission # 3. Bio-fuel from Wasteland Cultivation

The total of non-agricultural wasteland in Pondicherry is about 15,000 hectares or about 42,500 acres which is about 31% of the total land area in Pondicherry, Karaikal, Mahe and Yanam. Even if we transform 50% of this area to serve a bio-fuel mission, nearly 15,000 tonnes of bio-fuels can be produced from the four regions of Pondicherry in a manner that will serve to integrate their economies, ensure balanced economic growth and generate employment for about 21,000 persons. This will require the setting up of six plants at a total cost of about Rs 40 crores to process *Jatropha* seeds into bio-fuel, with each plant having an output of 2500 tonnes of bio-fuel per annum, yielding a total bio-fuel production turnover of about Rs 15 crores.

Using bio-fuel to produce drinking water from sea-water

The normal use of bio-fuel is as a substitute for diesel fuel for automotive and industrial purposes. However, for your coastal economy, I suggest a unique application of bio-



Dr. A.P.J. Abdul Kalam

to create 40 million litres of fresh water daily from the oceans.

In this manner, Pondicherry can resolve major two problems with one integrated solution, namely productive use of wasteland and providing sweet drinking water to population centres living along the coastline through the use of new technologies.

Mission # 5 Integrated Water Resource Management

I understand that in Auroville, a UNESCO endorsed International Seminar brought out the problem of seawater ingress into fresh water aquifers in Pondicherry and Tamil Nadu. It is essential to formulate a 20-year Integrated Water Management Plan based on further detailed studies, and then implement the Plan in an integrated manner. I shall now mention the immediate measures that can be taken for water table improvement and establishment of desalination plants.

Water harvesting and recycling

Water harvesting should become mandatory for all. To improve the watertable we need to build check dams, develop water sheds, de-silt ponds and rivers, clear the inlets and outlets to the ponds and water bodies, and recharge the wells. If our rural areas are made to have the operational water bodies, recharging of the wells will take place automa-

tically which can produce 1000 litres of potable water for Rs 25. The allocation of a special fund in the Central Government Budget 2004-2005, underlines the necessity to have a mission-mode programme for setting up of desalination plants. For Pondicherry, it is equally important to plan such a desalination plant using solar power and biofuel.

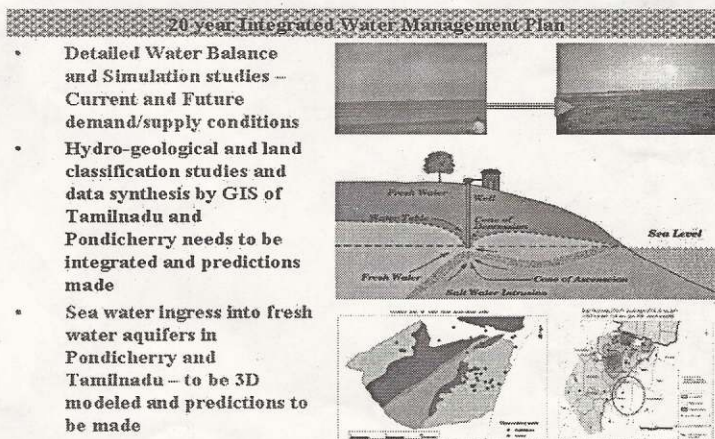
Mission # 6. Renewable Energies

India's power generating capacity is one lakh megawatts. For meeting the development targets till 2020 our generating capacity has to increase to three lakhs megawatts. This additional power has to come from nuclear energy, hydroelectric systems, renewable energy and thermal energy. The contribution of renewable energy especially from solar energy and wind energy has to be increased to one hundred thousand mega watts. Urgent measures are needed to reduce the distribution loss to less than 5% from the existing 25%. Use of bio-fuel has been discussed earlier for wasteland development mission, which has tremendous potential in the Pondicherry region.

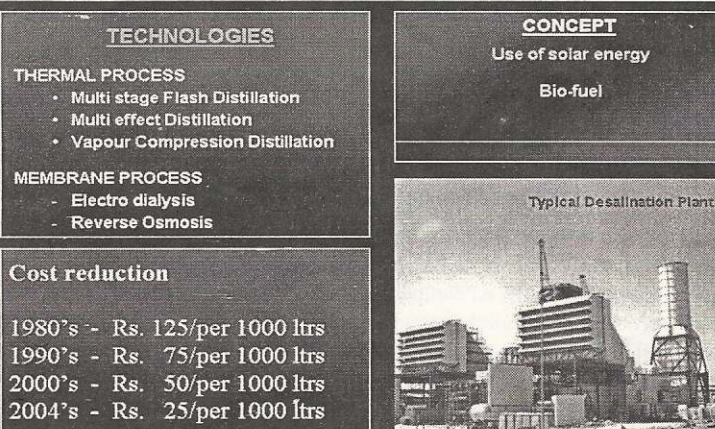
Solar Energy

The productivity and profitability of farmers is affected by unreliable power supply, high cost of electricity, and availability only at night. With increasing demand for energy and increasing oil prices this problem is going to be more serious for farmers in the future. Installation of centralized solar photovoltaic systems, which can be fed to a grid, will be a long-term economically viable solution with added benefits of pollution control. We should build a few 100-megawatt solar power stations, capable of meeting the needs of the farmers with minimum maintenance expenditure. VLS-PV systems can be set up in Pondicherry regions, and gridlocked into the national electricity grid.

Mission 5: Integrated Water Management Plan for Pondicherry



Mission 5: DESALINATION PLANT AT SEA COAST



Power through municipal waste.

Increased urbanization has led to a serious problem of accumulation of municipal solid waste in many towns and cities. The efficient and environmentally clean disposal of garbage has always been a major technological challenge. While being a threat to the environment, mounting garbage is also a rich source of energy. The potential for converting this waste into useable energy, which will eliminate a major source of urban pollution, was realized by one of our innovative organizations, the Technology Information Forecasting and Assessment Council (TIFAC) of DST which helped in

developing a completely indigenous solution for the processing of waste into a source of fuel. This fuel could, in turn, be used for generation of electricity through mini-plants. Already in our country two plants, which generate 6.5 megawatt electric power using municipal waste bricks, are in operation. India needs thousands of mini-power plants using municipal waste. This can be replicated in Pondicherry and its regions including cities and village clusters, as an infrastructure build-up project with the aid of Corporate Houses. This project, apart from being an employment generator will provide a clean environment for the people to live in.

Dr. A.P.J. Abdul Kalam President of India

Born on 15th October 1931 at Rameswaram in Tamil Nadu, Dr. Avul Pakir Jainulabdeen Abdul Kalam, specialized in Aeronautical Engineering from Madras Institute of Technology. Dr. Kalam made significant contribution as Project Director to develop India's first indigenous Satellite Launch Vehicle (SLV-III) which successfully injected the Rohini satellite in the near earth orbit in July 1980 and made India an exclusive member of Space Club. He was responsible for the evolution of ISRO's launch vehicle programme, particularly the PSLV configuration. After working for two decades in ISRO and mastering launch vehicle technologies, Dr. Kalam took up the responsibility of developing Indigenous Guided Missiles at Defence Research and Development Organisation as the Chief Executive of Integrated Guided Missile Development Programme (IGMDP). He was responsible for the development and operationalisation of AGNI and PRITHVI Missiles and for building indigenous capability in critical technologies through networking of multiple institutions. He was the Scientific Adviser to Defence Minister and Secretary, Department of Defence Research & Development from July

1992 to December 1999. During this period he led to the weaponisation of strategic missile systems and the Pokhran-II nuclear tests in collaboration with Department of Atomic Energy, which made India a nuclear weapon State. He also gave thrust to self-reliance in defence systems by progressing multiple development tasks and mission projects such as Light Combat Aircraft.

