



Annapurna Times

Pond Capacity Doubled

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This July Annapurna again hired digging machinery from Auroville's Water Harvest to expand the farm's rainwater catchment ponds. In 17 days, the equipment removed approximately 4,780 lorry loads of soil. We removed 7,770 cubic meters of soil from a gully, 2,700 from the primary pond, and 3,875 from the pond which we created last summer. This digging increased the farm's catchment capacity from 12,000 to over



26,000 cubic meters. Such ponds catch rainfall during the monsoons providing a renewable source of irrigation water. The cost of digging came to approximately \$0.61 per cubic meter.

Tomas (left) discussing the slope of the gully with the project's supervisor, Anand.

Godown Extension Completed

Mission Statement

- Within the context of producing food for the experimental, international township of Auroville, the stewards of Annapurna aim to discover, develop, demonstrate and document methods of food production that are organic, regenerative, healthy and humane. We emphasize the utilization of traditional techniques and the conservation of indigenous biodiversity.

The southern extension of the godown was completed in July. The new structure includes rooms for cow-feed, grain and seed storage, workshop space, bath rooms for employees, and covered processing area. Upstairs, there is ample space for storing large items, such as drying racks, lumber, and hoses.

The building was designed by Andre and started in the spring of 2001.



SRI Trial

In the fall of 2002, we planted three rice plots using variations on the technique known as the System of Rice Intensification, or SRI. In SRI, rice plants are transplanted at a very young age, spaced approximately 30 cm apart, watered less, and weeded more frequently than conventional rice cultivation. Farmers elsewhere using SRI have reported yields as high as 21 tons per hectare.

Unfortunately, the fall of 2002 was a terrible season for our entire rice crop. Rainfall was below normal. Yields were generally below our average yield of 3 tons per hectare. Yields in our SRI plots were even lower.

Despite this discouraging performance, we will try SRI again this fall. According to reports from Dr. Norman Uphoff, SRI is working well for farmers in many countries. It should perform well here also.

Our SRI trial was started with help from Carly Bishop, a student from the Netherlands. Carly spent the fall semester studying traditional beliefs and practices of farmers in Tamil Nadu.

Some of the factors that may have contributed to poor performance of our SRI plots include our soil's high pH, the unusually high number of sunny days in that particular season, and the poor quality of the water from our borewell.



If you would like more information about our SRI trial or about SRI generally, please contact us. For more information about SRI, you can also visit the CIFAAD website at Cornell University:

<http://ciifad.cornell.edu/>

If you are practicing SRI we would like to hear about your experience. Please contact us so that we can share our findings.



Top. Brooks and Tomas with Dr. Norman Uphoff (right) visiting SRI trial plots at Annapurna.

Left. 99 day old SRI rice plant (left) showed much greater root development than plants from the control plot (right).

Bottom. Transplanting 8 day old rice seedlings into SRI trial plot. From left: Ambika, Carly, Kasturi, Angela, Tangappapa.



On-farm Ecological Accounting

This summer, the research project, *Setting Up the Books for On-farm Ecological Accounting* enters its fifth year. Last year, Brooks and Tomas collected data from a second growing season from our milk, millet and rice crops. Brooks is presently preparing a paper on *On-farm Ecological Accounting Resources, Methods and Challenges*, to present at the upcoming third conference of the Indian Society for Ecological Economics in Kolkata in December. In August we will begin to record data from a third growing season. He has been working with database developer Akash, at Cynergy in Auroville, to create the project's ecological accounting database.

Brooks has been in contact with scientists in several countries to learn about their work on the assessment of agricultural sustainability. He has also contacted economists working on economic and policy innovations to promote sustainability. In addition, he is collaborating with the team of Aurovilians who are assessing Auroville's farms (see following story).

Half of the funding needed for the next two years of the study has been granted by Stichting de Zaaier in Holland, and the

Auroville Farm Assessment Exercise Initiated

This year a team of Aurovilians formed to assess the performance of Auroville's farms. Their study will also examine the socio-economic context of Auroville's agriculture.

For the past 25 years, agriculture has stagnated in the township. Despite many years of investment in the township's farms, Auroville has not created an environment which sufficiently stimulates or rewards productive and responsible stewardship. This is partly due to Auroville's complex, unconventional and largely unexamined aspiration to de-commodify food, but it is also due partly to the economy's tendency to discount the value of food and reward environmental degradation.

