

# 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.

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### The Value of Transdisciplinary Research

by C.A. Francis, G. Lieblein, T.A. Breland, L. Salmonsson, U. Geber, N. Sriskandarajah, & V. Langer

A forthcoming article in *Agronomy Journal* advocates the holistic, ecological, and transdisciplinary strategy for research on and learning about agriculture and the food sector that stands behind the Agroecology MSc program at UMB. The authors discuss how the complex environmental problems facing the world require new thinking in choosing and examining research questions, which must not be limited to a single geographic location and which must embrace and integrate many disciplines rather than being simply multidisciplinary. This realization has led to a regional Nordic research group that can serve as a model for others in its design of an educational program that integrates teaching and research. As participants in the Farming and Food Systems courses know, students are prepared to face uncertainty, complexity and change through the use of experiential learning and systems thinking in the first semester of the MSc program. After two more semesters in individually designed programs, they put the transdisciplinary and international perspectives they develop to work in thesis projects that take them around the world and prepare them for the challenges they, and the world, will face in the future.



Food system photos courtesy of Benjamin Pointereau of the 2007 Hedemark group.



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**AGROECOLOGY MASTER OF SCIENCE (UMB)**

**Thesis in the Making**  
by Ina Henriette Iversen Torp

For my thesis, I decided to write about Guatemala from a Right to Food perspective. Guatemala has ratified all human rights conventions concerning the right to food, and some are a part of the constitution. Guatemala has also ratified some special conventions concerning indigenous/tribal rights. I will look for exactly what obligations the Guatemalan government has towards its people, with a focus on indigenous citizens, specifically the Maya, who make up 60 to 70 percent of the population.

With that understanding of the law, I will then do a case study to see what the situation looks like in reality. While spending a month in Guatemala, I will look at national health data and specific data for indigenous people. I will conduct my own anthropometric study, measuring the height & weight of around 50 to 100 indigenous children ages one through five at a very isolated coffee plantation called Blanca Floor, which is about 2 hours from the town of Colomba. The 50 to 70 families who live in Blanca Floor bought the coffee plantation together some years ago and run it as a cooperative. They have a huge debt to the bank which they struggle to pay. When they bought the plantation they received some financial support from a fund called El fondo de tierra, which financially supports poor indigenous people without land when they buy cooperatives together to take part in the modern market economy. This fund was established after Guatemala signed the peace agreement in 1996 and ended a 36 year civil war.

Anthropometric studies are an easy method by which to check if children are stunted or underweight, and the nutrition level of the population can be extrapolated from this. Previous studies have shown that the Mayas were actually 12 cm taller 20 centuries ago, indicating widespread under nutrition. I will compare my findings with national data. Then I will do interviews with 1-2 focus groups of women and men at the same coffee plantation, discussing whether they feel they have enough food, what strategies they use if they do not have enough, and where they get their food from -- Are they mainly self-supplied? Are they food secure?

I will also do interviews with representatives from El fondo tierra, key organizations and local authorities to evaluate the financial status of the plantation, since so many farmers are struggling to pay their debt.

**Faculty Profile: Nadarajah Sriskandarajah**  
by Chuck Francis

Each fall when we start the Agroecology course in Norway, a familiar and enthusiastic faculty mentor is our colleague Sri from SLU in Sweden. Often in charge of introducing themes on integrated systems, group dynamics, and experiential learning, Sri weaves these together in lecture, discussion, and activities that engage students and faculty alike. He quickly establishes rapport and builds community, bringing in his long experience in Hawkesbury where he was part of the now-famous team in Australia that developed on-farm learning and farmer participation in education to a level never seen before. Originally from Sri Lanka, Sri has worked in Papua New Guinea, Australia, and Denmark before moving to Sweden in 2007. In Sweden, Sri is professor of environmental communication and he is busy developing research and education in this new subject area, besides his interest in designing innovative learning communities, including IT in the classroom, and his passion for applying systems thinking in practice. He is also very active in seeking a peaceful solution to the continuing conflict in his native Sri Lanka.