

WHAT IS AGROECOLOGY

The academic field that bridges agriculture, nature and society.

Agroecology is the field that links theory and practice using social and natural sciences to describe, analyze and manage complex agroecosystems. The program focuses on integrating ecology, organic and conventional agriculture, socio-economics and culture with the ultimate goal of sustaining production, food security, community and environmental health.

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AGROECOLOGY STUDENT UPDATES

The December newsletter showcases three former students and their work. Gloria, who wrote her thesis entitled "Emergy Evaluation of Grazing Cattle for Meat Production: Argentina Pampas Region as a Case Study", completed her Agroecology MSc degree in 2005. She is now examining ecosystem services in the same region. Two former guest students, Ophelie from France and Guido from Italy, have also written articles chronicling their practical experiences with agricultural development. Ophelie explains about an internship in southern Africa that she completed after studying in Norway, while Guido provides an update on his work in Nepal with the FAO.

ECOSYSTEM SERVICES IN THE ARGENTINE PAMPAS

By Gloria Rótolo and Chuck Francis

Some of the greatest unrecognized and undervalued resources in society are the broad array of ecosystem services that support agriculture. Ecosystem services are those processes in the natural and production environments that provide the foundation for economic success as well as sustaining life. Clean water and air, cycling of nutrients and energy, mitigation of extreme weather events such as floods, and photosynthesis by green plants are among the services that we take for granted. The aesthetic value of open space, natural features and farmland is also important to our well-being. Yet none of these services is explicitly recognized and they are rarely rewarded economically in the value we place on food, feed, fiber, and other materials produced by agriculture. The value of these services needs to be identified, evaluated, and somehow quantified in order for society to adjust to an "eco-economy" that will be sustainable in the future, as compared to our short-term exploitation of natural resources and the environment for monetary gain. One creative strategy is to use an "emergy analysis" that takes into account the quantity and quality of energy that goes into agricultural production as well as what energy value comes out in the products. This must involve the "life cycle analysis" of a given product and the process that is involved in its production, since many costs are often hidden or assumed by society rather than acknowledged and quantified. We need to recognize that ecosystem services are essential to both agricultural production and a healthy environment, and to build their value into the costs of goods and services.

[EDITORS' NOTE: This information comes from: *Los Servicios Ecosistemicos en el Corazon Agricola de Argentina*, submitted for publication, and this topic will be addressed in a PhD dissertation by Gloria Rotolo]

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AGROECOLOGY MASTER'S OF SCIENCE (UMB)

STUDENT UPDATE: WORKING WITH LESOTHO FARMERS

By Ophelie Robineau

While I was following a three year program in the University Institute in Agricultural Sciences in France (Bordeaux), I came to Norway to study Agroecology and farming systems during the autumn of 2006. After the semester abroad, I chose to specialize in tropical agronomy and rural development in France (Institute of Tropical Zones), focusing on family farming. For my internship, I spent 5 months in Lesotho living in the highlands with farmers to understand the agrarian dynamics and constraints they face. This work was used by the NGO PELUM-Lesotho (an NGO working on participatory development) to support farmers' projects that improve their livelihood.

Lesotho is a sovereign mountain kingdom located within the Republic of South Africa (see map in bottom left corner). In the remote Sehonghong valley, at an elevation of 2000 meters, livestock production is central to the economy of the mountain farming families. Multi-purpose cattle provide the farmers with draught power, while wool from sheep and mohair from goats are the only sustainable sources of income in the mountains. However, due to rising costs, livestock production has become the privilege of the few. Particularly, the deterioration of the communal grazing lands has created a need for supplemental feed. Moreover, due to the shortage of arable land, the present generation is compelled to find off-farm work and to rely on migrant labor remittances to survive, but both of these sources of income have proven to be quite uncertain. Furthermore, since the country is involved in a common customs area with the surrounding Republic of South Africa, the development of a profitable livelihood and agricultural industry is undermined. In this context, the sale of local, value-added crops that require little space provide an opportunity for the mountain farmers.



STUDENT UPDATE: WORKING WITH NEPALI FARMERS

By Guido Agostinucci

I am currently working in Nepal for the Food and Agriculture Organization of the United Nations (FAO) as a program officer. I am mainly responsible for the emergency projects implemented by FAO in the mountains and hills of the middle and far western regions of the country. The projects are aimed at the immediate recovery of the agricultural activities undertaken by small farmers affected by natural disasters. The distribution of vegetable and cereal seeds, fruit saplings, livestock and agricultural tools and training sessions on animal and crop husbandry constitute a typical working day.