AGROECOLOGY
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MASTER OF SCIENCE (UMB)

WHAT IS AGROECOLOGY?

***The academic field that bridges agriculture, nature and society*.**

Agroecology links practice and science in describing, analyzing, and managing complex agroecosystems. We focus on integrating ecology, agriculture, socio-economics, and culture with an ultimate goal of sustaining production, food security, community and environmental health.

IN THIS ISSUE

Doña Roselia of La Bendicion, Guatemala

STUDENT PROFILE: MARKUS KOOT

Markus is a second year student in the MSc program Agroecology at UMB. This semester he is occupied with his thesis work on mountain summer farming and the use of the outfield pasture in dairy farming. Markus grew up on a biodynamic farm in Vestfold County. On page 2 he describes his views on biodynamic farming and what led him to the study of agroecology.

For more information on biodynamic farming, visit:

http://www.biodynamics.com/node/111 or (in Norwegian)

http://www.biodynamisk.no/pdf/biodynamisk_introduksjon.pdf

Agroecology Skills in the Working World

I use the concepts and skills I learned at UMB in my daily work. I feel that systems thinking has genuine advantages in this type of agroecological and development work. Also the feedback from clients and colleagues is excellent, and using the tools promotes participation and holistic thinking.
— Petra Bakewell-Stone, Agroecology consultant in Tanzania

The semester was a lifting of the learning veil – it captured the richness of my farming experiences – working closely with a group of people, trying to solve real problems in all their complexity, being embedded in a new ecosystem, using all my senses. The project work gave me the language and tools to better understand learning. I'd been in other experiential learning programs, but this was the first time theories behind this educational approach were made explicit. Thinking about individual learning preferences, group dynamics, Kolb's learning cycle, and soft systems thinking gave me a new paradigm from which I was able to begin exploring learning as more than just a means to acquire knowledge, but rather as a valuable and powerful lesson in and of itself .
— Ali English, farmer and CSA owner in Ontario, Canada

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AGROECOLOGY MASTER OF SCIENCE (UMB)

Biodynamic Farming: One Student's Perspective

by Markus Koot

My interest in agriculture and problems related to agriculture has been living inside me since I was able to observe, think, and reflect on my observations. I soon realized that the farm on which I grew up was different from surrounding farms. I would say it was an ideal natural and social habitat for growing up, where anything you find on your way could be tasted without risking your health. Even the cow dung wouldn't do you harm. The farm was, for us kids, a base for learning and doing, both for playing and for participation in the daily and seasonal work.

I grew up before the word "organic" was on everybody's lips, and the biodynamic farmers were idealistic outsiders in the local community. It was therefore very obvious that we were thinking and doing different things than the vast majority, and this situation also called for me to make a stand for my own opinions and to be able to argue from both directions. Many people consider biodynamic farming a set of rules, but there is a distinct difference between running the farm according to a set of rules and farming practices according to the philosophy of biodynamic farming. This distinction has become more clear for me as the organic sector has emerged during the last two decades. Biodynamic farming has its background in Rudolf Steiner's (1861-1925) spiritual world-view, the anthroposophy. The challenge of arguing the advantages in biodynamic agriculture is that in the first place it requires acknowledgement of a spiritual world, where the practitioner embraces a different paradigm, both ontological and epistemological. Biodynamic concepts are, for this reason, not easy to prove in traditional natural science. The long-term DOK trials in Switzerland, however, comparing biodynamic, organic and conventional farming practices, present many interesting differences in a scientific context.

Although education in biodynamic agriculture is not offered at university level in Norway, the Agroecology program at UMB was for me a new way of studying agriculture that fitted my desire for understanding, and for grasping the complexity and comprehensiveness of our human activity system, food production.

Wes Jackson: Pioneer in Agroecology by Chuck Francis

One of the most widely read authors and key thinkers seeking application of ecological principles to agriculture is Dr. Wes Jackson, President of The Land Institute (TLI) in Salina, Kansas, U.S.A. Research and education at TLI has the goal of developing perennial polycultures, or mixtures of adapted species of grain-producing crops, that mimic the structure and function of the natural prairie ecosystem. Mixtures of perennial cereals and legumes well-suited to the plains soils will be able to provide their own nutrients, protect themselves against plant pests, and generate an economic return while not degrading the environment. One early result from research at TLI demonstrated that perennial cereals can produce yields equal to annual species. Work is under way with perennial sorghum and perennial wheat, crops that are normally grown as annuals, and these are mixed with native legumes that produce nutritious grain high in protein and oils. Dr. Jackson studied biology, botany, and genetics, and was founder of the environmental studies program at Sacramento State College in California before returning to establish TLI in Kansas. He is author of many books, including New Roots for Agriculture, and recipient of the prestigious MacArthur Fellowship and recently the Right Livelihood Award in Sweden, often called the alternative Nobel Prize. His work has inspired much of today's research in agroecology.

Ujuxte, the Maya Nut Tree

The last issue of this newsletter introduced the thesis plans of Ina Torp as she was about to leave for Guatemala. Now in the midst of her fieldwork, Ina took time to describe how one community is benefiting from a local and sustainable business in Ujuxte, or maya nut (from the *Brosimum alicastrum* tree, a member of the fig family). This food, according to the Global Facilitation Unit for Underutilized Species, has a nutritional value similar to amaranth, quinoa or soy. Though once abundant throughout Central America, its presence has been reduced by cutting for firewood and maize fields.