As Chairman of Technology Information, Forecasting and Assessment Council (TIFAC) and as an eminent scientist, he led the country with the help of 500 experts to arrive at Technology Vision 2020 giving a road map for transforming India from the present developing status to a developed nation. Dr. Kalam has served as the Principal Scientific Advisor to the Government of India, in the rank of Cabinet Minister, from November 1999 to November 2001 and was responsible for evolving policies, strategies and missions for many development applications. Dr. Kalam was also the Chairman, Ex-officio, of the Scientific Advisory Committee to the Cabinet (SAC-C) and piloted India Millennium Mission 2020.

Dr. Kalam took up academic pursuit as Professor, Technology &

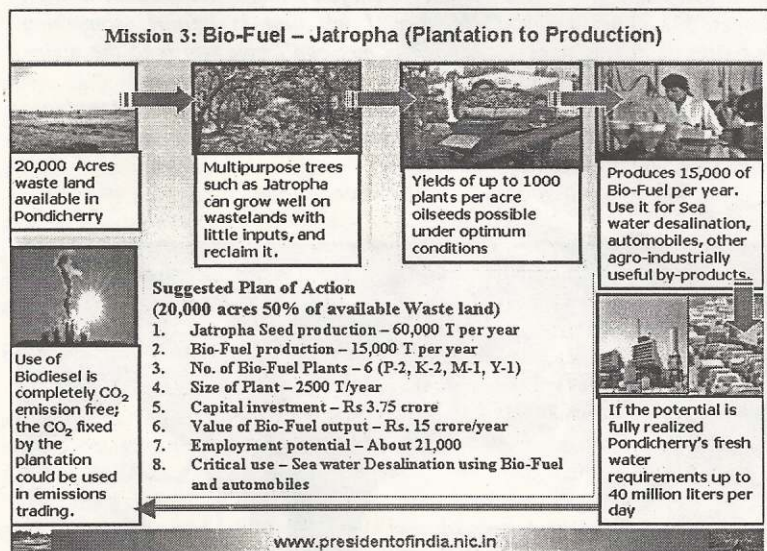
Societal Transformation at Anna University, Chennai from November 2001 and was involved in teaching and research tasks. Above all he took up a mission to ignite the young minds for national development by meeting high school students across the country.

In his literary pursuit four of Dr. Kalam's books – "Wings of Fire", "India 2020 – A Vision for the New Millennium", "My journey" and "Ignited Minds – Unleashing the power within India" have become household names in India and among the Indian nationals abroad. These books have been translated in many Indian languages.

Dr. Kalam is one of the most distinguished scientists of India with the unique honour of receiving honorary doctorates from 30 universities and institutions. He has been awarded the coveted civilian awards – Padma Bhushan (1981) and Padma Vibhushan (1990) and the highest civilian award Bharat Ratna (1997). He is a recipient of several other awards and Fellow of many professional institutions.

Dr. Kalam became the 11th President of India on 25th July 2002. His focus is on transforming India into a developed nation by 2020.

(from the President's website)



fuel. Studies carried out in India show that perennial supplies of fresh water can be obtained in a cost-effective manner by desalination of seawater using renewable energies, a system and technology option which is particularly useful for population centres living on the coast line.

Pondicherry and its regions are also endowed with plentiful sunlight. Hence, small desalination plants can be set up at selected sites on the East and West coasts of India using solar energy and bio-fuel as hybrid renewable energy systems. The bio-fuels production from wasteland cultivation if used exclusively for production of sweet drinking water from the oceans, will enable Pondicherry

ically. These activities will also generate employment.

Water Desalination

In the coastal regions where ground-water availability is scarce, India with its large coastline of 7500 kilometres can afford to have a number of seawater desalination plants using solar energy. I have seen many desalination plants in the United Arab Emirates, where the fossil fuel power sources are abundant. India should use solar power for this desalination process, which will be cost-effective. Desalination technology has advanced in such a way that there are plants in the world today

President of India visits Auroville

PHOTO: PINO



The President of India, Dr. Abdul Kalam, being welcomed at the Town Hall

On November 1, 2004, the President of India, Dr. A.P.J. Abdul Kalam, paid a visit to Auroville. Accompanied by the Lt. Governor of Pondicherry, the Chief Minister of Pondicherry and the Minister of Education, Tamil Nadu, the President arrived at the town-hall about 8 pm. where a representative section of about 60 Aurovilians was assembled. After listening to some presentations on Auroville and addressing the community, the President visited the Matrimandir.

Dr. Karan Singh, Chairman of the Auroville Foundation, welcomed the President on behalf of the Auroville community and the Auroville Foundation. He reminded how, in 1980, during the discussion on the Auroville Emergency Provisions Act, he had addressed the Indian Parliament saying that Auroville was an arrow shot into the future from the bow of Sri Aurobindo. "The bow is the tremendous spiritual achievement of Sri Aurobindo, the fiery prophet of Indian nationalism and the bringer of the supramental consciousness. The powerful vision of The Mother has stood at the roots of this unique multi-national and multi-racial township. In the 36 years of its existence the Aurovilians have, through their labour, devotion and dedication, changed a desert into an ocean of green with at its heart the spiritual centre, the Matrimandir." Dr. Karan Singh ended his welcome address with a recitation of Sri Aurobindo's poem 'Rose of God,' which ends with the line 'Make earth the home of the Wonderful and life beatitude's kiss.'

Luigi of Auroville's Future gave a short introduction on Auroville's work. "We have all come because of the vision of evolution, of a new force that can change matter and spirit. Mother India, the land of universal spirituality, is nurturing this unique project, and there are no words to express the deepest gratitude of the Aurovilians coming from more than 40 countries who have received everything from their spiritual motherland." Luigi demonstrated how Auroville has grown and has developed a network of national and international relationships, such as with the Government of India on various levels, with UNESCO, with the European Community and, through the city networking project, with many cities in India and abroad. "Auroville offers itself as a laboratory for research, studies and experimentation. Auroville's quest is to create a city fully dedicated to the future, which then could be recognized by UNESCO as a unique heritage site of the future."

The President, aware of the international seminar on sustainable water resource management held in Auroville in September, had asked to be informed about salination of groundwater, in particular about the hydrological modelling of the saline intrusion in the Vanur aquifer. Gilles Boulicot from Water Harvest presented the problems in a nutshell. After having thanked the President for his inspiring message for the conference, Gilles explained that the problem of saline groundwater is not yet properly understood. The system of aquifers beneath Auroville is complex, and not yet suf-

ficiently studied. Gilles showed how groundwater level in the Vanur aquifer, the main aquifer for the area, has gone down from 7 metres above sea level in 1975 to 37 metres below sea level now. Electro-conductivity tests indicate that the salinity in 2002 was relatively limited, but that today the entire area is above the acceptable limit for irrigation and drinking water extraction purposes. But it appears that the salination is not caused by seawater intrusion, but rather by a natural saline aquifer that is situated below the Vanur aquifer. "There is an upward leakage from this underlying aquifer into the Vanur formation and the cause is rampant overextraction of water for irrigation purpose," stated Gilles. "In the period 1981-1990 the extraction was twice the natural recharge. In the period 1991-2000 the yearly extraction was eight times the natural recharge. Today the extraction is twenty times the natural recharge. This is a very serious problem caused by bad management practices and inappropriate irrigation systems." Gilles said that like Pondicherry, Auroville should also be facing groundwater salinity due to seawater intrusion, but for unknown reasons, this is not yet happening. "We assume that there is a natural barrier or a water barrier along the coast that checks the inflow of seawater. But we do not have enough information to prove this." Based on simple models and the data available, Gilles presented the expectation that already in 2010 one third of the aquifer would be contaminated, and that the entire aquifer would be saline by 2050.

