

Aquaponics: the future of farming?

On August 15, the birthday of Sri Aurobindo, Akash, Monica and Aurovici hosted an Open House at the new Aquaponics site. The operation is located near the Community of Rêve behind the electric bike workshop, and was buzzing with a number of people enquiring about this new method of growing plants and raising fish. The young trio were meeting and greeting the curious and answering many questions.

The operation took seed when Akash, an Aurovilian by birth, went to Discipline farm to speak to Gino about the Hydroponic system they had set-up there. After the visit Akash began research on the soilless method of growing and came across a link to Aquaponics. He

felt this kind of system was much more interesting and sustainable because, compared to a conventional Hydroponic system, Aquaponics does not need chemical nutrients for the plants as the fish waste provides these nutrients. The bacteria in the grow beds convert the nitrites into nitrates, which the plants then consume as their main nutrient source.

He decided to set up an operation in the backyard of his home. It was a small pilot project using the water from the ant-channel surrounding his house. He purchased some pipes, valves and fittings, along with a pump to circulate the water from the ant-channel to the plants. The project wasn't very successful due to the lack of nutrients. This led to further experimentation. The second project involved buying some tanks for the fish instead of using the water from the ant-channel. This proved to be more successful as it provided better yields.

One evening while they were having dinner with Aurovici (another Aurovilian who was born and raised in Auroville) he was talking about the project and it was suggested they partner up and submit a proposal to the Farm Group for funding to expand the operation. This was the spark that Akash needed to move to another level. They designed the system, located the site, wrote and submitted the proposal to the project coordination team. They received the funds and in May started building the system.

The goal was to have the system in operation for the Open House on the birthday of Sri Aurobindo. They selected and purchased equipment, designed and constructed the system, installed fencing for security, and transported the fish. They want to the operational cost to remain low so they decided to make

their own fish food. This not only cuts costs, it also ensures the food is natural and organic.

It was a very intense two-and-a-half months. The design needed to suit the site so it had to be modified, leaks from the first row of grow beds led to experimenting with different sealants, and over a hundred fish died for reasons they are still trying to figure out. It could be related to the water or the stress in transporting them. The tank was emptied, cleaned and refilled with water and a new stock of fish arrived. So far everything is going well. The second rows of beds are larger, slightly higher and constructed from cement instead of granite slabs sealed together. This has proved to be more cost effective. It's part of the process of trial and error.

This new way of farming is being introduced and implemented around the world and the team are learning quickly about equipment, material and methods that are best to use in South India. They also have the challenge of learn-

ing about what grows well, monitoring the pH of the water, keeping the fish alive, coming up with organic recipes for the fish food, and, most importantly, keeping their sense of humour.

The motivation driving these young Aurovilians is "growing fish and food organically using sustainable methods." Aurovici's dream is to set up a few systems in the Residential Zone, "a community garden that is easy to maintain, organic and available to everyone"

Aquaponics is the way of the future. Are you ready to catch the wave?

Elaine

For more information contact avaquaponics.blogspot.com



Monica inspects the plants



Visitors to the Open House see the fledgling aquaponics operation

VILLAGE OUTREACH

Better relations with the villages

The recommendation of the Integral Sustainability Platform that Auroville establish better relations with the villages has been welcomed by Auroville's Village Action. Those who work for Village Action are aware that improving the relationship is of paramount importance; but they always found a significant lack of response to the issue, both in official and popular circles in Auroville.

Yet, a rather large number of Auroville units (32!) relate to the villages. Their activities fall into five main categories: education, environment and ecology, health, livelihood, and social mobilization. Areas which are not yet developed are social enterprise and livelihood (creating production units that are economically self-sustaining while being socially useful); organic farming; water conservation; and the production of low-cost ecological technologies that are viable for rural communities, such as smokeless *chullas* and water filters.

The villagers appreciate Auroville's work opportunities and the peaceful environment. However, there is little understanding of the creative schools Auroville runs for village children – villagers appreciate most the conventional approach of Kuilapalyam School Trust. Villagers complain about the difficulty of communicating with Auroville; the way land is purchased; about the erosion of traditional culture; and the confusing differences in labour policies between Auroville workplaces.

Village Action has the clear perception that partnership in development, not charity, is the only viable approach for neighbourly relations and must become fundamental to all Auroville outreach work to the villages. Village Action proposes that Auroville focus on developing a positive synergy

with the villages, making sure that the villages prosper and progress along with Auroville, while at the same time accepting the inevitable diversity in human unity. Aurovilians may see the village-Auroville relationship as part of the experiment in human unity; but for the villagers, the relationship is linked primarily to their livelihoods, their families, and to education.

To improve the relationship with the villages, Village Action proposes that joint village-Auroville development councils are revived or created and that an independent body is formed that can deal with village-Auroville conflicts. Other proposals are that Auroville studies the possibilities for leasing of Auroville land or for joint land management and helping the villagers develop organic and low irrigation farming. Proposals were also made to organize collective transport for villagers working in Auroville units; that Auroville units lend their expertise for creating village enterprises; and that Auroville sponsor community centres in the surrounding villages in order to increase cultural exchanges between Auroville and the villages. Lastly, proposals were put forward that Auroville's health and eco-services would help in common projects for waste management and pollution control, as well as health education, promoting traditional healing practices, and counselling support for women.

Village Action emphasised that Tamil Aurovilians should play a major role in improving Auroville-village relationships. It also called on Auroville's apex groups, like the Working Committee, the Budget Coordination Committee and L'Avenir d'Auroville and on all Aurovilians, to give top priority to village relations.

Bhavana

What is aquaponics?



Aquaponics combines aquaculture and hydroponics. In aquaponics, you grow fish and plants together in an integrated soilless system. The fish waste provides food for the plants and the plants provide a natural filter for the water the fish live in.

Aquaponics produces safe, fresh, organic fish and vegetables. Aquaponics can be used to sustainably raise fresh fish and vegetables for a family, to feed a village or to generate a profit in a commercial farming venture. The benefits of aquaponics are:

- ◆ Reduces water use
- ◆ Low cost after the initial set-up
- ◆ No chemicals
- ◆ Reduces erosion by eliminating the need to plough the soil
- ◆ Lower operational costs compared to conventional farming
- ◆ Low maintenance
- ◆ Grow plants and fish all year round
- ◆ Sustainable way to farm and ease of use
- ◆ System can be set-up anywhere
- ◆ Organic and natural

There have been many studies into the types of plants that can be grown in an Aquaponics system, including leafy green vegetables, vine plants, fruit and fruit trees, flowers and fodder. The cost and turnover time of each crop varies dramatically, with leafy greens being able to be produced in a few months, while root-based plants and fruit trees take considerably longer.

Tilapia is the most common fish used in Aquaponics systems. The system in Auroville uses carp. However, most fish are suitable. The number of fish will depend on the size of the system.

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