

815

ALTER-Net, a long-term biodiversity, ecosystem and awareness research network

Year 8

NINA Report

Jiska van Dijk
Kristine Ulvund
Leon Braat
Andy Sier
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NINA Publications

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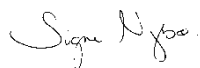
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Abstract

The year 2011 was used to restructure and organize our work towards ALTER-Net after April 2012, when external funding for holding the secretariat will end. Early 2011 Council elected a new chairman for Council – Eeva Furman (SYKE) and a new chairman for the Management Board – Leon Braat (Alterra). During 2011 it became clear that all partner institutes were willing to continue with ALTER-Net in the future, that the secretariat work would be outsourced to different institutes with a rotating system for especially the financial administration as to increase institutional participation. ALTER-Net welcomed two new partner institutes to our consortium (VU-IVM and IGB). With the new structure ALTER-Net is currently scheduled to run until April 2014.

During April 2011 – March 2012 the eight year of ALTER-Net our website was changed and moved to a new provider and we repeated our second Multi-Site Experiment on decomposition using 15 monitoring sites managed by 12 ALTER-Net partner institutes and 3 non ALTER-Net partner institutes. In addition ALTER-Net organized a Long-Term Social Ecological Research Workshop at SYKE in Helsinki and was actively involved in the two currently running EU projects on the Science-Policy interface, i.e. KNEU and SPIRAL. We also organized our yearly ALTER-Net summer school again.

These processes help ALTER-Net to reach its objective to promote a better integrated and stronger European biodiversity research capacity. The result will be the establishment of a lasting infrastructure for integrated ecosystem research, combining ecological and socio-economic approaches, and with greater emphasis on communication with relevant audiences.

Van Dijk, J., Ulvund, K., Braat, L., Sier, A., Mirtl, M., Watt, A., Peltola, T. and Delbaere, B. 2012. ALTER-Net, a long-term biodiversity, ecosystem and awareness research network - Year 8 - NINA Report 815, 36 pp.

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Sammendrag

Etter april 2012 vil ikke ALTER-Net motta ekstern finansiering for å drifte sekretariatet. 2011 ble derfor brukt til å restrukturere og omorganisere nettverket frem mot en ny periode etter april 2012. Våren 2011 ble Eeva Furman (SYKE) valgt som ny formann for ALTER-Net styret og Leon Braat (Alterra) ble valgt som leder for ALTER-Net arbeidsgruppen. I løpet av 2011 ble det klart at alle partner-instituttene ønsket å fortsette samarbeidet i ALTER-Net og at de ulike delene av sekretariatet skal fordeles mellom ulike institutter. De finansielle administrasjonsoppgavene skal roteres mellom instituttene for å øke deltakelsen hos hvert enkelt institutt. ALTER-Net ønsket to nye partner-institutter velkomne til konsortiet (VU-IVM og IGB). Med den nye strukturen er ALTER-Net planlagt å fortsette frem til april 2014.

I perioden april 2011 – mars 2012 ble websiden endret og flyttet til en ny leverandør. Et nytt Multi-Site Experiment med fokus på nedbryting ble gjennomført ved å benytte 15 studiesteder kontrollert av 12 ALTER-Net partner institutter og 3 institutter som ikke er med i ALTER-Net. I tillegg organiserte ALTER-Net en workshop om "Long-Term Social Ecological Research" ved SYKE i Helsinki og var aktivt involvert i to pågående EU prosjekter om «Science-policy interface» – KNEU og SPIRAL. ALTER-Net organiserte også sin årlige sommerskole.

Disse prosessene hjelper ALTER-Net å nå sitt mål om å fremme en bedre integrert og sterkere europeisk forskningskapasitet på biodiversitet. Målet er å etablere en varig infrastruktur for integrert økosystemforskning som kombinerer økologisk og sosio-økonomisk forskning med et større fokus på kommunikasjon med relevant publikum.

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Foreword

This Yearly report officially covers the period of April 1, 2011 until April 1 2012. As the 8th year of ALTER-Net was launched with a new Council Chair and a new Management Board chair and structure, some attention is given to these changes which were decided in March 2011.

Following the success of the Vienna conference in November 2010 and the Paris Workshop in December 2010, ALTER-Net proceeded the workshops – conference series with an intensive workshop on LTSER in June 2011. Much energy has been devoted to the development of an FP7 proposal, led by SYKE and involving many of the ALTER-Net partners, on Operationalization of the concept of Ecosystem Services (OpenNESS), which passed the first round in December. The effort was intensified in February 2012 and the full proposal was submitted by February 2015. A decision by the European Commission is expected in the course of April.

Chairman of the Council, Eeva Furman and Chairman of the Management Board, Leon Braat, have actively advertised the expertise and capabilities in research and policy support of ALTER-Net, during meetings with the European Commission.

Important decisions were taken by the Council at the meeting in November in Helsinki regarding new partners and to organize a large ALTER-Net Conference, with the EU Biodiversity Strategy as main theme, in October 2012.

Finally, the Summer School organization was restructured because Sabine Lütke-meier retired after years of devoted work. In 2012, Alterra will be organizing the Summer School, with a new team of conveners but in the same beloved location in Peyresq in France.

The Management Board could not have functioned without the excellent support of the Secretariat at NINA, led by Jiska van Dijk and assisted by Kristina Ulvund. A new structure of ALTER-net has been prepared by the Management Board, with changes in the organization and financing arrangements, which will be decided upon in the Council meeting in April 2012, in Tartu, Estonia, hosted by The Institute of Agricultural and Environmental Sciences (IAES-EMU), Estonia.

We trust that the power of the ALTER-net network will lead to much relevant and high quality research in the next few years.

April 1 2011, Leon Braat

1 Introduction

The year 2011 was an intense year for ALTER-Net with many organisational restructuring actions towards ALTER-Net after April 2012, when external funding for the secretariat will end. Early 2011 the chairman of the Management Board, Daniel Terrason resigned because of his retirement from Irstea (now Cemagref). Also the chairman of the Council, Terry Parr resigned as stated in the Memorandum of Understanding and elections were held for a new chairman. For ALTER-Net the time was there to restructure and reprioritize activities conform the new situation in 2012 in which we no longer have secured external funding. During 2011 it became clear that all partner institutes were willing to continue with ALTER-Net in the future and we even welcomed two new partner institutes to our consortium.

During April 2011 – March 2012 the eighth year of ALTER-Net was also used to continue with our communication and outreach activities and to repeat our second Multi-Site Experiment using 15 monitoring sites managed by 12 ALTER-Net partner institutes and 3 non ALTER-Net partner institutes. In addition ALTER-Net organized a Long-Term Social Ecological Research Workshop at SYKE in Helsinki and was actively involved in the two currently running EU projects on the Science-Policy interface, i.e. KNEU and SPIRAL. We also organized the yearly ALTER-Net summer school again. This report elaborates on the work done for the new projects falling under our core activities (i.e., Communication & Knowledge Transfer; Fundraising; Common Training Programme; Science-Policy interface; Data Infrastructure; Problem Oriented Dynamic Research and Strategy and Coordination) in year eight of ALTER-Net. ALTER-Net is scheduled to run until April 2014.

These processes help ALTER-Net to reach its objective to promote a better integrated and stronger European biodiversity research capacity. The result will be the establishment of a lasting infrastructure for integrated ecosystem research, combining ecological and socio-economic approaches, and with greater emphasis on communication with relevant audiences.

2 Functioning of the network

2.1 Partner institutes and structure ALTER-Net

During 2011 two new members joined the network (VU-IVM from The Netherlands and IGB from Germany) and the 26 ALTER-Net partner institutes are committed to durable integration and contribute and support the seven core activities of ALTER-Net¹. **Appendix 1, Table 1.1** gives an overview of the ALTER-Net consortium, including the two new members. **Figure 1** shows the geographic coverage of the ALTER-Net consortium.

During 2011 and early 2012 several partner institutes changed their abbreviations and/or names due to institutional restructuring and/or merging with other institutes/universities. There has also been a shift in institute representatives in Council. The new names and abbreviations (see also **Appendix 1, Table 1.1**) are used in this report.

Each partner institute is represented in the Council and has a right to vote during council meetings. The Council has to approve to the proposed activities and budget allocations made by the Management Board (MB). In March 2011 the Council elected a new chair, Eeva Furman from SYKE, Finland, and a new chair of the Management Board, Leon Braat from Alterra, The Netherlands. The Management Board further consists of 7 members, one for each core activity, and 3 extra project leaders for additional support. **Appendix 1, Table 1.2** lists the persons involved in the Management Board.