Gilles stressed that more studies will be required to determine the origin of salination and come up with means to battle it. He men-

tioned that cooperation between institutions and stakeholders of the area is required, such as with the Indian ONGC, the Oil and Natural Gas Corporation, which did an investigation in the area about five years ago but which has, so far, not agreed to share its data. Gilles concluded his presentation expressing his hope that Auroville will be instrumental to transform this area into a pilot area for sustainable development.

The third Auroville presentation was given by Tency from the Auroville Centre for Scientific Research. He showed how Auroville has successfully experimented with many forms of renewable energy and stated that, with the support of the Government of Tamil Nadu, Auroville could use its experience to make the bioregion a real example for all renewable energy devices that are suit-

able for this region. Showing the waste water treatment system that Auroville has designed for the Aravind Eye Hospital south of Pondicherry, which recycles 310 cubic metres of waste water daily, Tency mentioned that Auroville could also, with the support of the Pondicherry government, help Pondicherry to utilise its 10 million litres of waste water which flows daily into its sewage plant close by Auroville.

"We transformed a barren landscape into a green ocean within two decades. We believe that with the same energy we can develop an integrated water management not only for Auroville but also for the bioregion. And for the future we dream of having our own desalination plant. Because of our experience in renewable energy we would like to run such a plant with renewable energy instead of conventional energy. With support from governmental agencies we are ready to create an example which can be copied in other places." Tency concluded his brief presentation saying that, in Auroville, perfection in matter cannot be achieved unless there is also an inner perfection, as without that inner perfection, humanity will not change.

The President took up on this very issue. "I have come here as a pilgrim, for you have a large mission, a mission that came from Sri Aurobindo and The Mother. When I heard your presentations how the barren land was transformed into a beautiful place I was moved and also by your concern for the water and the seawater ingress. Somebody once said that everything starts from the inner side, and if the inner side is ok, everything is ok. For what do you

want to be? My answer to this question from a child was 'to be a better human being'. And Auroville probably is the place which creates better human beings."

The President said that, when he was flying over Pondicherry by helicopter that morning, he saw that the shores of the ponds were white and that he was told that this was salt. Seawater intrusion into the groundwater is a serious problem for Pondicherry and the President asked Auroville to help find a solution. "When you have heavy rains, they do not stop seawater intrusion. That is the question I have, is there any counter mechanism so that sea water intrusion does not take place?" He encouraged Auroville to pursue research and develop groundwater models.

The President also addressed the problem of solid waste disposal. Stating that most of the water bodies in Pondicherry and Tamil Nadu have been polluted by solid waste, he proposed that for an effective water harvesting system all solid waste be removed and used it for power generation. The President showed photos of two such power plants, one in Hyderabad, the other in Vizag, which generate 6 MW power from solid waste.

The President concluded his address by quoting a poet who wrote: 'When there is righteousness in the heart, there is beauty in the character. When there is beauty in the character, there is harmony in the home. When there is harmony in the home, there is order in the nation. When there is order in the nation, there is peace in the world.'

"Peace in the world is what Auroville stands for. I was happy to hear your presentations. I will definitely be with you and you can call me for my help."

On behalf of Auroville, Aster Patel, member of the Governing Board, thanked the President for his encouraging words and his offer of help. "You have used kind words saying that we are here for a mission. These sentiments resonate very deeply in us. We have screen-printed some words of The Mother on a scroll which is presented to you:

India has become the symbolic representation of all the difficulties of present-day humanity.

India will be the site of its resurrection, the resurrection of a higher and truer life.

In that effort our work here in Auroville counts for something but it counts a million times more if your support continues to be with us," concluded Aster.

Before leaving Auroville the President visited the Matrimandir. In the Matrimandir visitors book he wrote:

"Matrimandir is beautiful divine creation. When I spent few minutes in the concentration chamber, I felt time is infinite; something echoed in me; can I give words to the divine call:

'Divine beauty, divine peace, entered into me, and blossoms happiness in my body and soul.'

A.P.J. Abdul Kalam."

PHOTO: PINO



Standing for the National Anthem. From left to right: Mr. S.R. Sharma, Secretary, Ms. Aster Patel, member, and Dr. Karan Singh, Chairman of the Auroville Foundation; Dr. Abdul Kalam, President of India; Mr. M.M. Lakhera, Lt. Governor Pondicherry; Mr. N. Rangasamy, Chief Minister, Pondicherry.

"Cutting consumption is the key"

A new report documents how well Auroville is doing in its efforts to become a sustainable community

Auroville has projected itself for many years as a community that cares for the environment. The success of its afforestation programme is widely acknowledged, and AuroRE's recent achievement in winning an Ashden Award confirms that Auroville is now viewed internationally as an important centre for the implementation of renewable energy technologies. But at the level of daily life what is the reality? How far can Auroville be called a 'sustainable' community?

Two years ago, three visiting students from a Swiss polytechnic set out to answer this question. Focussing upon energy use in the community, they collected data and conducted surveys. Their final report, "Sustainable Energy in Auroville: the Vision and the Reality" was, as Auroville Today described it at the time, "quite an eye-

other energy sources, nearly all the interviewed Aurovilians were using bottled gas for cooking. Only 4% were using the more environmentally-friendly biogas.

On the positive side, only one interviewee was convinced that the TNEB connection is sustainable, and almost all the interviewees agreed that renewable energy is useful and necessary for the future development of Auroville. But is it just a matter of changing from conventional power sources to renewable energy? In the survey done two years ago it was stressed that energy efficiency is the real key to sustainable energy use. That survey recommended setting up an energy-efficiency group to advise Aurovilians. This hasn't yet happened, yet 92% of the respondents in the present survey claimed they are careful about how much energy they consume and are taking steps to improve efficiency (as well as saving themselves money). For example, some are switching to high-efficiency CFL (compact fluorescent light) light bulbs which are now available at Pour Tous at an affordable price. Solar water heaters are also becoming increasingly popular. Unfortunately some energy-efficient technologies (like LCD computer monitor screens which use 70% less power than the standard model) remain too expensive for many Aurovilians.

The TNEB and Solar-Fund which started in August was seen as a good start by half of the interviewees. However, 21% were not in favour of this scheme because they do not think it will lead to a reduction in electricity consumption ("sustainable consumption is better than sustainable production" as one interviewee put it). They pointed out that the 250 units which are 'free' in the TNEB scheme is an excessive quota and that those who use less are not rewarded for their efforts. On the other hand the Solar Fund, which aims to cover the maintenance costs of solar users, was applauded, although it was pointed out that it is the steep initial costs rather than relatively low

Many interviewees blamed the local farmers, who get free electricity and consequently tend to over-irrigate their crops, as the main reason for falling water-tables. However, Aurovilians are far from blameless: Auroville uses 4.5 million litres per day and the per capita domestic consumption of 400 litres per day is far higher than the Indian, and even the German, average. What, then, is Auroville doing to reduce its consumption? Not enough, according to the report. It did mention that organic water treatment systems and rainwater harvesting systems are becoming more common in Auroville, but some of these do not function well due to poor maintenance or to the use of detergents which kill the useful organisms. However, the simple act of installing water meters seems to concentrate Aurovilians' minds: an immediate saving of up to 50% in water consumption is reported from some of the communities which have installed them.

The authors of the report suggested setting up a water efficiency group to advise Aurovilians on how to conserve water. "It could start with teaching the old and everywhere-known rule of not watering plants at noon, which we have seen happening very often during our stay! Furthermore leaking taps and leakages in pipes, which we were told are quite common, are unnecessary and should be repaired." The installation of drip-irrigation systems and the choice of drought-resistant species (like Tropical Dry Evergreen Forest plants and trees) for gardens are other ways in which major water savings can be made.

Another idea to improve water efficiency is a collective laundry service. At present, 35% of household water is used for washing clothes. "New ecological washing machines need 35 litres of water for 4.5 kg of laundry, which is much less than is used when clothes are washed by hand," one interviewee pointed out. Somebody else suggested that a community laundry be run by power provided by the solar bowl at the Solar Kitchen.