The study was started largely in response to concerns expressed by board members of Stichting de Zaaier, a Dutch foundation which has been sponsoring agricultural development in Auroville for several years. Despite such sponsorship, many farms in Auroville seem to have made little progress. The

participants in the project include Tomas, manager of Annapurna, John and Priya, who manage Buddha Garden, David Storey, who recently joined Auroville after earning a MSc in sustainable agriculture in the Netherlands, and David's wife, Natasha, who also holds a MSc from Wageningen Agricultural University.

The study was started by conducting interviews with several Auroville farmers to document their motivation and vision for farming in Auroville. The project will also survey consumers in Auroville, as well as marketers of food, such as Pour Tous and AuroAnnam. A sub-group will investigate and document the history of farming in Auroville.

The project will develop assessments of all of the farms. Such assessments will be monitored over time to identify areas where the farms need more support.

We can't be sincere in hoping and working for a better world if we are doing research to prop up the old one.

-Stan Cox
Senior Scientist
The Land Institute

Employee Profile: Manjula

Manjula was the second woman hired by Annapurna. She started working here in the spring of 1987. At that time, she earned Rs. 6.50 per day. After her marriage in 1989, she worked part time until 1995, when she again joined as a full time employee. She presently earns Rs. 83 per day.

Like several of the women employed by Annapurna, she lives independently. She and her two young sons live in Vanur village, three kilometers from the farm. She works seven days per week throughout the year. Manjula serves as a forewoman, overseeing the work of different teams of employees on the farm.

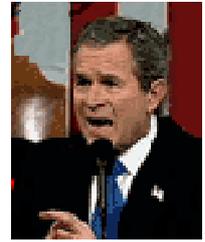
Her life has been sometimes difficult, and the work here is exhausting, but she nevertheless maintains a positive attitude and a healthy sense of humor. We appreciate her dedication and remarkable dependability.

Manjula



Editorial

Who in the World Needs GM Food?



In June, America's court-appointed president, George W. Bush, was born yet again. This time, he was incarnated as first ad-man for the unwanted and overpriced products of the forever beleaguered agricultural-biotech industry. Deploying characteristically dishonest and convoluted reasoning, Bush asserted that Europeans are needlessly exacerbating hunger in Africa by refusing to import, produce and consume genetically modified food.

The benefits of genetically modified crops are as intangible as Iraq's weapons of mass destruction. The proven as well as the probable risks posed by such crops are by now well understood, and they are frightening.

Bush is determined to deprive European farmers and consumers of any choice over this technology for only one reason — he is concerned about the possibility of ag-biotech CEOs going hungry. If the value of shares of ag-biotech industries continues to plummet, such corporate executives might find themselves standing in line in soup kitchens. These are the folks with whom Bush recreates on his ranch and, more importantly, they are underwriting his re-election campaign. Consequently, he and his entire corporate sponsored cabinet have no option but to come to the rescue of an industry that has precious little to show for the billions of dollars that have reportedly been spent on research and development.

Bush should understand that hunger is more a product of market failure than a technological challenge. In most instances, hunger exists because market forces have failed to rationally value human labour. Consequently, where labour is overvalued, as well as where it is undervalued, we find persistent hunger. In one case, people are too expensive to hire, and in the other, they don't earn enough to feed their families even if they find a job.

Like most of Bush's environmental and foreign policies, his intention to force-feed Europeans with genetically modified products is resented throughout the world by people who eagerly await America's regime change.

Godown Images

President Bush's remarks on the many benefits of GM food appear more like a public relations release than a reasoned political argument.

-Jeremy Rifkin
President
Foundation on
Economic Trends

Right. Rafters being fitted on new section of the godown.

Below. After the roof tiles have been laid.





