

Nordic School of Agroecology/Ecological Agriculture



...a Nordic Learning Community

Annual Report, 2004

Submitted to NOVA

February, 2005

Background

The NOVA working group for Agroecology/Ecological Agriculture was established in 1997, as a result of increased networking among scientists at the agricultural universities during the first half of the 1990s. The initial proposal of the group was to establish a Nordic unit under NOVA, a unit that would do research and offer education in agroecology/ecological agriculture. Since under the current regulations the NOVA University Network was not in the formal position to give educational degrees, the working group decided to apply a network approach. With this model, formal degrees in agroecology/ecological agriculture should be given by the individual member universities, but based on strong Nordic collaboration in the network, to be led by the NOVA working group. In 2003 the Nordic School of Agroecology/Ecological Agriculture (AGROASIS) was established. In spite of institutional barriers, the network has succeeded in developing educational offers at both the MSc and PhD-levels.

Vision and primary focus

In the spirit of NOVA, the vision is Nordic collaboration in agroecology:

- 1) Reducing the gap between societal priorities and university responses regarding ecological agriculture
- 2) Serving the development of ecological and sustainable food systems
- 3) Enhancing the influence of ecological agriculture on conventional agriculture
- 4) Transcending the sectorial approaches in agricultural research and education
- 5) Focusing on the multifunctional role of agriculture - from production to consumption
- 6) Creating a climate for the cultivation of knowledge, across disciplines and professions
- 7) Being a network that is open and inviting, reflective, creative, inclusive, engaging, brave and participatory

”Through internal reflection and dialogue in a supportive and open environment and strong communication with the outside world, the NOVA Nordic School of Agroecology/Ecological Agriculture brings about an innovative contribution from agricultural universities that is in tune with the needs of society”.

The primary focus of the NOVA Nordic School in Agroecology/Ecological Agriculture is to be responsible for the development and content of:

1. A Nordic educational offer (MSc., PhD): to enhance the quality of teaching and the learning experience of the students
2. A Nordic research and development program: to enhance collaboration

Linking these three activities - education, research and change in society.

AGROASIS 2004: People

The representatives of the steering group and the secretariat in 2004 were:

Coordinator/Secretary Wendy Waalen

Norwegian University of Life Sciences (UMB)
E-mail: wendy.waalen@umb.no

Visiting Professor of Agroecology Charles A. Francis

University of Nebraska Lincoln (UNL)
E-mail: cfrancis2@unl.edu

Chairman Associate Professor Geir Lieblein

Norwegian University of Life Sciences (UMB)
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Professor Juha Helenius

University of Helsinki (HU)
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Dr. Lennart Salomonsson

Swedish University of Agricultural Sciences (SLU)
E-mail: lennart.salomonsson@cul.slu.se

Associate Professor Nadarajah Sriskandarajah

The Royal Veterinary and Agricultural University (KVL)
E-mail: sri@kvl.dk

Associate Professor Ríkhart Brynjólfsson

The Agricultural College Hvanneyri (LBH)
E-mail: rikhard@hvanneyri.is

Other working group members and active participants in the work in 2004:

Institution	Participant
KVL	Professor John R. Porter Associate Professor Vibeke Langer Research Assistant Heidi Ravnborg SOAR Academic Assistant, Sofie Kobayashi Professor Henning H Jensen
HU	Study Planner, Anu Heikkilä Research Director, Jyrki Aakkula
UMB	Professor Tor Arvid Breland Consultant Mike Moulton
SLU	Dr. Ulrika Geber

The members of the AGROASIS network, in 2004, have:

- Applied to have 6 master level courses cross approved at NOVA member universities
 - 3 have been approved at HU and are included in the student handbook
 - 2 were previously approved at KVL
- Taught master level agroecology courses to 69 students, totalling **1353 ECTS** at the masters level
- Supervised 11 masters thesis projects in the field of agroecology, totaling **390 ECTS**
- Taught PhD level courses to 64 students, totaling **302,5 ECTS**
- Launched PAE301: The ecology of farming and food systems, a 100% internet-based master level course, and then improved the course based on feedback from students and teachers
- Completed a survey of students and employers in the Nordic countries regarding the need for agroecology education. A general report based on this survey was completed.
- Worked to improve the network between the Baltics and the AGROASIS network
- Improved communication with potential students via website, presentations, email, and information packages