Transport

65% of the interviewees use a motorbike as their main means of transport. The rest claim to favour cycling over motorcycling. The most common reasons given for using a motorcycle were the need to attend many meetings and the big distances involved.

Nobody was satisfied with the present transport situation, mainly because of the dust and pollution experienced on the roads. Two thirds of the interviewees believed that a collective transport system should be tried out to cut down the traffic. However, the routing and frequency would have to be carefully planned: "Modern thinking in the West," points out Stefan, "favors high frequency and low capacity for public transport." Auroville's public transport system could begin with daily trips to Pondicherry and extend into regular shuttle services between Kuilapalayam and the Matrimandir area. The authors stress that community transport should not be free: customers should cover the operating costs. They also note that many good alternatives to conventional vehicles – like a cable railway, a small solar-powered tram, increased use of electro-vehicles, modern cycle-rickshaws etc. – were mentioned in the survey and should be investigated.

The question of whether or not



Stefan Trittler (left) and Johannes Wullner

there should be a conventional fuel station in Auroville raised strong emotions. 50% of the interviewees favoured such a station, 34% were strongly opposed. One respondent suggested we think instead in terms of an 'Energy station' where, besides conventional fuels, Pongamia oil and other alternative fuels could be sold (it could also be a recharging point for electrical vehicles). Interestingly, 60% of interviewees favoured the imposition of a surcharge on petrol and diesel sold in Auroville as a means of helping fund public transport and better cycle paths. Regarding road maintenance, the example of Auromodele, where residents pay a monthly road contribution according to the type of vehicle they own (cyclists don't pay at all, car users pay the highest tariff), was seen as a promising model for Auroville as a whole.

Built environment

The authors of the report found this the most difficult area to deal with. They found it almost impossible to get technical information and there was little agreement among architects concerning which building technologies were considered appropriate and sustainable. "One thing we realized is that architects and builders do not cooperate that much in Auroville," say the authors. "Everyone has his own opinion and goes his own way. Although Auroville should have 35 years of sub-tropical building experience, the newly-built houses do not really seem to reflect this knowledge. In fact, many interviewees felt that Auroville architects are more interested in aesthetics and 'expressing themselves' than in designing energy and climatically efficient houses for the tropics."

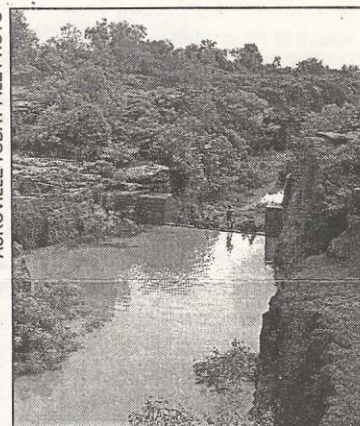
During the survey it was suggested that Auroville architects should be more willing to learn from Indian and Australian architects working in similar climatic conditions. A majority of non-architect interviewees also wanted building guidelines to be laid down [these exist now; they are published on the Intranet eds.] and informational booklets made available to people who want energy-efficient homes. The students' own investigations led them to recommend compressed stabilized earth blocks and rammed, stabilized earth construction as the best alternative building technologies being used in Auroville at present.

Conclusions

The main question of the survey, "Is Auroville sustainable?" was answered with a resounding "No!" However, 59% believed Auroville is going in the right direction. Half of the interviewees thought that Aurovilians have a special environmental awareness, while 26% said that while such awareness might be higher in Auroville than in India as a whole, it is lower than

in some Western countries. Interestingly, a number of interviewees stated that "Auroville is not meant to be sustainable. It is about changing consciousness." The authors of the report failed to see any contradiction between these aims. "Actually this is the main result of our survey: the consciousness of people has to change to live in a sustainable manner! All kinds of technologies, like renewable energy and recycling systems, energy-efficient applica-

AUROVILLE TODAY FILE PHOTO



Checkdams across canyons

tions, etc. will not work if our lifestyle does not change. 'We are not having an energy crisis or a water problem in Auroville and in the world, but a consumption crisis' we were told by one of our interviewees, and this is pretty much it! If humanity as a whole cannot manage to control its demand, how can we become sustainable?"

The German students recommend that a follow-up survey be done every 2-3 years to monitor progress, and that its terms be gradually widened to include other dimensions, like waste disposal and the social and economic dimensions of sustainability. In Germany, sustainability indicators have been developed and this allows cities and smaller communities to assess how well they are doing. The students suggest that Auroville develop its own sustainability indicators. They also recommend that sustainability be taught as a subject in Auroville schools.

On a personal level, Johannes felt that Auroville was overselling its sustainability credentials – "The reality doesn't live up to the website" – while Stefan was disappointed at the relative lack of human unity here. Both of them were also constantly frustrated by the lack of readily-available information concerning technical matters and the results of past experiments: "you don't seem to document anything!" Yet both feel that Auroville is a very special place. "While it still has a long way to go, it's a new society where awareness of human unity and the needs of the surrounding environment are definitely growing. Overall, it's been a very nice experience for us."

Alan



Windmill for water extraction

opener". Their main finding was that Auroville was far from being sustainable in energy-use and concluded that, "While you have achieved much, we expected Auroville to be far more advanced in its use of renewable energy, energy-efficient architecture and water conservation programmes."

This year two German students, Johannes Wullner and Stefan Trittler, who are studying Environmental Planning & Engineering at the University of Applied Sciences in Birkenfeld, Trier, did a follow-up study. They widened the scope of the original study by including transport along with energy, water and built environment as topics, and they interviewed more (90) and a wider cross-section of Aurovilians (architects, decision-makers, end-users, greenbelters, teachers, technical implementers and students from Future School).

Energy

The authors of the report were most interested in energy, and in particular the way electricity is generated. In Auroville's Master Plan it states that "Auroville's vision is to become energy independent and self-sufficient, with all its energy requirements met from renewable sources." Today Auroville has around 300kW installed solar power, which means a solar-density of 165W per person. This sounds impressive (it's 20 times the German average). However, only 27% of the interviewees generate their electricity entirely from solar, a further 19% have hybrid systems, while nearly half still rely exclusively on the main grid (TNEB).

Why do so many Aurovilians still rely upon the main grid for providing their electricity? Interviewees mentioned the high initial cost of solar panels and battery banks and the fact that big consumption items, like fridges and washing machines, which are used more and more in the community, cannot realistically be run on solar. As to

AUROVILLE TODAY FILE PHOTO

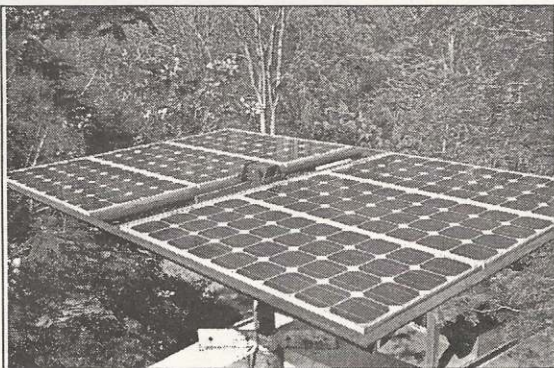


Photo voltaic panels

maintenance costs which put many people off going solar. General satisfaction is expressed by the interviewees regarding the work done by the renewable energy units in Auroville. However, the authors note that while the different units cooperate well, it might be more user-friendly to combine all the activities in one unit.

The fact that 75% of the interviewees had either a battery bank or a UPS as a back-up power supply led to another suggestion: that the money spent on individual back-up systems could be better spent on creating renewable energy mini-grids in Auroville communities. As the German students put it, "All over the world decentralised energy supplies are more and more seen as the way to meet future demand."

Water

The majority of interviewees saw water shortages as the biggest problem Auroville will face in the near future.