Also during 2011 the ALTER-Net secretariat was hosted by NINA, Norway. NINA succeeded to get financial support from both The Research Council of Norway and from the Norwegian Directorate for Nature Management for the eighth year of ALTER-Net. With the support of the Research Council of Norway and the Norwegian Directorate for Nature Management it was possible to run the ALTER-Net secretariat and appoint a coordinator (0.5 FTE) and a deputy coordinator (0.5 FTE).

¹ The seven core activities are: Communication & Knowledge Transfer; Fundraising; Common Training Programme; Science-Policy interface; Data Infrastructure, Problem Oriented Dynamic Research and Strategy and Coordination.

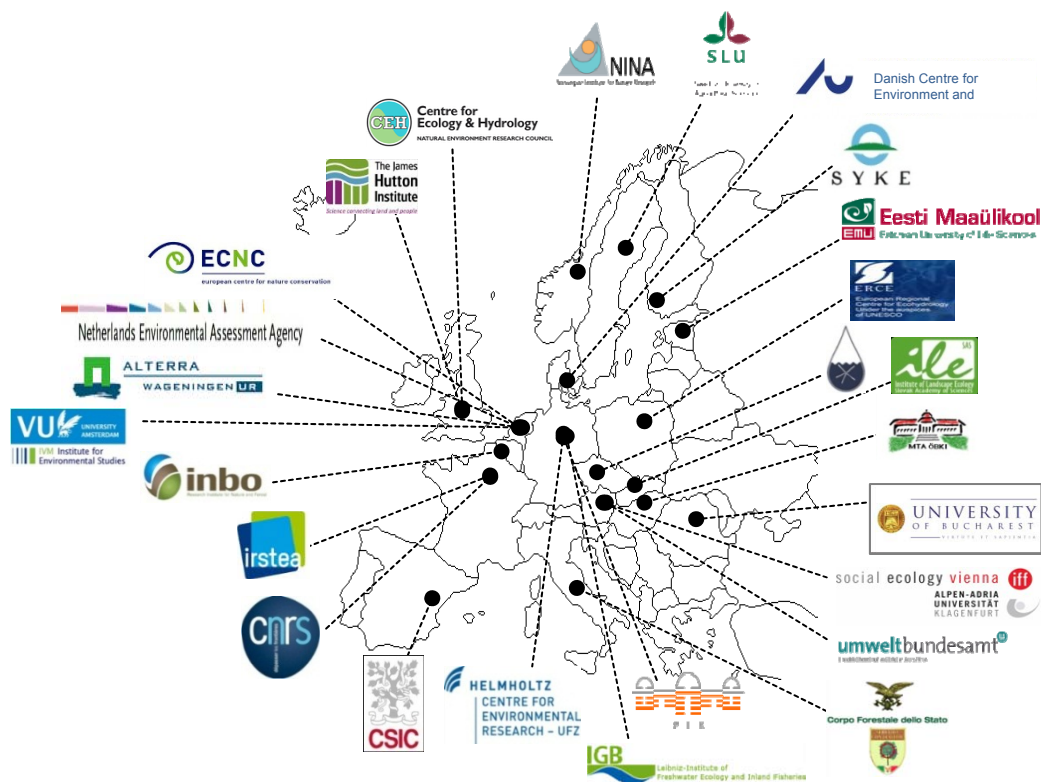


Figure 1. Geographic coverage of the ALTER-Net consortium with its 26 members.

2.2 Activities of the secretariat

Network collaborations

The secretariat's workload was also in year eight divided between the coordinator and a deputy coordinator. In addition the secretariat received daily support from NINA administration for financial matters.

To work towards the added value of having the network, the secretariat obtained the different overviews from the partner institutes about their international collaboration activities (**Appendix 2, Table 2.1**), their contribution in the creating of sub-consortia for bids on different EU calls and tenders (**Appendix 2, Table 2.2**) and publication lists (**Appendix 2, Table 2.3 & Table 2.4**).

During the Council meeting in Helsinki, November 2011, it was decided that an ALTER-Net collaboration is defined as a project in which a ALTER-Net partner leads and in addition 2 or more ALTER-Net partners are included in the consortium. It was also decided that an ALTER-Net publication is a publication in which the first author is from an ALTER-Net institute and in addition 2 or more ALTER-Net partner institutes are included as co-authors.

The overviews show that for 2011 ALTER-Net collaborated on 20 projects, worked on 9 new proposals for calls in 2011 and produced 17 joint publications. ALTER-Net was acknowledged in 6 additional papers.

Mobility fund

During the first ALTER-Net period under the sixth framework program the mobility scheme was very successful, contributing to durable integration in biodiversity research in Europe. In June 2010 the mobility scheme was reopened to encourage people to meet each other within the network and work together. The goal was to get staff members and PhD/postdoc students from ALTER-Net partners to work on biodiversity research at another ALTER-Net partner institute. During year eight 1 person received funding from the Mobility fund and was able to organize the LTSER workshop in Helsinki (see also Chapter 9).

2.3 Work plan, allocated budget and financial overview 2011

The ALTER-Net secretariat received all annual cash contributions from the different partner institutes who pledged cash contributions. Also the contribution from the Norwegian Directorate for Nature Management and the contribution from the Research Council of Norway were according to the agreements.

Based on the expected income (**Appendix 3, Table 3.1**) a work plan with allocated budget (**Appendix 3, Table 3.2**) was developed by the MB and approved by Council.

An overview of the budget spent during year eight is also given in **Appendix 3, Table 3.2**. Based on the credits we still have originating from the delay in organizing the planned activities it has been proposed to focus on the organization of a large ALTER-Net conference in 2012 combining most of the planned meetings of 2011.

3 Common Research Strategy

It was decided at the Council meeting in November 2011 that the Common Research Strategy (CRS) would be updated with the results of the Vienna meeting (November 2010) and changes in the “research environment” of ALTER-Net. Important CRS changes are in line with the publication of the EU Biodiversity Strategy 2011-2020, May 2011, and its subsequent confirmation by the EU Council in December 2011 and the development of IPBES following the October 2011 meeting in Nairobi.

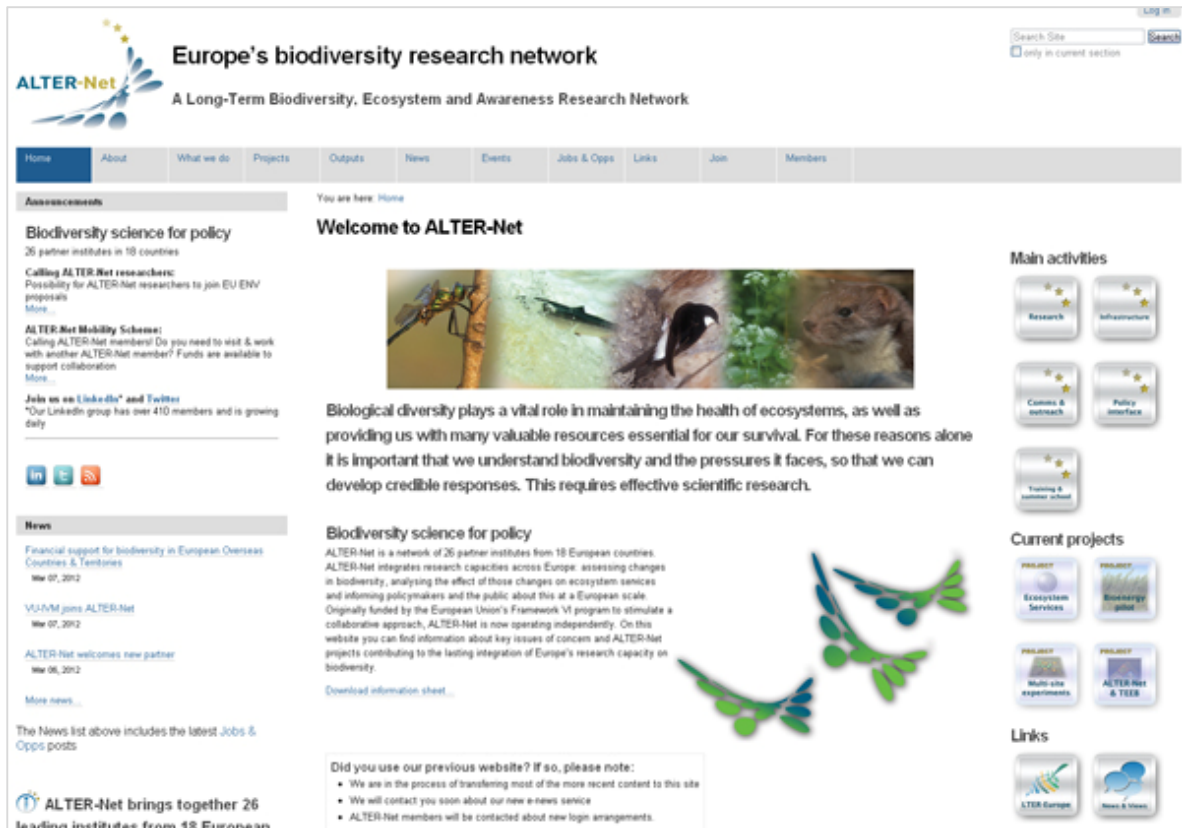
The new version will be published on the ALTER-Net website during spring 2012.