List of meeting in the first half of 2004

Denmark, Copenhagen, KVL, January 22-23*

The main goal of this meeting was to further develop the internet course "The ecology of farming and food systems" so that it would be ready to launch. We also took the opportunity to meet with Knut Wålstedt and Paul Jensén from NOVA, to talk about AGROASIS, and our activities. A preliminary presentation of the results from the student and employer surveys conducted in Norway, Finland, Sweden and Denmark was given. Participants included: Geir Lieblein, Tor Arvid Breland, Mike Moulton and Wendy Waalen from UMB, Lennart Salomonsson from SLU, Nadarajah Sriskandarajah, Vibeke Langer, John Porter, Dorthe Christensen and Heidi Ravnborg from KVL. As well, Paul Jensén and Knut Wålstedt were able to join us on January 23rd.

Sweden, Uppsala, SLU, May 18-19th*

This meeting was held with decision makers at SLU, regarding the possibility of starting a Master programme in Agroecology. Network members presented information about education and research in the area of agroecology. Present: Geir Lieblein, Nadarajah Sriskandarajah, Juha Helenius, Chuck Francis, Lennart Salomonsson. Members also used the opportunity to discuss the mid-term evaluation completed by students of the pilot internet course.

Denmark, Copenhagen, KVL, June 21st*

This short informal meeting was held to discuss topics such as the internet course, the survey and the NOVA meeting that was held in Iceland. Participants included: Geir Lieblein, Nadarajah Sriskandarajah, Vibeke Langer, Sofie Kobayashi

Norway, Stange, August 15-17*

At this meeting we covered the following topics:

- The student/employer survey
- PAE301 and its further development
- The New NOVA setting: Update from the Iceland meeting
- AGROASIS & Research: Increasing cooperation
- Joint planning of PhD courses
- NOVA funding application for 2005

This meeting was coordinated with the start of the master level courses in Agroecology at UMB. The AGROASIS group met the students and were involved in the first days of the course. Participants included: Lennart Salomonsson, Geir Lieblein, Chuck Francis, Nadarajah Sriskandarajah, Juha Helenius, Wendy Waalen and Gloria Rótolo (student representative).

Kaunas, Lithuania, October 8th*

Juha Helenius, Gunnela Gustafson (from SLU) and Wendy Waalen met with the members of the Nordic-Baltic-Russian Academic Network in Agroecology. This working group meeting began with the network members presented themselves and their institutions. We then discussed opportunities for collaboration in the area of agroecology education, including suggestions for the modules of the joint Baltic MSc programme.

Kaunas, Lithuania, December 2-3rd*

Geir Lieblein had a meeting with representative for the Lithuanian University of Agriculture to further discuss the collaboration between Agroasis and the Baltic countries. Present at the meeting were:

Dr. Alvidas Sarlauskas, Secretary, BOVA University
Dr. Vaclovas Boguzas, Head of Soil Management Department
Dr. Minvydas Liegus, Head of International Department
Dr. Vitas Marozas, Head of Ecology Department
Dr. Vaclovas Raudonis, Study department
Dr. Vida Rutkoviene, Director of Environment Institute

**part of the meeting costs have been funded through a NORDPLUS grants*

Meetings funded by other sources

Moss, Norway, May 24-25th

Geir Lieblein, Lennart Salomonsson and Wendy Waalen met with colleagues from France (FESIA) and Italy (University of Tuscia, University of Torino) to prepare an application for Erasmus Mundus. The programme provides a response to the challenges of globalisation faced by European higher education today, in particular the need to:

1. Adapt education systems to the demands of the knowledge society
2. To enhance the attractiveness and visibility of European higher education world-wide
3. And to stimulate the process of convergence of degree structures across Europe.