Zero concept dentistry in the bio-region

Introducing Auroville's unique dental outreach programme

In mid September the Auroville dental team, comprising Dr. Abdoul, Dr. Sudhakar, Suryagandhi and Dr. Jacques, went to Delhi to attend the Annual Congress of the World Dental Federation which was being held in India for the first time. For the Auroville team it was something of an eye-opener.

"It made us more aware of the gap between two growing and opposing trends in dentistry," explains Jacques. "On the one hand, there are very sophisticated and expensive techniques like implants, oral surgery, CAD-CAM and, on the other hand, there are very cheap and simple techniques which can be used even by non-professionals. I have nothing against hi-tech treatment and we would provide it at the Auroville Dental Centre if funds were available. Rural dentistry, on the other hand, requires another approach. Why? Well, 75% of humanity has no access to toothbrushes and fluoride toothpaste, let alone other dental care. This is the situation for 700 million people in rural India alone and one which we see replicated in the Auroville bioregion. So for us the challenge is to find approaches which serve the maximum number of people at the minimum cost."

One of the most promising of these approaches is 'ART' (Atraumatic Restoration Treatment), which is recommended by the World Health Organization and increasingly used in more than 90 developing countries. This painless and simple treatment can be provided by non-professionals, even when there is no electricity or running water available. Early tooth decay is removed by using hand instruments only and the cavity is then filled with special adhesive cement which releases fluoride to stop further decay. This basic care prevents the need for extractions and other unaffordable dental care



Practising the zero concept: everybody lends a hand

later on.

Jacques and Suryagandhi, who coordinate Auroville's outreach activities, attended a refresher course in ART before the conference. But ART is only one aspect of Auroville's dental outreach programme which serves a bioregion of 25,000 villagers. "Our programme is the only one of its kind in the world," explains Jacques, "and is based upon the universal 'Zero (Ø) Concept' of Dr. Beach, a well-known American researcher living in Japan." The Ø Concept is defined by Dr. Beach in various ways. For example, it refers to wholeness, to a perfect state of health or absence of the need for care, as well as to the innate wisdom of each individual which, when expressed through work, results in the worker and the work become one.

The concept is revolutionary in many ways. Unlike conventional dentistry, where the dentist has to adapt himself to his equipment (resulting in 90% of dentists suffering back pain), Dr. Beach redesigned the equipment so that it does not

interfere with the optimum tension-free position of the operator's body (the 'Ø position'). This is based upon Dr. Beach's experience that the body has an inborn wisdom common to all human beings which is expressed when it is in perfect balance. Thus a body in balance can perform complex tasks – like those involved in dentistry – with the greatest accuracy and precision. Dr. Beach is frustrated by conventional teaching: he believes that much time is wasted because manual skills are primarily taught through demonstration instead of through developing self-awareness and the optimum use of the body. This insight is borne out by Jacques' experience in training his rural outreach workers.

"Because there are no dentists practicing in rural areas, we trained 22 village women as dental health workers. We begin with closed-eye exercises through which they discover the optimum balanced position of their body (they catch it readily as most of them are used to carrying water on their heads). This, in turn, allows them to master finger control

of their instruments amazingly quickly. In fact, the full training takes only a few months instead of the 2 years it would take at a training institute. Of course, the dental health workers are performing only basic care. Working in 12 sub-centres in surrounding villages (all, by the way, set up by the fantastic energy and dedication of Suryagandhi in winning the cooperation of village leaders and mothers), they do check-ups, scaling and simple ART fillings and educate mainly the children in oral hygiene.

"We also introduced village health workers to what are known as 'global terms for easy and precise communication in health care'. These were developed by Dr. Beach in collaboration with the W.H.O. These terms, which can be both written and spoken, use the most common syllables in the world (ma, me, mi, mu, mo, ta, te, to) in combination with digits. Thus the written form ma 27 ta 54116 means "the second

left upper molar filling in occlusal surface with composite". Once learned – and the village health workers pick them up quickly – these terms shorten the time reaction of the brain and thereby reduce the risks of errors."

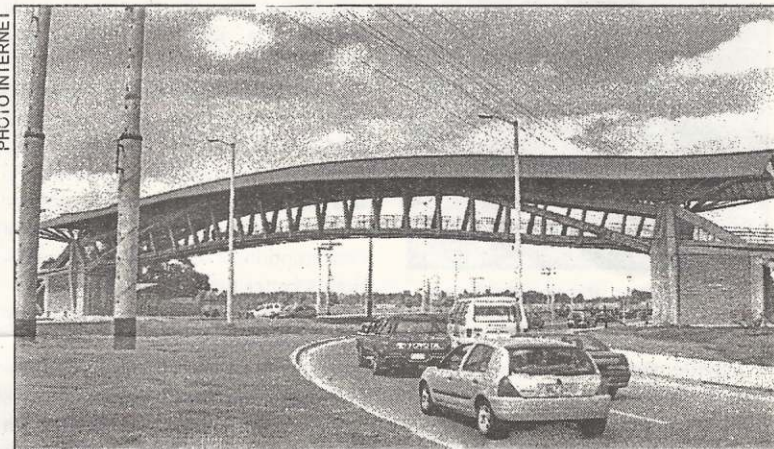
Jacques is upbeat about the future of dental care in Auroville's bioregion. "When you deal with small problems early enough you solve big problems. I think that within five years most people in our outreach villages will no longer need major dental care," says Jacques, "and that's a huge achievement. We've proved that this is the best long-term dental care at the least cost. As such, it is a model not only for India but for the whole of the developing world."

Alan

For more information visit www.auroville.com/healing or [health/Auroville Dental Centre](http://health/AurovilleDentalCentre) and www.systematiccare.net

WORKSHOPS

Serious bamboo



Pedestrian bamboo bridge spanning 45 metres in Bogotá, Colombia.

Pradeep Sachdera is a dynamic Delhi architect (and friend of Tency) who breezes through Auroville occasionally. Because he is a consultant to the National Mission on Bamboo Application (NMBA), he instrumentalised a workshop in Delhi with the famous Colombian bamboo architect, Simon Velez.

Simon turned out to be a high-powered stocky little bloke, who after running through an impressive slide show of his work all over the world, organized the 30 architects, professors of architecture and otherwise tribals from all over India, into 4 teams, to each work on the construction of a simple truss from some super straight Assamese bamboo.

For 20 years he has been using his unique jointing technique which he began by teaching us. This required sufficient carpentry skill to chisel a 'fish mouth' into the end of the bamboo; then driving a long threaded rod into the hollow of the bamboo through the first 2 sealed nodes, and then drilling holes into those nodes and using a funnel, poking in liquid sand/cement slurry until they are full. This took a diminishing number of us until 4am the following morning.

Then with only 6 hours setting time on the second day, we assembled the individual trusses and bolted them together to make a whole free-standing roof structure.

In mostly informal gatherings in the forested grounds of the Tata Institute (TERI), the whole issue of bamboo – species types, cultivation, harvesting and especially preservation – was discussed. Simon's version was that if you are going to seriously construct with bamboo to last maybe hun-

dreds of years, you have to be sure of your preservation. His technique was to form long troughs of welded cut parrels and soak the bamboos for 1-3 days in a solution of diesel and 1% chlorpyrifos, a relatively benign insecticide.

Coming from Columbia, Simon has the advantage of a tribal tradition of daring bamboo suspension bridges and multistory bamboo coffee-drying sheds, and also of their native wonder-bamboo, up to 30m long and straight, called Guadua (Angustifolia).

The 2 day workshop was all Simon could spare in his rush from building a bamboo hotel in China, to his ongoing work in Columbia. So we probably won't see him here in the near future. But the next time Pradeep shows up, we could try something along Simon's lines with our humble thorny bamboo – *Dendrocalamus Strictus*.