Small Scale Sustainable Production in Guatemala

By Ina Henriette Iversen Torp

"It is 100% ecologic" says Doña Roselia, "and it contains many important vitamins and minerals for children like vitamin A, B, C, calcium and zinc". Doña Roselia looks down at two newly sealed bags of Ujuxte, smiling proudly.

She lives in the plantation cooperative "La Bendicion" (the blessing) in the state Chimaltenango on the south west coast of Guatemala. The community is located in a humid and warm region surrounded by jungle, and Ujuxte is one of the many nutritious secrets the jungle hides.

Like the plantation, Guatemala is an exuberant country, with plenty of natural resources and land suitable for cultivation. Yet,on Sunday 06 April 08, one of Guatemala's most widely read newspapers, La Prensa Libre (the free press) wrote that 49% of the children under five years are malnourished; the number is even higher for the indigenous population, where 69.5% are affected. Compared to other Latin American countries, Guatemala has the highest rate of child malnutrition. Neighboring Honduras, with 29 %, or almost half the rate of Guatemala, has the second highest figure. Worldwide, Guatemala has the sixth highest percentage of malnourished children.

For the families and children in "La Bendicion," however, the situation is much better, where only 4 out of the 53 children (approximately 7.5%) between 1 and 5 years have nutrition problems.

"We have to be innovative and work hard to survive" says doña Roselia. She is a lonely mother of four children. However, she is happy as long as she has the right to cultivate her own land and harvest what the jungle brings. She explains that it was not until three years ago they found out that they had Ujuxte trees as part of their plantation. When they did, seventeen women started to organize themselves into a group and learned how to prepare the plant. And recently the participating women have asked the local bank for a loan of one thousand Quetzales each (1Q = 1 NOK) to be able to buy rights to pick Ujuxte from a nearby plantation and to increase their quantities for sale and therefore their income. This could mean a lot for the involved families and the local economy.

In the picture above, Doña Roselia (right) and her oldest daughter Maria hold two newly finished bags of Ujuxte. The label says it is maiz from the Mayas. It also gives nutrition information and says where the product is produced in addition to how it can be used (in drinks, cakes, breads etc.).

According to Doña Roselia, the process for producing Ujuxte goes like this: "First we pick the nuts from ground; the wind helps them fall down when they are mature. Then we peel them and dry them before we process them in the local mill. We

weigh the product before we seal it in bags and sell it at the local market, to schools, organizations or to people passing by."

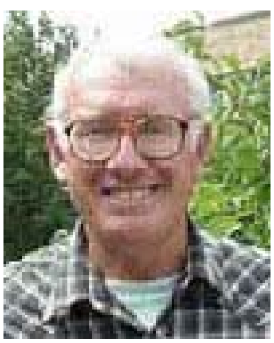
This case is a proud example of how small solutions, such as this local initiative for improving the economic viability of the community, can improve lives. At the same time, this project sells a forgotten product rich of vitamins and minerals, strengthening the local food system and raising awareness of where the products come from.

The Ujuxte trees can be very tall. In this part of the country they are a natural part of the ecosystem.

Doña Roselia drying Ujuxte in her backyard using large tin panels from the roof of the house.

Charles Francis : Faculty Profile

by Kristin Pederson, Trine Lund and Tor Arvid Breland



Each year the agroecology fall semester is fortunate to benefit from the experience of Dr. Chuck Francis, who consistently joins the Norwegian learning community for a period of time while still fulfilling his duties as Professor in the Agronomy and Horticulture Department at the University of Nebraska in Lincoln. Chuck's enthusiasm for all aspects of agroecology leads him to research interests in everything from the design of resource efficient cropping systems to on-farm and participatory research and educational activities. In addition, he is interested in the future of agricultural systems and the place of farms within viable rural communities. Chuck has a long and broad list of publications, and has served as editor of works from the text *Agroecosystems Analysis* to this newsletter. Having conducted research in areas as diverse as the Philippines and Colombia, Chuck brings with him a wealth of tropical farming knowledge to add to the North American perspective he gives the agroecology classes. He has a title of Visiting Professor of Agroecology at UMB. And in spite of his many writing and advising activities in the field of agroecology, he takes time to get to know each agroecology student and does much to build the program community. In part, he and Barb Francis achieve this through serving as hosts to such activities as a class international potluck, and they even spend time in the evenings attending student gatherings, to which he and Barb's food are always welcome additions. He gives others the feeling that he is really interested in and learning from the students' experiences and he helps the students see situations from various angles. His open-mindedness and positive attitude are very appreciated by the students.

Happening Around Campus

Of the many activities and clubs available to students at UMB, one of particular interest to agroecologists may be the Oikos student group. This group runs the organic garden tucked into Pentagon, where they can usually be found working on Thursday afternoons. In addition, they organize other activities such as cheese and mead making, lectures on berry cultivation, and trips to ecological farms. For more information, see their website at http://student.umb.no/~oikos/. To be added to the e-mail list contact oikos@student.umb.no.