4 Communication and Knowledge Transfer

Significant communication-related activities this year have been (a) the launch of a new ALTER-Net website, (b) development of our LinkedIn group, (c) creation of two slogans straplines for ALTER-Net, (d) preparation of new promotional material and (e) work on a database of expertise in the network.

New website

A new website was developed because SIFT, the company hosting the first ALTER-Net website, announced they would cease their content management system. Although SIFT offered to develop a new website and migrate content to it, this was ruled out on the grounds of cost. Instead, it was agreed that CEH would create a new website, hosted on their own web server. The work was undertaken by Andrew Sier and Mike Wilson of CEH. The new ALTER-Net website uses an open source content management system (called Plone), which is free to use. It was agreed to compensate CEH €4000 to cover the extra, unforeseen staff time involved in setting up the new site.



We took the opportunity to re-structure the website to better reflect the current activities of ALTER-Net. Principle elements of the website are now:

- Home page (pictured) which shows ALTER-Net’s main activities and projects using bold graphics on the right hand side. The home page also features announcements, recent news items and our social media links
- About – provides details of the partner institutes and key individuals involved in the network
- What we do – information about ALTER-Net’s main activity areas
- Projects – details of specific ALTER-Net projects
- Outputs – lists of relevant publications from partners, ALTER-Net policy briefs, etc.
- News, events, jobs & opps – a wealth of information relevant to biodiversity researchers, including details of funding opportunities, training courses, etc.

CEH will continue to host and manage the website. Content creation can be shared with other individuals within the network.

LinkedIn

ALTER-Net established a group on the social networking site *LinkedIn*. The group is a channel for communicating about ALTER-Net more widely. It is an open group, so that anyone with an interest can join it. It is linked automatically to our website news feed and the news feed of our sister site (aimed at the general public), *News & Views*. Membership of the group is growing steadily, and now stands at over 430 members. ALTER-Net also has a presence on Twitter, but the following is much smaller.

Slogans

Two slogans - formulated by the Management Board - have been agreed by Council. They are:

- Europe's biodiversity research network
- Biodiversity science for policy

These can be used on the website, promotional materials, PowerPoint slides, etc. to accompany the word 'ALTER-Net' and the logo, and help explain the network more clearly.

Promotional material

The following promotional material was developed:

- A4 flyer
- Poster
- Short set of PowerPoint slides

The flyer is available on the website. The poster and PPT slides are being further revised and will be made available to members soon. These materials will be further developed to give them all a common design (hopefully also shared by the website and a new e-newsletter).

Expertise database

Work is progressing on building a database of expertise within ALTER-Net. The aim is to be able to describe more clearly what skills are represented within the network, and also to allow network members to better utilise the skills, talent and knowledge of our members. We are progressing this work on two fronts:

1. Developing a database of expertise down to the level of groups. All members have been asked to provide information about relevant groups within their organization, their skill areas and a contact person. Once complete, we will make this information available via the website and aim to update it annually.
2. Capturing the skills of individuals via LinkedIn. We recognised that it would be very challenging to maintain a database of individuals and their expertise. At the same time, we saw that membership of our LinkedIn group was growing steadily, and that LinkedIn is a place where people tend to openly describe their expertise. We have therefore been experimenting with how to utilise the LinkedIn group to serve as a searchable database of individual skills in ALTER-Net. We think that by simply asking ALTER-Net members who are on LinkedIn to (a) join the group and (b) include the word 'ALTER-Net' within their personal profile, that group members will be able to search for members using keywords, such as 'ALTER-Net' + 'Lake ecology'. Although not the perfect solution, it is probably the most realistic in terms of delivery, and is a simple first step. We will trial this soon.

An expertise database will be one component of ALTER-Net in its role as a Knowledge Hub in the biodiversity Network of Knowledge (see Science-Policy Interface).

Partnership with ECSITE

Given lack of time and resources, we have decided not to actively pursue building a partnership with ECSITE, the European network of science centres and museums. We can take some credit for having prompted ECSITE to form a thematic group – the Nature Group (open to ECSITE members) and we can still work with ECSITE members when necessary.

5 Fundraising

The ALTER-Net Council, at its meeting of 8-9 March 2011, acknowledged the need to strengthen efforts towards raising funds for ALTER-net activities. It decided to include fundraising as a part of the Communication and outreach activities. Also, it agreed to a restructuring of the ALTER-Net Management Board, to include a specific role on fundraising. The MB was charged with the development of a fundraising strategy to actively raise funds for ALTER-Net with external funders.

In April 2011, a task force selected members for the renewed MB, and appointed Ben Delbaere to become MB member for fundraising activities.

At the MB meeting of November 2011, a draft fundraising plan was discussed. This plan formulated potential funding sources for ALTER-Net as a network; for specific ALTER-Net activities; and for ALTER-Net projects. On the basis of the general discussion, some specific actions were agreed to look into funding for actions such as the summer school or the ALTER-Net conference.

Fundraising for ALTER-Net as a network:

- Council proposed a system to introduce compulsory membership fees. This will provide funding input for the Network;
- COST (European Cooperation in Science and Technology) was identified as a potential funding source for running the network. A pre-proposal was prepared by 30 March 2012.

Fundraising for ALTER-Net activities:

- The summer school was identified as a key sellable product. Possibilities for funding include the host town/region/country and private sponsors. The Marie Curie Initial Training Networks was identified as a high potential source for a wider ALTER-Net training programme, including the summer school. It was agreed to explore the submission of a proposal in 2012;
- The ALTER-Net conference may equally provide for a concrete product that may be sponsored by local/regional authorities and/or private sponsors;
- Further tangible products with sponsoring potential need to be identified.

Fundraising for joint projects:

- As in previous years, EU research funding was identified as a high potential source for joint activities under the ALTER-Net flag. Efforts for coordinating ALTER-Net responses were stepped up during 2011;
- ALTER-Net (partners) are visibly participating in 9 proposals and 20 ongoing projects under FP7, BiodivERsA, and others.

6 Common Training Programme

ALTER-Net Summer School 2011

ALTER-Net organized its sixth summer school from 7 to 16 September 2011 in Peyresq, Alpes de Haute-Provence, France. The topic this year was 'Biodiversity and Ecosystem Services: An Interdisciplinary Perspective'. The ALTER-Net Summer School aims to contribute to the durable integration and spread of excellence within and beyond the network, with a view to promote interdisciplinary approaches.

The 2011 Summer School focused on:

- Biodiversity and ecosystems in Europe;
- Ecosystem processes, function, services and benefits;
- Resilience of social and natural systems;
- Valuation of biodiversity and ecosystem services;
- Linking biodiversity research with policy and the public.

The ALTER-Net summer schools are open to young graduate and post-graduate scientists from the network partners and universities in Europe. Two participants from developing countries can participate as well. The summer school is limited to 32 participants, who are selected with the goal of achieving an optimal mix among regions, disciplines and gender. This year 31 students and about 20 speakers participated in the summer school.

The team of conveners included: Allan Watt, Centre for Ecology & Hydrology, Edinburgh, UK; Wolfgang Cramer, Potsdam Institute for Climate Impact Research, Germany; Uta Fritsch (Chair of the Tutors), EURAC Research, Bolzano, Italy; Sabine Lütke-meier (Summer School Director), Potsdam Institute for Climate Impact Research, Germany; Jiska van Dijk, Norwegian Institute for Nature Research-NINA, Trondheim, Norway. Table 4 gives the overview of number of students, speakers and tutors from ALTER-Net partners and non-ALTER-Net partners who participated and contributed to the 6 summer schools.