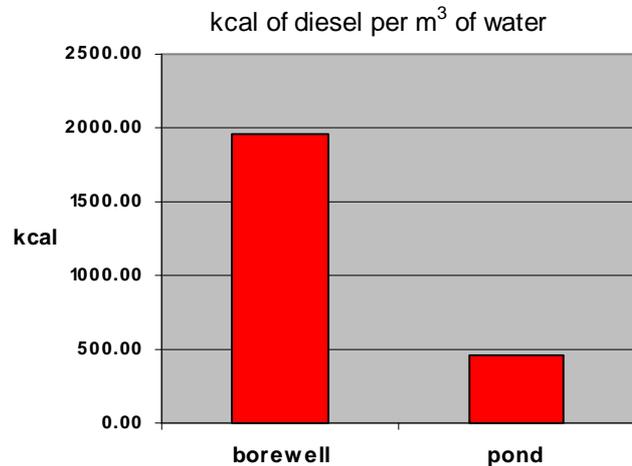
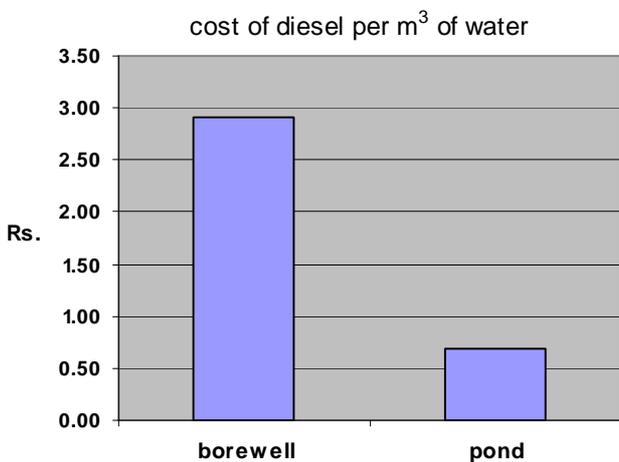
Water Scarcity Hits the Headlines

The cover story of a recent issue of the weekly newsmagazine, *India Today*, reported that water scarcity has become the number one problem for urban as well as rural Indians. This was regarded as news by no-one. Nearly every property owner who can afford to sinks at least one private borewell. Consequently, in many places, the extraction of groundwater exceeds the rate of recharge, while insufficient efforts are made to capture or use rainwater.

Until the 1960s, Indians lived largely from monsoon rainwater that they harvested and stored in tanks and ponds. Such traditions were gradually terminated by the arrival of submersible pumps and electrification. The heavily subsidized adoption of such technology lead to the neglect of traditional water harvesting structures and arrangements. The tanks filled with silt, and their bunds eroded.

But a growing number of Indians now recognize that this modern strategy for managing water cannot continue. Throughout the nation, people in cities and in villages are experiencing an unprecedented shortage of water. This crisis has sparked a debate between advocates of a grand plan to link India's largest rivers, and skeptics who argue that a revival of India's rainwater harvesting traditions is the most effective way to satisfy the demand for water.

At Annapurna, we harvest rainwater because we know that our groundwater is effectively a finite resource. In the near future we simply will not have groundwater that can be extracted economically. Already, data from the On-farm Ecological Accounting project indicate that the energetic and financial costs of extracting groundwater for irrigation are approximately five times greater than the costs of irrigating with water from a surface reservoir (see Tables 1 and 2). We hope that the movement to value water can transform the economy into a mechanism to help society rationally allocate and utilize water.



Annapurna Farm

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[www.auroville.org/journals&media/
annapurna/annapurna.htm](http://www.auroville.org/journals&media/annapurna/annapurna.htm)



Tomas discusses Annapurna's methods with faculty visiting from Tamil Nadu Agricultural University, Coimbatore. From left are Dr. Singharam, Dr. T.M. Thiyagarajan, Tomas, and Dr. S. Pa-neerselvam.

Organic Matters!

Supporter Acknowledgements

Friends around the world continue to help us to make very significant steps in our mission to make Annapurna an environmentally sustainable producer of foodgrains. Without such contributions our work would progress at a far slower pace, if at all.

The expansion of the godown, our experiments and research, and the enlargement of the farm's ponds have been made possible by the tremendous support provided by people who share our desire to discover and demonstrate ways of producing food which do not deplete the farm's natural resource base. We wish to thank Luciano Gemo, Richard and Jan Deats, Mark and Rosie Deats, Dr. Dale and Mrs. Katherine Bruner, Lynn Autry, Dutch friends, the congregation of First Presbyterian Church of New Haven, Connecticut, the congregation of Orange Congregational Church in Orange, Connecticut, Gateway Trust, Maroma, Stichting De Zaaier, the Leighty Foundation, CIIFAD at Cornell University, and donors who requested to remain anonymous.

We especially want to thank Shawn and Diane Johnson for very generously responding to our appeal for funding to expand our rainwater catchment ponds. Their support has made a truly impressive impact on our landscape.



Lorries bring the final loads of soil out of the front pond on July 12, 2003.