Together, they developed a proposal for a MSc in Agroecology that would involve a first semester at UMB, the second semester at SLU or Italy, the third semester in France, and then a fourth semester for thesis work. This proposal was not accepted, but the group plans to apply again at the end of May.

Maribor, Slovenia, September 1-4th

Geir Lieblein, Wendy Waalen, Vibeke Langer, Ritva Mynttinen and Karin Svanäng participated in the annual coordination meeting for the European Universities Ecological Agriculture Curriculum Development and Co-Ordination Network. The meeting was used to give a picture of the current situation of education in organic farming in Europe. In addition, plans were made for the summer course, which is held each year as a coordinated effort. A website also resulted from the meeting, which gives students an overview of the options for organic farming education in Europe (<http://www.umb.no/enoot>).

Skovskolen, Denmark, Nov 8-9th

Wendy Waalen attended the NOVA workshop on ICT in distance learning. Nadarajah Sriskandarajah also participated on Nov 9th, as a presenter. This workshop encouraged participants to exchange ideas and experiences in the area of distance learning. This was a very practical workshop to participate in, as our network was in the process of improving the PAE301: Ecology of farming and food systems internet course.

AGROASIS Goals for 2004

1. Further develop the MSc programme

- a) Have all agroecology MSc programme courses approved at all member universities
- b) Have all agroecology MSc programme courses listed in all member university handbooks
- c) KVL seminar and organize a meeting with KUF members
- d) Increase student numbers in the MSc courses at UMB: 20 total, with 8 coming from Scandinavia
- e) Start the web-based course PAE301
- f) Survey goals
 - a. Produce a document targeting university leadership/NOVA
 - b. Produce a document for student information
 - c. Produce a press release for marketing purposes
 - d. Produce a document for our group
 - e. Publish an article based on the survey

2. Run PhD courses

2004 Results

Goal 1: Further develop the MSc programme

Goal a&b: NOVA Cross approval of courses

At present, a total of 6 master level courses in Agroecology have been submitted to NOVA member universities for cross approval as NOVA courses. Three courses were submitted by UMB. At present, HU has approved all three courses from UMB, and the course descriptions are in the student handbooks. KVL has previously approved PAE302 and PAE303 as NOVA courses. We are waiting for the remaining answers to our requests. There has been no response from KVL or SLU regarding the courses submitted by UMB. Apparently there is some unwillingness at KVL to have the courses listed in their course catalogue, and this may be what is delaying the process. Both Nadarajah Sriskandarajah and Lennart Salomonsson will follow up with their local NOVA coordinators to clarify the situation of the courses submitted by UMB.

HU also submitted 3 courses to UMB for cross approval, but the process was complicated by the differences in course approval systems between the NOVA members. UMB requires a more detailed description of the courses before being able to proceed. HU is very positive to the cross approval process, but has decided to wait until after the 3+2 model has been implemented at the university in 2005, as these changes will affect both the content and structure of the courses.

Goal c: KVL seminar and a meeting with KUF members

In May we had hoped to coordinate a seminar for KVL leadership, with guest speaker Ray Ison and/or Jules Pretty. We had aimed to coordinate this seminar at the same time and place as a KUF meeting, to allow KUF members to join us. The guest speakers were not available in May, and the KUF meeting was moved to Norway, so it was not possible to have the seminar together with the KUF members. We considered the seminar in July, but the

attendance would have been very low, due to holidays. Finally we decided to drop this meeting. The network instead gave priority to having an open meeting at SLU in May 2004.

Goal d: Student recruitment:

Table 1: Student enrolment in MSc level courses held in English in 2004

Institution	Course	Total number of students	Number of Nordic students	Number of total study credits (total students*ECTS)
UMB	Agroecology and farming systems Agroecology and food systems	18	5	18*30 = 540
KVL	Ecological Agriculture I	27	4	27*24 = 648
HU	Organic food systems	4	3	4*7,5=30
	Organic farming case study course	6	6	6*10=60
	Organic food systems	5	4	5*10=50
Joint	Internet course PAE301	5	2	5*5 = 25
Total		69	26	1353 ECTS