Table 4. Overview of the number of students, speakers and tutors from ALTER-Net partners and Non ALTER-Net partners who participated and contributed to the ALTER-Net summer schools (I-VI)

	Student	Speaker/Tutor	Total
ALTERRA	17	6	23
CEH	10	4	14
IRSTEA	5	0	5
CNRS	3	2	5
CSIC	1	0	1
HBI-BC of ASCR	1	1	2
IAES-EMU	3	0	3
IEB-CER-HAS	4	0	4
IFF	2	5	7
ILE-SAS	2	0	2
INBO	2	0	2
JHI	2	1	3
DCE	1	0	1
NINA	6	5	11
PBL	1	1	2
PIK	10	12	22
SLU	3	0	3
SYKE	1	1	2
UFZ	6	2	8
UNIBUC	3	0	3
SYKE	2	0	2
non-ALTER-Net affiliation	106	34	140
ALTER-Net affiliation	85	40	125
Total	191	74	265

7 Science – policy interface

The main focus of the ALTER-Net science-policy interface over the last year has been through two FP7 projects, KNEU and SPIRAL, see below. These have provided the ALTER-Net partners with links to national, European and global science-policy initiatives, including the EU Mechanism for science-policy advice being developed by DG Environment and IPBES. The ALTER-Net summer school has also provided a forum for the development of science-policy interactions with speakers such as Martin Sharman, Wolfgang Cramer, Leon Braat, Rik Leemans, Roy Haines-Young, Hal Mooney and Paul Leadley leading discussion on, for example, the MA, TEEB, UK NEA, IPCC and IPBES.

The planned ALTER-Net conference in late 2012 will enable ALTER-Net to further develop its science-policy interface.

Biodiversity Knowledge (KNEU)

This project, with many ALTER-Net partners involved, had a successful bid in 2010 and started at the end of 2010. The project aims at developing a European scientific biodiversity network to inform policy-making and economic actors. The overall objective of the project is to develop a recommended design for a scientific biodiversity Network of Knowledge (NoK) to inform policy-makers, the policy-making process and other societal actors. The network shall be open, transparent, flexible, equally accessible to all, independent, be scientific- and evidence-based and have a robust structure. It will develop links to relevant clients to support the science-society interface in Europe and beyond.

In November 2011 the ALTER-Net secretariat was responsible for the organization of one of the three regional workshops. We organized the Nordic workshop in Copenhagen while other KNEU consortium partners organized Southern workshop in France and a Central European workshop in Hungary. During these regional workshops participants (researchers, conservation managers and policy makers) were able to react to the prototype of the NoK and come with recommendations. The results of the workshops will be further included in the development of the prototype and a large conference is planned in May 2012 to finalize the consultation process with stakeholders involvement.

Science-Policy Interfaces for Biodiversity: Research, Action, and Learning (SPIRAL)

The SPIRAL project started in May 2010, with two ALTER-Net partners involved and coordinated by CEH. The overall aim of SPIRAL is to enhance the connectivity between biodiversity research and policy making in order to improve the conservation and sustainable use of biodiversity. In order to achieve this objective the SPIRAL project comprises the following work packages running in parallel:

- Stocktaking and assessment of existing science-policy interfaces for biodiversity governance
- Factors constraining and facilitating communication on the role of biodiversity in underpinning livelihoods and ecosystem services
- Mechanisms for encouraging behaviour that reduce negative human impacts on biodiversity
- Designing and testing science-policy interfaces for biodiversity governance

The first work package includes FP6 and FP7 projects as test cases. ALTER-Net is one of these test cases and interviews with several partners are taking place, not only to derive general lessons from FP projects but also to provide input to the development of the ALTER-Net science-policy interface.

8 Data Infrastructure

ILTER-ALTER-Net relationship

ILTER-Europe is an important part of ALTER-Net. However, the relationship between ALTER-Net and LTER-Europe has been somewhat unclear especially to external partners. The situation has been complex with some ALTER-Net partners who have not had the possibility at the country level to get a national LTER network up and running and on the other hand ALTER-Net partners who have a leading role in their national LTER network. In addition we have ALTER-Net institutes that are in a country with a national LTER network but either do not participate or have very little to do with the LTER network.

The ALTER-Net Council has strongly supported actions to strengthen the link between ALTER-Net and LTER and funding of the managing and infrastructure of LTER. In 2011 an ALTER-Net task force was set up to look into how to reengage the two networks, how to get the ALTER-Net identity in the LTER-Europe network, and how to strengthen the relationship between the two in the future ALTER-Net. The task force included: Jiska van Dijk (NINA, leader), Simron Singh (IFF), Henk Siepel (Alterra), Micheal Mirtl (UBA), Philip Roche (Irstea), Stephan Klotz (UFZ), and Martin Forsius (SYKE).

The task force has concluded its work and written a strategic paper on the relationship between ALTER-Net and LTER-Europe. "The interface between ALTER-Net and LTER-Europe - strategic paper" is the final product of the task force and given in **Appendix 4**.

9 LTSER workshop, Helsinki, June 2011

The workshop '*Long term socio-ecological research: What do we know from science and practice?*' was co-organised by ALTER-Net and LTER-Europe. It took place in Helsinki, Finland from 14-17 June 2011.

The workshop was attended by 33 people; 14 European LTER networks were represented. The programme featured nine keynote presentations, each followed by invited critical commentaries. Afternoons were devoted to group work and delegates were also treated to two additional 'refreshment talks' each evening. During group work, delegates considered (i) the benefits of socio-ecological research and (ii) research ideas.

Objectives of the workshop

The emerging interdisciplinary field of Long-Term Socio-Ecological Research, abbreviated LTSE, aims at observing, analyzing, understanding and modelling of changes in coupled socio-ecological (or human-environment) systems over longer, i.e. at least decadal, sometimes even centennial, periods of time. LTSE is focused on interactions between societies and ecosystems at various spatial and temporal scales. By including long-term monitoring, historical research, forecasting and scenario building, empirical and conceptual research as well as participatory approaches, LTSE aims at providing a knowledge base that helps to reorient socio-economic trajectories towards more sustainable pathways.

The aim of this workshop is to bring together scholars and practitioners engaged with Long-term Socio-ecological Research to discuss the state-of-the-art in terms of science and practice, and to build stronger links between the two.

The benefits of socio-ecological research

Two groups discussed the benefits of moving towards socio-ecological research. One considered the question from a disciplinary scientist's perspective, one from an interdisciplinary actor's perspective. Many different groups were thought to benefit from socio-ecological research. Aside from research scientists themselves, this kind of research was seen to benefit planners, the operators of research platforms, wider society and even ecosystems! Perceived benefits include enabling planners to make more sustainable decisions, helping inhabitants' needs to be considered in policy-making and providing researchers with scenarios for modelling.

Research ideas

As a starting point, groups were asked to consider how to operationalize in LTER-Europe the outcomes from ALTER-Net's work on knowledge needs in ecosystem services and governance. Ideas proposed included:

- Conduct a comparison of two different habitat types, e.g. forest versus another complex terrestrial ecosystem
- Study certain ecosystem services such as biomass, tourism, timber, food

A range of other research ideas were also suggested, including:

- Quantifying (relatively) established indicators of ecosystem services over several LT(S)ER sites/platforms
- Testing metrics of biological diversity for several charismatic and less charismatic species groups as indicators for cultural ecosystem services in different cultural settings

- How do we use and manage ecosystem services: the influences of tradition, policies, etc.?

Within the ALTER-Net and LTER-Europe networks, social scientists are still a minority. Dialogue between disciplines is needed when research questions are discussed, and this discussion is equally relevant at different levels, from research platform to national network and LTER-Europe. ALTER-Net's focus is on biodiversity. Socio-economic parameters are important factors affecting biodiversity, and deserve greater attention within ALTER-Net. It is hoped to organise further socio-ecological workshops, when hopefully more socio-economists and ecologists will be able to meet and exchange ideas. Future LTSEER workshops should be built on the foregoing ones and recognized gaps in knowledge should be considered as a basis for following workshops.