Johnny

Born in Manizales, Columbia, Simon Velez is the architect who, having devoted some 15 years to many varied experiments, has mastered the art of building with bamboo. Simon Velez has been using bamboo for his buildings since the mid-1980s. He has developed innovative joints which have enabled him to design structures such as the pedestrian bridge in Bogota, Columbia that spans 45m. His works in bamboo have been executed in many countries across the globe – Mexico, Brazil, Jamaica, Panama, France and China. The monumental "Guadua Pavilion" became a star attraction at the Expo-Hannover 2000 World Fair in Germany.

BOOK REVIEW

Notebooks of an Apocalypse

The mid to late Seventies in Auroville – caught up as it was in the maelstrom of its struggle with the SAS – were contentious times. This first volume of Satprem's diaries *Notebooks of an Apocalypse* – a word which he interprets in the original Greek sense of 'laying bare' or 'naked' – covers that period. Its subjects range from his struggle to have the three volumes of his trilogy on Mother published in Madras, to the safeguarding and smuggling out of India (with the help of J.R.D. Tata, the late Indian industrialist), of the tapes of his conversations with Mother which were later published as the thirteen volumes of her *Agenda*. It is also the battle of and for Auroville's autonomy, pitting many of its three hundred or so residents against the then clutches of the Sri Aurobindo Society.

"Sometimes the truth of the future has to face not only the darkness of the past but the truth of the past," Satprem writes and Mother was waging in her body a battle that had been described and hymned millennia before in the Vedas. Not unlike in the Grail legend, Satprem asked the right questions and Mother would describe to him in great detail over decades her latest yogic and cellular experiences. "Are you conscious of your cells?" Mother once asked a startled Satprem. In his notebook he readily admits that it would take him years sometimes to acquire a fuller understanding of some of her remarks and the extensive descriptions of her experiences.

As if the future were seeding itself

in select plots of receptive sacred soil, the *Agenda* could be described as Mother's yogic autobiography. As Satprem writes, "The path is accomplished you understand. They have accomplished it."

There is something of everything in this book: visions of both Satprem and Sujata, diary entries, correspondence messages to the Members of the Institute of Evolutionary Research which was set up to publish the *Agenda*, as well as letters to Aurovilians engaged in the turbulent struggles of the time. Physically exhausted from having just completed the three volumes of his biography on Mother, he describes how he and Sujata are subject to continued harassment and onslaught of ill-will by some of the Ashram authorities who did not want to have the *Agenda* published in its entirety. On a trip to the Himalayas Sujata and Satprem are informed that they have been locked out of their house in Nandanam. After rushing back they manage to reclaim it with the help of Aurovilians. The incident was not without humour. After being interviewed by the lower echelons of police for supposed 'breach of peace', he was soon discussing and autographing copies of the *Divine Materialism* for higher level Inspectors.

In a letter to Auroville he writes, "We are here in Auroville to learn the law of the new world, which is neither a mental law nor an economic or political one, nor any of the bankrupt panaceas... It is what you are here for: to learn the secret of the new world, to

understand the True Law and to find the true lever. Perhaps it is really the Hour of Grace for Auroville."

And in another letter to his readers he writes, "A marvellous story is trying to slip through the threads of our web. If we consent to create a new species we must join forces. To understand is to hasten the phenomena, it is to participate in the great contagion of the new world." Is it possible that the work of transformation continues and that a transfer of her cellular realisation to the species as a whole has taken place? For Satprem often refers back to the day when they buried Mother and the mighty message he received that day that "Nothing impedes."

Towards the end of the volume he shifts his abode to the hills of South India. He longs to be cleansed of the horror he has been exposed to, and to dedicate himself to building the bridge for the new species that Mother and Sri Aurobindo had foreseen and would take birth in humanity's midst. The amazing experiences of this aspiration and quest and the astounding and unprecedented realisations that he will start to have will be chronicled in future volumes of these notebooks.

Roger

Notebooks of an Apocalypse 1973-78 Volume 1, by Satprem
Available from: Mira Aditi Centre,
62, Sri Lanka, 2nd Main, 1st Cross,
TK Layout, Saraswathipuram,
Mysore 570009.

Deepam

A healing presence creates a haven for disabled children

Deepam, the project for disabled children started out small in 1992 in an open space in the village of Kuilapalayam. Deepam in Tamil refers to the flame of an oil lamp, and true to its name, it has indeed brought light into the lives of many disabled children and youth from about 20 villages around Auroville.

The project was started by Franca, Marika and Appie as a playground for disabled children from Kuilapalayam who came in thrice a week. "We had a little structure under the tamarind grove next to the Auroville bakery," recounts Angelika, an occupational therapist from Germany who joined the project three weeks after its opening. "I, along with Karpagam, a lady from Bommaiarpalayam village who learned on the job, continued the work at Deepam. And it's interesting how Karpagam without any formal training or education but with the gift of working with children, has become an irreplaceable part of the team."

Besides these two forces behind Deepam, many helpers from within Auroville and outside passed through the portals of Deepam. "Only in the last five years has a bigger team slowly built up to what we have now," says Angelika. "There are two Aurovilians in charge and four employees with a qualification or training, as well as a cleaning amma and a driver. In 1995, thanks to donations, Deepam was able

purchased a 15 seat van. "Now every day we bring children from far-out villages for treatment and daycare," says Angelika. She mentions how the van has also made it possible for the children to go on special field trips or to be transported to the swimming pool or the beach. "Did you know we have children who live in the seaside villages but have never seen the beach?" she asks incredulously.

"Children with disabilities have never had it easy especially when they come from poor families," says Selvi a Tamil Aurovillian who works in tandem with Angelika in running Deepam. Selvi is a qualified nurse with special training in speech therapy. She explains how most of the children come from families facing difficult social circumstances such as poverty, unemployment, alcohol abuse and illiteracy. Also there is no form of social security for old age, accidents or illnesses. So it becomes a big burden for the family to take care of a disabled child. "In the village, people do not know how to help these children. Mostly they are locked up in their homes when the adults go to work, or are left to wander the streets unsupervised."

Deepam serves about 100 children, six days of the week. They come at least twice a week for therapy, learning and play, and social interaction. Angelika elaborates. "Our statistics show that we know 100 patients in the



Helped by a hearing aid, six year old Sarasu enjoys the activities at Deepam

of the cases actually come through other channels like parents, neighbours, and teachers." Not all cases of referral involve permanently disabled children. "We had a 2 year old girl Vijaya Lakshmi from the nearby village who was sent to us for physiotherapy as she could not walk. She was diagnosed with severe malnutrition, along with anaemia and intestinal parasites. So it was no wonder she had not reached the normal milestones of development expected of a child of her age." The team at Deepam insisted that the mother bring her daughter twice daily to the centre for a healthy snack. "This way we were able to make sure that she got nourishing food, took her medicines and supplements regularly, and received stimulation through play and movement. After a few weeks here, her cheeks filled out and soon she has started to walk and didn't need our help!"

However, most of the children referred to Deepam do not enjoy such dramatic success. "We mostly see children with birth disorders - cerebral palsy, hemiplegia, muscular dystrophy, polio, mental deficiencies and speech or hearing impairments," says Angelika. A purely physical impairment without mental deficiency is treated with rehabilitation and appropriate appliances like hearing aids, callipers, wheel chairs and/or splints. "And some of these children are able to integrate into regular schools," she adds, showing a 10 year old photograph of a little boy on callipers. "This is Azhagapan and he was affected by polio. We first saw him at our playground. For many years he received physiotherapy and callipers from us. He was at New Creation and at After School in Auroville. As he is an intelligent boy other people stepped in and helped him with further education. Now we hear that he is in high school."