Table 2: Student enrolment in the Agroecology master programme in 2004

Institution	First year	Second year
UMB	7	7
HU	5	5

Table 3: Master thesis titles & credits completed in 2004

Institution	Thesis title	ECTS
KVL	Communication and the Danish concept and Farm Nature Plans – the process and communication planning (Advisors: Nadarajah Sriskandarajah and Vibeke Langer)	60
KVL	Facilitation organisational change in an organic dairy cooperative in Denmark (Advisor: Nadarajah Sriskandarajah)	60
UMB	Developing organic farming in Colombia: How far have we come? (Advisor: Geir Lieblein)	30
UMB	Bridging the Gap: The potential for farmer's markets in Norway (Advisor: Geir Lieblein)	30
UMB	Future Potentials for Food Production & Wastewater Treatment in Havana's Urban Vegetable Production (Advisor: Tor Arvid Breland)	30
SLU	Mätning av ekosystemtjänster i jordbrukslandskapet (Advisor: Lennart Salomonsson)	30
HU	Environmentally friendly fertilizers for rice (Advisor: Juha Helenius)	30
HU	Optimising beef cattle grazing on seashore meadows (Advisor: Juha Helenius)	30
HU	Potential of natural products in supplementing the imported fruits and berries in a local production system (Advisor: Juha Helenius)	30
HU	Estimating N contribution from biological fixation in organic ley production (Advisor: Juha Helenius)	30
HU	Localising beef production for the capital (Helsinki) (Advisor: Juha Helenius)	30
Total:		390 ECTS

Goal d: Student recruitment

We feel that student recruitment has been very successful in 2004, but we still see the challenge of enticing Nordic students into the agriculturally related courses. In order to attract students to agroecology courses and the MSc degree programme, it is essential to differentiate this educational opportunity from others in agricultural and general universities. There are several aspects of agroecology as the ecology of food systems that are unique, and these are useful in directing students to a program of study that will lead to successful employment of our graduates. We can point to these specific areas and unique skills that will prepare our graduates to deal with systems questions that have priority for contemporary society:

- Integration of production and food systems, including efficiency of resource use, import substitution and sustainability

- Landscape analysis of farming systems, including environmental and social impacts of alternative systems, and impacts on ecosystems services
- Emergence of organic food production and sales, and local food systems as both important in the future marketplace
- Importance of agriculture at the rural/urban interface, taking advantage of urban labour supply and marketing to local residents
- Growing awareness of food security as a long-term priority, including the capacity to maintain an adequate and resident food supply in times of political and economic insecurity

In the spring of 2004, two students from the PAE302 and PAE303 semester at UMB presented their experiences in their home countries. Ali English, from Canada, presented AGROASIS and our educational offers at 3 Canadian universities. Federico Pallottino, from Italy, also presented his experiences of studying in Norway at his home university in Italy.

A presentation regarding the educational offers of our network was also given at KVL for the students of the Ecological Agriculture I course, by one of our past Danish students.

At the end of 2004, 41 students had contacted our network for more information regarding the educational offers in agroecology. These students received the requested information, plus website links and brochures.

Goal e: Distance-based learning course

On April 13th, we launched the distance-based learning course as a Nordic cooperative effort. The course was a 100% internet-based master level course in agroecology. A total of 10 network members were involved in teaching or facilitating this course: Geir Lieblein, Tor Arvid Breland, Mike Moulton and Wendy Waalen from UMB, Nadarajah Sriskandarajah, John Porter and Vibeke Langer from KVL, Lennart Salomonsson from SLU, Juha Helenius from HU and Charles Francis from the University of Lincoln Nebraska. During the eight week course the teaching responsibilities rotated, making this a truly NOVA/Nordic course, with shared responsibilities between countries and universities. This 5 ECTS course aimed to engage and entice students to continue in the field of agroecology. We had a total of 5 students participating in the course, in China, USA, Finland and Australia. This course gave them the opportunity to step into the world of agroecology without ever leaving home.

Based on the feedback from the students and fellow teachers, we have worked to improve the course and the cooperative efforts of our group. We have also invited students from the Baltic region into this course. The course began again on Feb 21st, 2005, and has 20 students participating.