Keynote speakers

- Professor Christopher G. Boone, School of Sustainability and School of Human Evolution & Social Change, Arizona State University, Phoenix, USA
- Dr. Bálint Czúcz, Institute of Ecology and Botany of the Hungarian Academy of Sciences, Vácrátót, Hungary
- Dr. Jan Dick, Centre for Ecology & Hydrology, Edinburgh, UK
- Professor Eeva Furman, Environmental Policy Centre, Finnish Environment Institute (SYKE), Helsinki, Finland
- Network Director Elli Groner, Israel LTER Institute for Desert Environment Research, Ben Gurion University
- Professor Helmut Haberl, Institute of Social Ecology Vienna (SEC) and Alpen-Adria Universität, Vienna, Austria
- Dr. Zita Izakovicova, Institute of Landscape Ecology, Slovak Academy of Sciences, Bratislava, Slovakia
- DI Dr. Michael Mirtl, Ökosystemforschung & Monitoring, Umweltbundesamt, Vienna, Austria
- Dr. Maria Luisa Paracchini, Rural, Water and Ecosystem Resources Unit, JRC Institute for Environment and Sustainability, European Commission, Ispra, Italy
- Dr. Simron Jit Singh, Institute of Social Ecology (SEC), Alpen-Adria Universität, Vienna, Austria
- Dr. Taru Peltola, Finnish Environment Institute (SYKE), Joensuu, Finland

Organizers

- Long-Term Biodiversity, Ecosystem and Awareness Research Network (ALTER-Net) (Jiska van Dijk)
- Finnish Environment Institute (SYKE) (Eeva Furman, Leena Kopperoinen, Laila Liukka)
- Institute of Social Ecology (SEC), Alpen-Adria Universität (Simron Jit Singh)
- Helsinki University Centre for Environment (HENVI) (Jari Niemelä)
- InterAcademy Panel (IAP) (Kinga Krauze)

10 Multi-Site Experiment II

Text provided by Jutta Stadler, UFZ

The first Multi-Site Experiment (MSE I) was set up within ALTER-Net to explore the feasibility of using the LTER network of sites for such an experiment, bringing together 16 partners and 35 sites in 10 countries. This was a pan-European experiment designed to examine the resilience of ecosystems to trampling pressure (Figure 1). The paper from the first MSE was published in the *Journal of Ecology* (Bernhardt-Römermann et al. 2011).

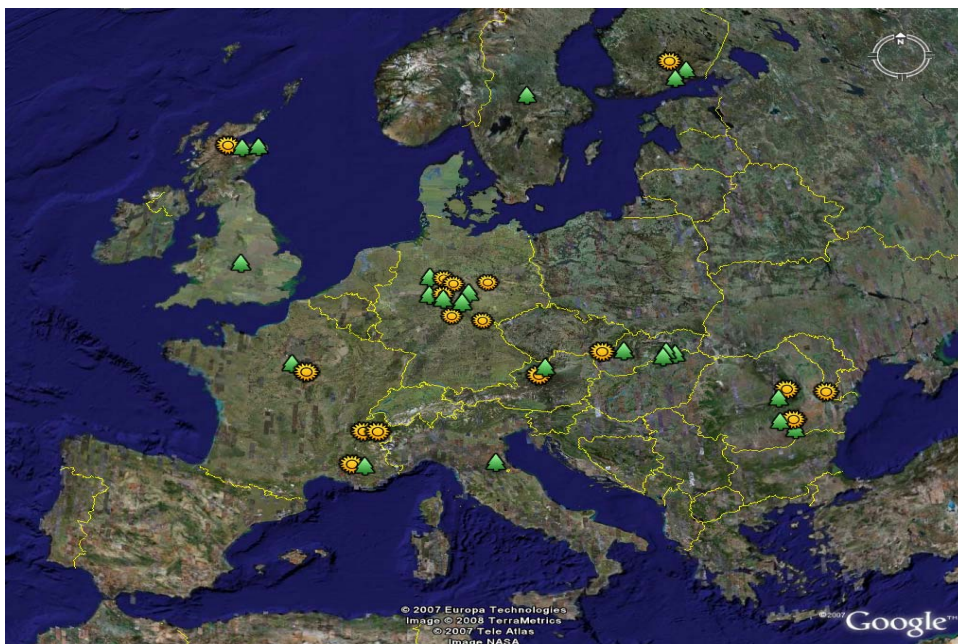


Figure 1: Distribution of sites across a Pan-European network (yellow=grassland, green=forest).

Multi-site experiment II: Variation of standard litter decomposition across a biogeographic gradient:

Because of the success of MSE I Council decided to set up a second Multi-Site Experiment (MSE II). The MSE II looks at decomposition rates by using litter bags and a treatment of nitrogen or carbon during the vegetation period. MSE II brought together 17 partners covering 20 sites in 10 countries across a biogeographic gradient that covers a range from boreal, continental, oceanic to Mediterranean climates. The experiment started in the middle of June in 2010 and one full experimental round lasted for 11 month until April the following year. A total of 15 experimental plots per sites, each of 1 x 1 m² have been installed in forest or grassland ecosystems. The plots were fertilized with nitrogen or carbon every 3rd week (in total 9 times) during the vegetation period. The control plots were treated with water only. Treatments stopped in November when some partners reported a permanent snow cover. Litter bags (fine and coarse mesh size) were filled with 2g barley leaves of different quality (fertilized and non-fertilized during growth) and exposed with 5 repeats at random at the respective treatment plots. At three times during the following 11 month litter bags had been removed from the sites and the remaining amount of litter was determined.

A first analysis shows that mesh and substrate have quite high additive effects on decomposition rate while the treatment (sugar) decreases the decomposition rate about 10%. The almost toxic effect is more pronounced in grassland than in forest. The result of the bait laminas shows the same effect: in the sugar treatment feeding activity of soil organisms is significantly lower. Furthermore, the effect is also more pronounced in the boreal than in the Mediterranean and indicates a relation of decomposition and temperature (Fig. 1): In Boreal and Mediterranean ecosystems fewer baits were removed by soil microorganisms than in Middle Europe. Furthermore, the C-treatment had a negative effect on plants and the soil organisms. (Fig.2), although C-treatments were in the range of other published experiments. Nevertheless, in 2011 an additional sugar treatment with a significantly lowered C-addition was installed. Data are not yet complete.

Please note that at present data for 5 out from 6 sampling dates are compiled. The last sampling date of the second experimental period is scheduled for April 2012. Nevertheless, at present the available data is compiled and analysed by a statistician.

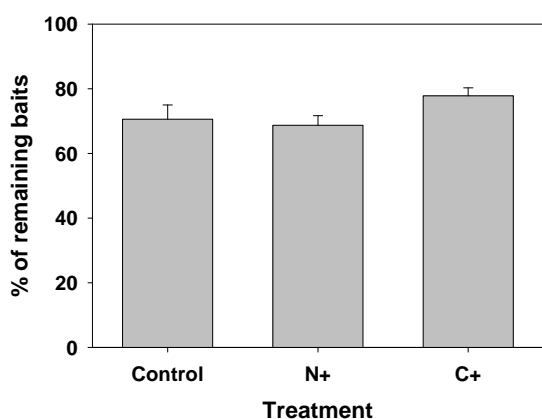


Figure 1: Relation between latitude and amount of bait material remaining after 2 weeks of exposure in the field. Error bars are raw standard deviations across all lamina.

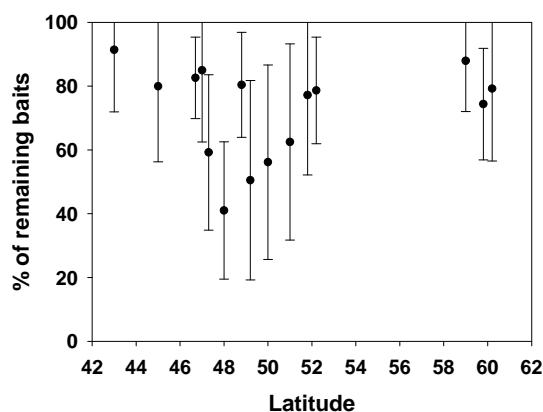


Figure 2: Influence of the N and C-treatments on the feeding activity of soil microorganisms the graph plots the percentage of remaining bait material (\pm standard deviation) for the control and treatment plots.

We found that climatic conditions differed considerably between the two years and sites and has an effect on the litter decomposition rate. For this reason we want to continue with the experiment for a third term. The long term treatment of the sites is becoming valuable with every year and is attracting other partners and projects which depend on long-term manipulated experimental sites.