Not all stories have fairy-tale endings. "We also receive individuals who are mentally-retarded," says Angelika, "and it is very challenging to help them become independent." She points out that a few of them who came at the very beginning 12 years ago are still at Deepam, now as adults. While Deepam is primarily a facility to help children with disabilities, it has been unable to turn away older individuals who show up. "For many of them this is the only place where they feel welcome," explains Angelika. "Originally we

thought it should be possible to find some work for the older ones in an Auroville workshop after a few years of training. But this was a miscalculation because most of the mentally-retarded are too weak in their cognitive abilities. For example, we once decided to have them assemble paper bags for the Pour Tous vegetable counter. All they had to do was fold newspaper sheets in a certain way and stick sections together. Seems easy for us, but only two were able to fold the sheets correctly. We even broke down the process into small steps but that too didn't work. In the end, the bags had to be folded by our staff so we gave up the experiment."

Deepam also faces the difficulty of finding qualified and dedicated professionals who want to work in Auroville. "It is not easy," says Angelika. "But those who do come here - we have a physiotherapist and a Multipurpose Rehabilitation technician from Pondy - are very sincere and love the work." She explains how it takes them a while to adapt to the more Western style of teamwork and to work using different methods from the usual techniques in India. She explains, "Occasionally we have experts in the field who visit Auroville and stop by, offering us their services and training. Most recently, we had a specialist from Brazil who introduced us to a concept called 'Neurofunctional Reorganisation'. It is ideal to use with most of the disabled children in our working environment." Such experiences at Deepam promotes a close-knit feel to the team. Says Selvi, "With all these opportunities for professional training and advancement, we find ourselves learning and developing together, and that gives a wonderful feeling."

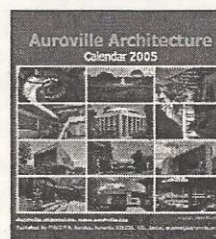
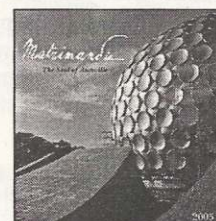
It is tea-time at Deepam. All have gathered in the low-pillared courtyard by the recently built tea-kitchen. The staff appear relaxed. The low granite benches are spilling over with children and youngsters. Two little girls, one adjusting her hearing aid and the other chattering excitedly, skip around the fig-laden banyan tree. The stone Ganesh beneath, with a red hibiscus at his feet, surveys the scene. The emerald lawn is lush from last night's rain, and the grey pebbled paths appear freshly-washed. Deepam is a micocosm, a parallel world of community, warm and loving.

Priya Sundaravalli

CALENDARS

Two calendars for 2005 are now available. The Matrimandir calendar focuses on the twelve petals containing the meditation rooms around the Matrimandir. This desk calendar, size 19.5 x 20 cm, can be ordered through the Auroville International Centre or from Matrimandir. For pricing please contact Tine at tine@auroville.org.in or Barbara at Matrimandir@auroville.org.in

The Prisma architecture calendar is also a desk calendar, size 11 x 11 cm, and shows photos of buildings in Auroville taken by John Mandeon. Price including postage in India Rs 65, abroad Rs 100 (airmail). Available from Prisma@auroville.org.in.



In brief

Revue d'Auroville

To celebrate Pondicherry's anniversary of its independence from French rule, the Pavilion of France has prepared a special issue of the *Revue d'Auroville* about the 50th year of Pondicherry's merger into the Union of India (November 1, 1954). The Ambassador of France to India, Mr. Dominique Girard and the Ambassador of India to France, Shri Dilip Lahiri, have both given a message to the *Revue d'Auroville* for this occasion. The revue is illustrated by some rare photographs made available by the Institut Français de Pondichéry, the Sri Aurobindo Ashram Archives and INTACH. To order, contact auroville press: aurovillepress@auroville.org.in

Navaratri Celebrations

On the occasion of the *Navaratri* (Durga pooja) festival, the Auroville women's forum organized *Navaratri Kolu* (a doll show) and cultural performances in a ten-day programme which included Saraswathi Pooja.

Kala Kendra organised *Garba* or circle dances dedicated to The Divine Mother under the pipal tree near the Sri Aurobindo Auditorium in Bharat Nivas. *Garba* is a tradition in Gujarat: men, women and children come together for nine nights to dance to live traditional music.

Farm Fresh

A new shop, Farm Fresh, offering food and farm products from Auroville, has opened in Kuilapalayam opposite the Auroville bakery. The shop offers ready-made take-away dishes, as well as natural and organic products from Auroville's farms and food-processing units and does home deliveries.

Choir Concerts

Sacred music from XVIth Century Spain, based on Gregorian Chants from the Roman Liturgy by Morales, Guerrero, Victoria, Perez, Esquivel was performed by the Auroville Renaissance Cappella in Auroville, in the Ashram School and in the Église Notre Dame des Anges, Pondicherry.

Arikamedu

A conference on the archaeological site of Arikamedu near Pondicherry, that had trade links with Rome, was organised by the Italian Embassy in New Delhi and the Government of Pondicherry, in collaboration with Auroville's Centre for Urban Research and the Italian Pavilion.

'So Good When It Stops'

A children's play 'So Good When It Stops' was presented by the 5th grade students, the 'Unicorns' of Transition School in the Bharat Nivas Auditorium.

Donkey in IZ

The decision of an executive in the Industrial Zone to have a donkey around the building was objected to by a resident as the animal's braying disturbed his night's sleep. The executive was requested to take the animal home.

AVI meeting

The next meeting of the Auroville International Centres will take place in Auroville from 14th to 18th of January 2005 in the Tibetan Pavilion. More information on the event is available from: avi@auroville.org.in.



Angelika (left) and Selvi the Aurovilians who manage Deepam

to move into a well-equipped and specially designed therapy room in the children's nursing home attached to the Auroville Health Centre." Meanwhile it also stepped out from under the Auroville Health Centre umbrella and in April 2003 became an independent unit under the Auroville Foundation. Snugly ensconced in a far corner of the Health Centre premises, Deepam is housed in an elegant structure with an eclectic but harmonious blend of Tamil and European architectural elements.

From the start, the work at Deepam has been supported from funds provided by Angelika's personal network of family and friends from Germany and Switzerland. "We now have about 300 people to whom we regularly send informative letters about our work. I would say around 100 supporters are contributing regularly, some of them since 12 years now," she says. She admits that the fundraising for the growth of Deepam takes up a lot of her time. "Last year a small group of my close friends in Germany started the 'Deepam friendship circle' with the aim to help our project securing its funds, and this has considerably grown."

Two months ago, with additional contributions from its donors, Deepam was finally able to finish a much-delayed building expansion. Also recently, with financial support from a small German organisation DIK (Deutsch Indisches Kinderhilfswerk), it

surrounding villages with a disability. Some need very little follow up. Presently we are following about 34 of them intensively." She stressed that quality work with disabled patients is both time-consuming and staff intensive. "16 children and youth benefit from our day-care programme, the smaller children come for a minimum twice a week for their therapies, and some come daily." For each child an individual programme is designed according to its age and disability. Besides physiotherapy, massage, occupational and speech therapy, Deepam also combines activities with handicrafts, play and fun in a group setting. "Home visits to serve both children and grown-ups are also done in villages which our van can't reach daily," she continues, "though it becomes obvious that the children who can come to our centre make better progress."

Deepam strongly advocates family participation. "We encourage the parents and other care givers like grandparents to do some of the physiotherapy on their child." This involvement, she explains, helps break down misconceptions about disabilities and empowers these adults to be better care-givers. Little breakthroughs through family attitudes provide much encouragement to the team. "Children get referred to us usually through the doctors of the Health Centre or through the field workers," says Angelika, "though most



Kiran, age 4, French-English



Amara, age 5, Swedish-Dutch-German

Where do the children play?

Photo exhibition by Marta

Good temper, fair play, truthfulness, patience, endurance, perseverance, equanimity, courage, cheerfulness. According to The Mother these things are to be taught to children.

And what can the children teach us? If you visited the latest exhibition at Pitanga, which featured photos of Auroville children, you would have found out. Missed it? Here is a chance to sample it.