BOVA Grant

NOVA generously provided us with a BOVA grant, with the aim to develop Nordic-Baltic distance concepts. We have had two successful meetings with agroecology colleagues in the Baltic's, and an active effort was also made to include Baltic students in our internet course. As detailed in our plans for 2005, we aim to work more closely with the Baltic agroecology group.

Goal f: Student/employer survey

In May, the general report regarding the survey of students and employers regarding masters level education in Agroecology was completed. The survey was conducted in Norway, Denmark, Finland and Sweden, with a total of 169 students and 48 employers being contacted. The report gave us interesting insight into the needs of students and employers, and will be important in directing our future educational goals. We planed to work together as a group to more specifically analyse the results, and determine what the results mean from a more country specific perspective. However, this was not completed in 2004. Nadarajah Sriskandarajah and Vibeke Langer will therefore look more closely at the Danish statistics. This is the country where we had the most responses, and feel that a more in-depth analysis will be beneficial. This work will be completed by June, 2005 (please see our plans for 2005).

Goal 2: PhD courses

Table 4: Enrolment in PhD level courses in 2004

Institution	Course	Total number of students	Number of Nordic students	Number of total study credits (number of total students * ECTS)
SOAR	Moderniseringsprocesser i Økologiske Fødevarer-netværk: et samfundsvidenskabeligt kursus	9	9	$9*4 = 36$
SOAR/SwOFF	Is Organic Farming the Key to Sustainability?*	16	14	$16*4 = 64$
SwOFF	Agroecology with emphasis on horticultural cropping systems	12	11	$12 * 7,5 = 90$
SwOFF	Översikt kurs i ekologisk produktion	6	6	$6*3 = 18$
SwOFF	Local and regional dynamics	18	18	$18*4,5 = 81$
SwOFF	Biodiversity in cultivation systems	3	3	$3*4,5 = 13,5$
Total		64	61	302,5 ECTS

*2 Baltic students participated in this course, with NorFA funding.

Our network feels the need to improve the communication when planning PhD courses. As such, we have decided that at the first meeting of every year, time will be allocated to PhD course coordination and planning. This coordination has begun, with our meeting in Helsinki (Feb 17th-19th). Members of SwOFF and SOAR were present during this meeting.

Joint publications in 2004

- Francis, Charles & Lieblein, Geir & Salomonsson, Lennart & Rutkoviene, Vida & Sriskandarajah, Nadarajah & Breland, Tor Arvid & Moulton, Michael & Helenius, Innovative education in agroecology: the ecology of food systems in the Nordic Region. Vagos. - Akademija (Kauno raj.): Lietuvos zemes ukio universiteto Leidybos centras ISSN 1648-116X. (2003): 61 (14), p. 14-19
- Francis, C., L. Salomonsson, G. Lieblein, and J. Helenius. 2004. Serving multiple needs with rural landscapes and agricultural systems. Ch. 10 in: D. Rickerl and C. Francis, editors, Agroecosystems Analysis, Monograph Series No. 43, Amer. Soc. Agron., Madison, Wisconsin. p. 147-165.
- Langer, V., J. Rasmussen, and C. Francis. 2004. Focus of MSc/PhD Agricultural Research in Denmark, U.S. and Canada. Amer. Soc. Agronomy, Annual Meeting, Seattle, Washington (disk)
- Lieblein, G., L. Salomonsson, T.A. Breland, N. Sriskandarajah, H. Kahiluoto, C. Francis, and E. Ostergaard. 2004. Experiential learning in agriculture and food systems: NOVA University model in agroecology. Amer. Soc. Agronomy, Annual Meeting, Seattle, Washington (disk)
- Salomonsson, L. & Lieblein, G. & Francis, C. & Sriskandarajah, N. & Helenius, Juha Education in agroecology: pedagogical experiences from the Nordic countries / L. Salomonsson ... [et al.]. // Rebuilding Africa's capacity for agricultural development. - Nairobi : African Network for Agroforestry Education (ANAFE) ISBN 92-9059-1609. p. 121-129