Figure 1: Experimental set-up at the Swedish site



Figure 2: Influence of C/sugar treatment on the moss layer of the Swedish site



Figure 3: A closer look at the litter bags and bait laminas



Figure 4: And this is how an experimental site looks like when the wild boars decided to eat the litter bags of the C (sugar treatment).

Acknowledgements

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Appendices

Appendix 1: Partner institutes and structure ALTER-Net

Table 1.1. The ALTER-Net partnership in year eight

1. Natural Environment Research Council, Centre for Ecology and Hydrology (CEH at NERC), United Kingdom
Council member: Terry Parr
2. Centre National de la Recherche Scientifique (CNRS) / (Centre Armoricain de Recherches en Environnement (CAREN), France (formally CNRS/INSU)
Council member: Yvan Lagadeuc
3. European Centre for Nature Conservation (ECNC), the Netherlands
Council member: Ben Delbaere
4. Norwegian Institute for Nature Research (NINA), Norway
Council member: Tor Heggberget
5. The James Hutton Institute (JHI), United Kingdom (formerly Macaulay)
Council member: Alison Hester
6. Helmholtz, Centre for Environmental Research - UFZ (UFZ), Germany
Council member: Stefan Klotz
7. Alterra (Alterra), Wageningen University and Research (WUR) the Netherlands
Council member: Henk Siepel
8. Corpo Forestale dello Stato, Servizio (CONECOFOR), Italy
Council member: Cristiana Cocciufa
9. Department of Systems Ecology, University of Bucharest (UNIBUC), Romania
Council member: Angheluta Vadineanu
10. Institute of Landscape Ecology, Slovak Academy of Sciences (ILE-SAS), Slovakia
Council member: Julius Oszlanyi
11. The Finnish Environment Institute (SYKE), Finland
Council member: Heikki Toivonen
12. International Institute of the Polish Academy of Sciences – European Regional Centre for Ecohydrology, u/a UNESCO (ERCE), Poland (formerly ICEPAS)
Council member: Kinga Krauze
13. Swedish University of Agricultural Sciences (SLU), Sweden
Council member: Ulf Grandin
14. Consejo Superior de Investigaciones Científicas (CSIC), Spain
Council member: Valladares, Fernando
15. Institute of Ecology and Botany, Centre for Ecological Research, Hungarian Academy of Sciences (IEB-CER-HAS), Hungary (formerly IEB-HAS)
Council member: Miklos Kertesz
16. Research Institute for Nature and Forest (INBO), Belgium
Council member: Maurice Hoffmann
17. Institut de Recherche en Sciences et Techniques pour l'Environnement et l'Agriculture (Irstea), France (formerly Cemagref)
Council member: Phillip Roche
18. Umweltbundesamt GmbH (UBA), Austria
Council member: Michael Mirtl
19. The Netherlands Environmental Assessment Agency (PBL), the Netherlands (formerly RIVM)
Council member: Keimpe Wieringa

20. Potsdam Institute for Climate Impact Research (PIK), Germany
Council member: Kirsten Thonicke
21. Biology Centre, Academy of Sciences of the Czech Republic Institute of Hydrobiology (HBI-BC of ASCR), Czech Republic (formerly HBI-CAS)
Council member: Viera Straskrabova
22. Danish Centre for Environment and Energy, Aarhus University (DCE), Denmark, (formerly NERI)
Council member: Flemming Skov
Danish Centre for Environment and Energy, Aarhus University, Denmark
23. The Institute of Social Ecology, (IFF), Austria
Council member: Simron Singh
24. The Institute of Agricultural and Environmental Sciences (IAES-EMU), Estonia
Council member: Mart Külvik
25. Institute for Environmental Studies, VU University Amsterdam (VU-IVM), the Netherlands
Council member: Peter Verburg
26. Leibniz-Institute of Freshwater Ecology and Inland Fisheries, (IGB), Germany
Council member: Simron Singh

Table 1-2. Management Board ALTER-Net

Name	Institute	Activity	Member/Project leader
Leon Braat	Alterra, the Netherlands	Chair MB	Chair MB
Andy Sier	CEH, UK	Communication and outreach	MB Member
Ben Delbaere	ECNC, the Netherlands	Fundraising	MB Member
Taru Peltola	SYKE, Finland	Training and Summer School	MB member
Micheal Mirtl	UBA, Austria	Infrastructure	MB Member
Allan Watt	CEH, UK	Policy interface	MB Member
Simron Singh	IFF, Austria	Problem oriented dynamic research	MB Member
Jiska van Dijk	NINA, Norway	Coordination and Strategic planning	MB Member
Rober Kanka	ILE-SAS, Slovakia	Problem oriented dynamic research	Project leader
Geert de Blust	INBO, Belgium	Problem oriented dynamic research	Project leader
Frauke Ecke	SLU, Sweden	Problem oriented dynamic research	Project leader
Riku Lumiaro	SYKE, Finland	Communication and outreach	Project leader

Appendix 2: Network collaborations

Table 2.1. Overview of international projects of the ALTER-Net partner institutes. The on-going ALTER-Net collaborations for which an ALTER-Net partner leads and two or more ALTER-Net partners are involved in addition are listed in yellow.

TITLE PROJECT	Funding	Period	Coordinator	ALTER-Net Partners involved
AMAZALERT	FP7	2011-2014	external	PIK, CNRS
Assessing and controlling the spread and the effects of common ragweed in Europe	EC DG ENV	2011-2012	CEH	ECNC
BACCARA	FP7	2009-2012	external	ALTERRA, SLU
BESAFE	FP7	2011-2014	Alterra	Alterra, CEH, INBO, NINA, SLU, SYKE, UFZ, UNIBUC, others
Biodiversity Knowledge (previously KNEU)	FP7	2010-2013	UFZ	ALTERRA, CEH, CSIC, ECNC, IEB-HAS, NINA, SYKE, UFZ and others
BIOFRESH	FP7	2010-2015	external	UFZ, and ALTER-Net as stakeholder represented by HBI-CAS
BIOSTRAT	FP6	2006-2010	external	CEH, CSIC, ILE-SAS, DCE, SLU, UFZ
CARBO-Extreme	FP7	2009-2013	external	PIK, SLU and others
CBIO NET	Nordic	2010-2013	DCE	DCE, SYKE
CoBios	fp7	2011-2013	IVM	SYKE
CONHAZ	fp7	2010-2012	UFZ	IVM
CONNECT	BiodivERsA (2011)	2012-2015	IVM	CNRS, UFZ, others
Dealing with conflicts in the implementation and management of the Natura 2000 network	EC DG ENV	2008-2010	ALTERRA	ALTERRA, ECNC, EUROSITE
EBONE	FP7	2008-2012	ALTERRA	ALTERRA, IAES-EMU, CEH, Irstea, ILE-SAS, INBO, NINA, SLU, UBA, UFZ, UNIBUC
ECOBOS	FP7	2011-2014	external	CEH, ERCE, many other ALTER-Net partners
EcoChange	FP6	2007-2011	CNRS	ALTERRA, CNRS, CSIC, others
EELIAD	FP7	2008-2012	external	CNRS, CSIC, NINA
ENCI	FP7	2009-2011	PIK	CNRS, PIK
EnvEurope	Life+ 2009	2010-2013	external	CSIC, CONECOFOR, ERCE, IEB-HAS, SLU, UBA, UFZ, UNIBUC
European Topic Centre on Biological Diversity	EEA	2009-2013	external	ECNC, ILE-SAS, SLU, UBA
EVOLTREE	FP6	2006-2010	external	ALTERRA, CEH, CNRS, PIK, SLU
EXPEER	INFRA-2010.1.1.17	2010-2014	INRA	BGU, CEH, CSIC, ERCE, IEB-HAS, SYKE, UBA, UFZ, UNIBUC
FUME	FP7	2010-2013	external	PIK, CNRS, Irstea, SLU and others
GHG EUROPE	FP7	2010-2013	external	SLU, SYKE
GHG Europe - Greenhouse gas management in European land use systems	FP7	2010-2013	external	PIK, ALTERRA, CEH and others
GLOWA	national	2000-2010	external	PIK, UFZ
GREENCYCLESII	FP7	2010-2013	external	PIK, CNRS, SLU and others
Habistat	national	2007-2011	external	INBO, Alterra
HUNT	FP7	2009-2012	JHI	JHI, NINA, others
Integrated assessment of vulnerability of environmental resources and ecosystem-based adaptation measures	EC DG ENV	2011	Alterra	ECNC
INTERACT	FP7	2011-2014	external (KVA)	CEH, DCE, SLU
ISOIL	FP7	2008-2011	UFZ	ALTERRA
Journal for Nature Conservation	-	ongoing	ECNC	ALTERRA, SYKE, UNIBUC
KNOWSEAS	FP7	2008-2011	external	SYKE, IVM, CSIC
Ladybird ecology	no external funding	2010-2011	INBO - CEH	INBO, CEH, several universities
LIFEWATCH	FP7	2008-2012	UvA	ALTERRA, CEH, CSIC, ILE-SAS, INBO, DCE, NINA, SYKE, UBA
LNS (Living North Sea)	Interreg IV B (NSR)	2009-2012	external(Ass. River Trusts - UK)	INBO, NINA
MEDIATION	FP7	2010-2013	PIK	ALTERRA, PIK, SYKE
METIER	FP6	till 2010	UFZ	CEH, Irstea, DCE, SYKE, UFZ
MILLENNIUM	FP6	till 2010	external	CEH, UFZ
MIRAGE	FP7	2009-2011	ALTERRA	ALTERRA, CEH
MoDELPROBE	FP7	2009-2011	UFZ	DCE, UBA, UFZ
MOTIVE - Models for Adaptive Forest Management	FP7	2009-2013	external	PIK, ALTERRA, SLU
MS.MONINA	FP7	2010-2013	external	INBO, Irstea
NANOIMPACTNET	FP7	2008-2012	external	ALTERRA
NITROEUROPE-IP	FP6	2006-2011	CEH	ALTERRA, CEH, PBL, SYKE
POLICYMIX	FP7	2010-2014	NINA	NINA, UFZ, SYKE, IVM
REFORM	FP7	2011-2015	external	SLU, SYKE
REFRESH	FP7	2010-2013	external UCLondon	SYKE, ALTERRA, SLU, JHI, CSIC, BC_HBI-CAS, CNRS
RESPONSES	fp7	2010-2013	IVM	PBL, CSIC
ROBIN	FP7	2011-2015	CEH	ALTERRA, CEH, IFF, PIK, others
SCALES	FP7	2009-2013	UFZ	NINA, UFZ, SLU, SYKE
SCENES	FP6	2007-2010	SYKE	ALTERRA, CEH, SYKE
SPIRAL	FP7	2010-2013	CEH	JHI, UFZ, UNIBUC, INBO
STEP	FP7	2010-2015	external (Reading)	UFZ, SLU, Alterra, SYKE, CSIC
Trees4future	FP7	2011-2015	INRA	INBO, Alterra
VOLANTE	FP7	2010-2015	Alterra	CNRS, PIK, UNIBUC, IVM
WATCH	FP6	2007-2011	Irstea	CEH, Irstea, CNRS, CSIC, PIK
WISER	FP7	2009-2012	external	CEH, ALTERRA, SLU, SYKE