Marta presented 47 photos of Auroville children – but who is Marta? Well, Marta is an Italian Newcomer from Italy who has been living in

Auroville since January 2003. She teaches at Center Field Kindergarten, where she took most of her photos.

"I have been to many Kindergartens, even Montessori Kindergartens where the children are treated in a special way. But the vital energy here is unusual," says Marta. "It might end up complicating the lives of parents and teachers a little, but it is a vitality, an interest in things, an involvement with life that is extremely special. These are not kids brought up in front of the television and who expect from adults instructions about how to live. They definitely have their

own path and they really know how to move on it!"

She had not planned to do an exhibition. A digital camera came as a gift and the photos were actually an 'experiment'. "I wanted to bring attention to the world of children, and underline how these kids can communicate at a deeper level," says Marta. "I also wanted to raise the question if we are doing enough for children of this age."

What is God after all?

An eternal child playing an eternal game in an eternal garden.

Sri Aurobindo



Akhila, age 5, Indian (Tamilian)



Bagheerath, age 5, Russian-Indian (Kannidiga)



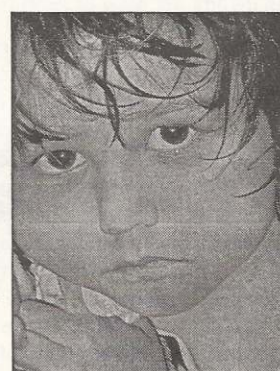
Tenzin, age 4, Tibetan



Marissa, age 4, German



Mahiran, age 5, French-New Zealand



Namoi, age 5, Italian

FASHION

Dancing down the catwalk

On the 18th of September, Dilip Kapur hosted a Hidesign fashion show in his new hotel, 'Le Dupleix' in Pondicherry. Top Indian models from Bombay and Delhi presented the Hidesign Autumn/Winter '04 leather wardrobe in front of a mixed (largely Aurovilian) crowd of enthusiastic onlookers. Slipped in between the different stages of the show (it was divided into 'business', 'travel', 'party', 'romance' and 'leisure' wear) were four Auroville girls who – thanks to knowing Dilip as a teacher at their school and as a fellow Aurovilian – performed a dance routine suited to each section. Their dance was accompanied by whoops and smiles from watching friends and family. Three of the four had participated in the Hidesign fashion show last year, but otherwise none had previous catwalk experience.

"How does it feel to dance in a fashion show? What are the professionals like? How does practical experience change one's view of modelling as a career choice?" – These were questions that crossed my mind as I watched this performance, and so I set out to elicit the experiences and opinions of the four young Aurovilian participants.

"Compared to last year, this time it was more professional," says Hilde. "Last year there was such a difference between the models and us – we didn't know what to do, and just went up there and modelled and had fun; it was all quite relaxed. This year we did not model but danced. We were allowed to put our input into choreographing the dance pieces

– for example we came up with the idea of flamenco moves – and although the choreographer didn't know about flamenco he said 'Yeah okay, let's try it out', and it worked. In this way it was more stimulating for us – we were more involved, not just putting on some clothes and walking the ramp."

"The manager of the models had told us that we were to set a kind of ambience for the show," explained Fanny. "Saturday was the day of the performance. After a lot of waiting we suddenly heard 'okay, get ready!' and we started to practice our dance, first alone, afterwards with the models. The show itself went by really fast, it felt like two minutes. It was a crazy scene, all that waiting around, and then suddenly full speed and chaotic."

Modelling has a bad reputation in the sense that it often brings out some of the worst traits in people, such as vanity and arrogance. Was that also their experience? "Some of the models were very arrogant – you know, the kind of people who won't even look at you. But they were a minority, not all of them had that attitude," remarks Suryamayi. Jivatma agrees: "Getting to know the people made me see that most of them are

just like you and me, normal people doing modelling like they could be doing any other job. Most of the models were really nice, friendly and helpful – it didn't feel like 'us and them'." Adds Suryamayi: "Yes, and

sion I think modelling is a waste of time, there's nothing much behind it. You just walk along showing these clothes – in a way you're selling yourself. Well, it's meant to be for the clothes, but all the models have to

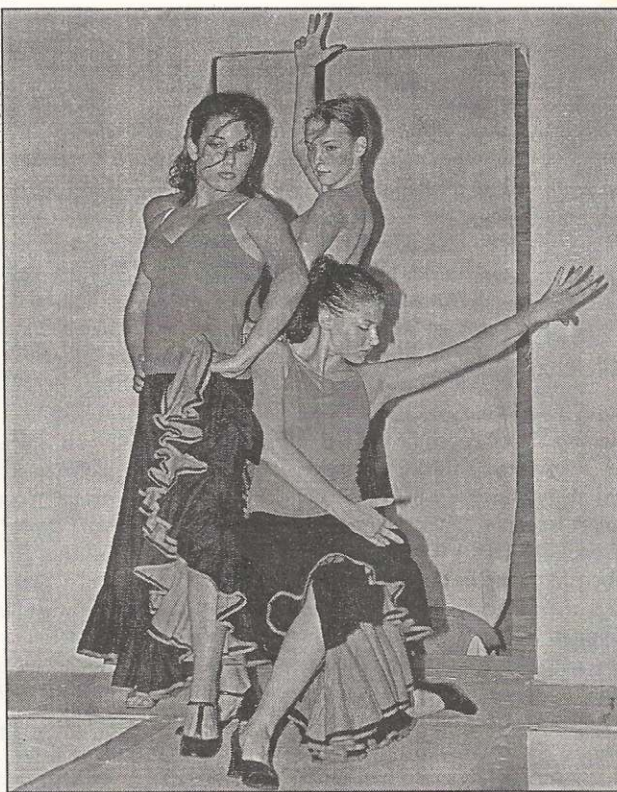
have good bodies, don't they? Modelling could be nice as a job on the side." "I found out modelling isn't such a big deal," observes Fanny. "There were two or three of the top models of India in that show, and I saw that it's all in the attitude. You just have to practice how to look, how to be photogenic, and how to walk and keep your head up. I only found out afterwards that they were really famous models, and I found myself thinking 'Is that all you have to do to be so famous?' Jivatma is happy with the experience. "Opportunities like this are windows into other worlds. If you're never given a chance, you keep imagining what it is like. For me this show has been really helpful. Before I thought I could go into modelling seriously, but now that I've

do it.

"I do love performing, but the difference that I see between modelling and, for example, a dance piece is that modelling doesn't remain a challenge. In modelling, basically you go through the same role again and again. You'll refine it, but you're always refining the same role. Walking the ramp is something you just have to learn, there aren't many different aspects to it. In other art forms there is more space for creativity, and you bring more of yourself into the action. What I like about a show or a performance is the process gone through to get to the final result. At times it looks like it will never work, then you overcome the hurdles and accomplish the final thing: that's where the challenge and the satisfaction lies. To the actors in a play, the night of the actual performance is really a very small part of the whole experience: the real process of learning and effort goes into the rehearsals. What I saw with modelling was that the models didn't have a part in the growth process. They practiced an hour or so with us before the show, got ready, went on and off, and then that was it – on to the next show. I would miss the evolutionary stages, and the feeling that you're really a part of what you're doing, rather than just an instrument of it."

Impi

Fanny (19) has just finished her Baccalaureate at the French Lycée in Pondicherry. Suryamayi (17), Hilde (17) and Jivatma (20) study at Future School, Auroville's high school.



Standing: Jivatma (left) and Suryamayi, kneeling, Fanny

that made me realise how often we judge people by an image, and how untrue our judgments can be."

Though for three of the four this was the second time they were on the catwalk, modelling as a profession is not the direction they want to go into. Says Hilde: "As a full-time profes-

sion I think modelling is a waste of time, there's nothing much behind it. You just walk along showing these clothes – in a way you're selling yourself. Well, it's meant to be for the clothes, but all the models have to

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