Society outreach/community network

- Juha Helenius was nomination as a Finnish government representative to CTA Scientific Advisory Board in the APC – EU collaborative agricultural and rural development initiative (Lome convention; Ministry of Foreign Affairs)
- Juha Helenius was invited as an expert in the working group KULTU setup by the Finnish Government for monitoring and implementation of sustainable development goals (Johannesburg's convention) in the area of consumption and production
- Juha Helenius was an invited member of the evaluation panel of the Finnish Biodiversity Programme (Rio convention; Ministry of Environment)
- Juha Helenius was invited as an expert in the assessment of the [Strategy for Renewable Natural Resources in Finland](#) (Ministry of Agriculture and Forestry)
- Juha Helenius was interviewed in 'Pallo Hallussa' environmental and natural resources program in Finnish National Channel TV2
- Juha Helenius was invited to participate in the development of the Finnish rural development cooperation programme (Ministry of Foreign Affairs)
- Geir Lieblein and Nadarajah Sriskandarajah gave the three day seminar to teachers and students from Italy and France: "Learning from experience: Applications in Agroecology". University of Tuscia, Viterbo, Italy. February 18 – 20.
- Presentation by Geir Lieblein: "University education in Agroecology/Ecological Agriculture – The Nordic MSc in Agroecology". Open lecture at Sokoine University of Agriculture, Morogoro, Tanzania. March 12.
- Presentation by Geir Lieblein: "Food System: Food Quality and Safety for Sustainable Rural Development". Introduction to Workshop 1: Food Systems. European Group of

the IFSA International Farming Systems Association 6th European Symposium on Farming and Rural Systems Research and Extension Vila Real, Portugal, 3-8 April.

- Presentation by Geir Lieblein: "AGROASIS. Nordic School of Agroecology/Ecological Agriculture – Achievements and Future Outlook". Presentation at the NOVA Conference. Hvanneyri, Island. 2-4 June.
- Presentation by Geir Lieblein: "Ecology of Food Systems: Introductory Agroecology. A Nordic Netbased Course". A presentation at a Norgesuniversitetet seminar. Oslo, 10 June
- Presentation by Geir Lieblein: " Agroecology – To learn from experience". NLH-dagen, 12 August.
- Presentation by Geir Lieblein: "Nordic Master of Science in Agroecology. Content and pedagogical principles". CONVEGNO SCIENTIFICO SU *La formazione in agricoltura biologica: esperienze italiane e straniere a confronto*"Grugliasco, Italy, September 18.
- Presentation by Geir Lieblein: Experiential Learning in Agriculture and Food Systems: NOVA University Model in Agroecology. Invited Keynote speech. Science to Secure Food and the Environment 2004 ASA-CSSA-SSSA International Annual Meetings, Seattle, Nov 2.

Outreach outcomes: US Impact

Largely as a result of the PhD courses and the Master in Agroecology programme in Norway, there has been an impact on the curriculum at the University of Nebraska (UNL). The content and experiential teaching methods from the NOVA courses have influenced four courses.

These include:

1. Agroecology [AGRO 435/835]
2. Agroecosystems analysis [AGRO 4365/836]
3. Urbanisation of rural landscapes [AGRO 489/889]
4. Science-based organic farming and gardening [AGRO 496/896]

Accounting 2004

	Budgeted	Spent
	NOK	NOK
Expenses		
Meetings: Travel and accommodations	70 000,00	73 281,76
Coordinator/Secretary (salary)	125 000,00	120 407,57
Survey work: Conduct survey in Sweden and Finland, analysis of results, writing and publication	52 000,00	42 453,35
Misc expenses (exchange rates)	0,00	4 938,90
Website domain and software	0,00	2 250,00
NOVA-BOVA PAE301 project	30 000,00	
Travel and accommodations		20 000,00
Wages		10 000,00
Balance from 2003	0,00	11 480,00
Sum expenses:	277 000,00	284 811,58
 Income		
Funds remaining from NOVA:		
32 360 Euros granted		282 221,91
<u>19 426 Euros transferred 02.04.04</u>		175 380,60
12 934 Euros remaining		106 841,31
 Balance		 -2 589,67