

### Building Sustainable Livelihoods while Conserving Biodiversity

On January 31, 2009, I helped give an on-farm workshop for farmers and their families on the agroecological role of trees in bringing sustainability to their coffee farms. All of the farmers are members of a small coffee cooperative known as CoopePueblos, located around the small town of AguaBuena in the mountains of the south frontier of Costa Rica. The cooperative is one of the partners of the non-profit organization known as the Community Agroecology Network (CAN). CAN began working in the area shortly after the collapse of the coffee market in 2001 through programs that integrated participatory action research, education exchange, and the development of alternative market networks. In 2004 the 41-year old cooperative to which almost all coffee growers in the region belonged (with a membership of over 700 families) went bankrupt and closed operations. Most farmers in the region began taking out coffee and putting in more environmentally-degrading pastures or annual food crops. Many chose to give up farming completely and leave for urban regions of Costa Rica or for work in the US. But a small group of families who had been working most directly with CAN decided to form a new cooperative. Out of this was born CoopePueblos.

The families that founded the new cooperative set as their mission to become a model cooperative for the selling of sustainably-grown coffee in order to improve the economic, social and environmental well-being of their community. Their hope was to revive the local economy by exploring new methods of growing coffee and by improving the livelihoods of farm families by encouraging them to use sustainable farming techniques to cultivate other fruits and vegetables. They also agreed to continue in partnership with CAN by engaging in participatory action research, hosting university students from the US in their homes, and diversifying their economic options beyond coffee. Today, CoopePueblos' 50+ families grow coffee on farms on less than 3-4 hectares each.

Several things had merged in the lead up to the workshop. First, with CAN's logistical support, the cooperative has developed a system for harvesting, processing, roasting, packaging, and shipping coffee directly to consumers in the US, receiving returns to the cooperative of 2-3 times what some fair trade or organic certification systems return. Almost 15% of their total harvest is now sold this way. Second, the farmers have committed to meeting a set of sustainability standards for all of the coffee they market. These standards are the result of a research collaboration between CAN and CoopePueblos. Nicholas Babin, a graduate student in the PhD program in Environmental Studies at the University of California, Santa Cruz, has carried out tree biodiversity studies on all of the co-op members' coffee farms, making sure that each farm either meets minimum diversity standards or is committed to getting there as soon as possible. His interviews also identify farming practices that add further indicators of sustainability, such as soil erosion control practices and the reduction in pesticide use. Finally, the members of CoopePueblos found financing to build their own, small-scale, ecological coffee bean processing machinery, and employed community resources and knowledge to put it together and get it working for last year's harvest.

It was in this landscape that we held the tree biodiversity workshop. Part of the workshop was devoted to Nicholas presenting the results of his tree surveys to each cooperative member. Part was devoted to explaining how trees provide a large array of environmental and economic services that go beyond just producing shade for the coffee. And part was devoted to the farmers reaffirming their commitment to making sure that the coffee grown by all the members of the cooperative met their own agreed upon sustainability standards. CAN has worked closely with the community to develop this "community certification" system, as well as communicate the commitment of the farmers to it to the network of supportive consumers of their coffee in the North.

Referring back to my editorial in JSA 33(1), what we are seeing in the community is the transition from level 2 to level 3 of sustainability as farmers redesign their coffee plantings with diversity, and from level 3 to level 4 as they build direct relationships with

the consumers of the coffee they grow. Together they all are working towards sustainability.