In summary

At the moment there are 20 ongoing international projects in which ALTER-Net partner institutes collaborate (i.e. one ALTER-Net partner leads and two or more ALTER-Net partners are involved in addition).

Table 2.2. Overview of bids (EU Env Calls, DG Env tenders and BioDiVersa 2011 call) for which ALTER-Net partners formed sub-consortia in 2011.

Programme	Title	Name Proposal	Led by	Other institutes included
ENV.2012.6.2-..	Exploration of the operational potential of the concepts of ecosystem services and natural capital to systematically inform sustainable land, water	OpenNESS	SYKE (Eeva Furman and Heli Saarikoski)	Alterra, CEH, DCE, ECNC, ILE-SAS, INBO, Irstea, NINA, PBL, UFZ, UNIBUC
ENV.2012.6.2-..	Assessing global biological resources: the European contribution to the Global Earth Observation	A GloBE	Alterra (Rob Jongman) & WUR (co-leading)	CEH, Irstea
FP7-KBBE-2012-6	Managing semi-natural habitats and on-farm biodiversity to optimise ecological	?	Alterra (Ilse Geijzendorffer)	ILE-SAS, Irstea
Tender	Towards an EU mechanism interfacing science and policy on biodiversity and	DESIGN	DCE (Morten Tune Strandberg)	AU, CEH, UBDSSES, UNIBUC, PENSOFT, SYM, Naturalis, KU_LIFE, FEM
ENV.B.2/SER/2011/0024		?	Alterra (David Kleijn)	?
		Got funded	CEH (Allan Watt) & UFZ (Carsten Nesshoever)	CEH, UFZ, ?
ENV.B.3/SER/2011/0021	New Biogeographic Process Technical and scientific support in relation to the Natura	Didn't get funded	Alterra	several ALTER-Net partners
		?	ECNC	CEH, ILE-SAS
BiodivERsA 20100-2012 call		Bioscreen	CNRS	NINA, PIK, SLU, INBO

In summary

In 2011 there were 9 bids with ALTER-Net collaboration (led by one ALTER-Net member and two or more partners participate).

Table 2.3. ALTER-Net publication list for 2011 – March 2012, with first author working at an ALTER-Net partner institute and co-authors of 2 or more ALTER-Net partner institutes are listed in addition.

Reference: Bernhardt-Römermann, M., Gray, A., Vanbergen, A. J., Bergès L., Bohner, A., Brooker, R. W., De Bruyn, L., De Cinti, B., Dirnböck, T., Grandin, U., Hester, A. J., Kanka, R., Klotz, S., Loucougaray, G., Lundin, L., Matteucci, G., Mészáros, I., Oláh, V., Preda, E., Prévosto, B., Pykälä, J., Schmidt, W., Taylor, M.E., Vadineanu, A., Waldmann, T. Stadler, J., 2011. Functional traits and local environment predict vegetation responses to disturbance: a pan-European multi-site experiment. *JOURNAL OF ECOLOGY* 99, 777-787.

Institute first author: Goethe Univ Frankfurt

Institute co-authors: CEH, Irstea, JHI, INBO, UBA, SLU, ILE-SAS, UFZ, UNIBUC, SYKE

Reference: Devictor, V., van Swaay, C., Brereton, T., Brotons, L., Chamberlain, D., Heliola, J., Herrando, S., Julliard, R., Kuussaari, M., Lindstrom, A., Reif, J., Roy, D.B., Schweiger, O., Settele, J., Stefanescu, C., Van Strien, A., Van Turnhout, C., Vermouzek, Z., WallisDeVries, M., Wynhoff, I., Jiguet, F., 2012. Differences in the climatic debts of birds and butterflies at a continental scale. *Nature Climate Change* 2, 121-124.

Institute first author: CNRS

Institutes co-authors: CEH, SYKE, UFZ, others

Reference: Fischer, A., Bednar-Friedl, B., Langers, F., Dobrovodska, M., Geamana, N., Skogen, K., Dumortier, M., 2011. Universal criteria for species conservation priorities? Findings from a survey of public views across Europe. *Biological Conservation* 144, 998-17.

Institute first author: JHI

Institutes co-authors: ILE-SAS, INBO, NINA, UNIBUC, Other

Reference: Fischer, A., Langers, F., Bednar-Friedl, B., Geamana, N., Skogen, K., 2011. Mental representations of animal and plant species in their social contexts: Results from a survey across Europe. *Journal of Environmental Psychology* 31, 118-128.

Institute first author: JHI

Institutes co-authors: NINA, UNIBUC, Other

Reference: Fischer, A., Peters, V., Vavra, J., Neebe, M., Megyesi, B., 2011. Energy use, climate change and folk psychology: Does sustainability have a chance? Results from a qualitative study in five European countries. *Global Environmental Change-Human and Policy Dimensions* 21, 125-134.

Institute first author: JHI

Institutes co-authors: IEB-CER-HAS, PIK, Other

Reference: Fischer, R., Aas, W., De Vries, W., Clarke, N., Cudlin, P., Leaver, D., Lundin, L., Matteucci, G., Matyssek, R., Mikkelsen, T.N., Mirtl, M., Ozturk, Y., Papale, D., Potocic, N., Simpson, D., Tuovinen, J.P., Vesala, T., Wieser, G., Paoletti, E., 2011. Towards a transnational system of supersites for forest monitoring and research in Europe - an overview on present state and future recommendations. *Iforest-Biogeosciences and Forestry* 4, 167-171.

Institute first author: JHI

Institutes co-authors: CEH, SLU, others

Reference: Kindberg, J., Swenson, J.E., Ericsson, G., Bellemain, E., Miquel, C., Taberlet, P., 2011. Estimating population size and trends of the Swedish brown bear *Ursus arctos* population. *Wildlife Biology* 17, 114-123.

Institute first author: SLU

Institutes co-authors: CNRS, NINA, SLU, Other

Reference: Mauz, I., Peltola, T., Granjou, C., van Bommels, S., Buijs, A., 2012. How scientific visions matter: insights from three long-term socio-ecological research (LTSER) platforms under construction in Europe. *Environmental science & policy* 19, 90 – 99.

Institute first author: Irstea

Institute co-authors: SYKE, ALTERNATIS, WUR

Reference: Moora, M., Berger, S., Davison, J., Opik, M., Bommarco, R., Bruehlheide, H., Kuhn, I., Kunin, W.E., Metsis, M., Rortais, A., Vanatoa, A., Vanatoa, E., Stout, J.C., Truusa, M., Westphal, C., Zobel, M., Walther, G.R., 2011. Alien plants associate with widespread generalist arbuscular mycorrhizal fungal taxa: evidence from a continental-scale study using massively parallel 454 sequencing. *Journal of Biogeography* 38, 1305-1317.

Institute first author: EMU

Institutes co-authors: SLU, UFZ, CNRS, others

Reference: Ockinger, E., Bergman, K.O., Franzen, M., Kadlec, T., Krauss, J., Kuussaari, M., Poyry, J., Smith, H.G., Steffan-Dewenter, I., Bommarco, R., 2012. The landscape matrix modifies the effect of habitat fragmentation in grassland butterflies. *Landscape Ecology* 27, 121-131.

Institute first author: SLU

Institutes co-authors: HBI BC of ACSR, SLU, SYKE, UFZ, Other

Reference: Neumann, K., Stehfest, E., Verburg, P.H., Siebert, S., Muller, C., Veldkamp, T., 2011. Exploring global irrigation patterns: A multilevel modelling approach. *Agricultural Systems* 104, 703-713.

Institute first author: PBL

Institutes co-authors: VU-IVM, PIK, others

Reference: Normander, B., Levin, G., Auvinen, A.P., Bratli, H., Stabbetorp, O., Hedblom, M., Glimskar, A., Gudmundsson, G.A., 2012. Indicator framework for measuring quantity and quality of biodiversity-Exemplified in the Nordic countries. *Ecological Indicators* 13, 14-116.

Institute first author: DCE

Institutes co-authors: NINA, SYKE, SLU, Other

Reference: Ockinger, E., Bergman, K.O., Franzen, M., Kadlec, T., Krauss, J., Kuussaari, M., Poyry, J., Smith, H.G., Steffan-Dewenter, I., Bommarco, R., 2012. The landscape matrix modifies the effect of habitat fragmentation in grassland butterflies. *Landscape Ecology* 27, 121-131.

Institute first author: SLU

Institutes co-authors: UFZ, SYKE, SLU, others

Reference: Prevosto, B., Kuiters, L., Bernhardt-Romermann, M., Dolle, M., Schmidt, W., Hoffmann, M., Van Uytvanck, J., Bohner, A., Kreiner, D., Stadler, J., Klotz, S., Brandl, R., 2011. Impacts of Land Abandonment on Vegetation: Successional Pathways in European Habitats. *Folia Geobotanica* 46, 33-325.

Institute first author: Irstea

Institutes co-authors: Alterra, INBO, UFZ, Other

Reference: Sutton, M.A., Oenema, O., Erismann, J.W., Leip, A., van Grinsven, H., Winiwarter, W., 2011. Too much of a good thing. *Nature* 472, 159-161.

Institute first author: CEH

Institutes co-authors: Alterra, PBL, Other

Reference: Trolle, D., Hamilton, D.P., Hipsey, M.R., Bolding, K., Bruggeman, J., Mooij, W.M., Janse, J.H., Nielsen, A., Jeppesen, E., Elliott, J.A., Makler-Pick, V., Petzoldt, T., Rinke, K., Flindt, M.R., Arhonditsis, G.B., Gal, G., Bjerring, R., Tominaga, K., Hoen, J., Downing, A.S., Marques, D.M., Fragoso, C.R., Sondergaard, M., Hanson, P.C., 2012. A community-based framework for aquatic ecosystem models. *Hydrobiologia* 683, 25-34.

Institute first author: DCE

Institutes co-authors: DCE, PBL, UFZ, CEH, Other

Reference: van Vuuren, D.P., Isaac, M., Kundzewicz, Z.W., Arnell, N., Barker, T., Criqui, P., Berkhout, F., Hilderink, H., Hinkel, J., Hof, A., Kitous, A., Kram, T., Mechler, R., Scricciu, S., 2011. The use of scenarios as the basis for combined assessment of climate change mitigation and adaptation. *Global Environmental Change-Human and Policy Dimensions* 21, 575-591.

Institute first author: PBL

Institutes co-authors: PBL, ICE-PAS, PIK, Other

In summary

In 2011, 17 papers were published with first author from an ALTER-Net partner institute and co-authors from two or more ALTER-Net partner institutes involved. These 17 papers include the one paper on Multi-Site Experiment I which has a first author not working at an ALTER-Net partner institute.

Simon G. Potts, Koos Biesmeijer, Riccardo Bommarco, Antonio Felicioli, Markus Fischer, Pekka **Jokinen**, David Kleijn, Alexandra Klein, William Kunin, Peter Neumann, Lyubomir Penev, Theodora Petanidou, Pierre Rasmon, Henrik Smith, Peter Sorensen, Ingolf Steffan-Dewenter, Bernard Vaissière, Montserrat Vilà, Ante Vujić, Michał Woyciechowski, Martin Zobel, Josef Settele and Oliver Schweiger (2011): Developing European Conservation and Mitigation Tools for Pollination Services. *Journal of Apicultural Research* 50:2, 152-164. DOI 10.3896/IBRA.1.50.2.07.

Table 2.4. List of publications (2011 – March 2012) in which ALTER-Net is acknowledged (i.e. provided funding)

Reference: Archaux, F., Henry, P.Y., Gimenez, O., 2012. When can we ignore the problem of imperfect detection in comparative studies? *Methods in Ecology and Evolution* 3, 188-194.

Institute first author: Irstea

Institute co-authors: Irstea, CNRS, Other

Reference: Bernhardt-Romermann, M., Gray, A., Vanbergen, A.J., Berges, L., Bohner, A., Brooker, R.W., De Bruyn, L., De Cinti, B., Dirnbock, T., Grandin, U., Hester, A.J., Kanka, R., Klotz, S., Loucougaray, G., Lundin, L., Matteucci, G., Meszaros, I., Viktor, O., Preda, E., Prevosto, B., Pykala, J., Schmidt, W., Taylor, M.E., Vadineanu, A., Waldmann, T., Stadler, J., 2011. Functional traits and local environment predict vegetation responses to disturbance: a pan-European multi-site experiment. *Journal of Ecology* 99, 777-787.

Institute first author: Other

Institutes co-authors: NERC, Irstea, JHI, INBO, SLU, ILE-SAS, UFZ, UNIBUC, SYKE, Other

Reference: Cocciufa, C., Cerretti, P., Matteucci, G., Carpaneto, G.M., 2011. Basic concepts and research activities at Italian forest sites of the Long Term Ecological Research network. *Forest-Biogeosciences and Forestry* 4, 233-241.

Institute first author: CONECOFOR

Institutes co-authors: Other

Reference: Fischer, A., Bednar-Friedl, B., Langers, F., Dobrovodska, M., Geamana, N., Skogen, K., Dumortier, M., 2011. Universal criteria for species conservation priorities? Findings from a survey of public views across Europe. *Biological Conservation* 144, 998-1007.

Institute first author: JHI

Institutes co-authors: ILE-SAS, UNIBUC, NINA, INBO, Other

Reference: Marmureanu, L., Geamana, N.A., Vadineanu, A., 2011. METHODOLOGICAL ASPECTS OF THE INVESTIGATION OF COMPLEX INTERACTION AMONG PEOPLE AND BIODIVERSITY'S COMPONENTS. *Carpathian Journal of Earth and Environmental Sciences* 6, 159-172.

Institute first author: Other

Institutes co-authors: UNIBUC, Other

Reference: Prevosto, B., Kuiters, L., Bernhardt-Romermann, M., Dolle, M., Schmidt, W., Hoffmann, M., Van Uytvanck, J., Bohner, A., Kreiner, D., Stadler, J., Klotz, S., Brandl, R., 2011. Impacts of Land Abandonment on Vegetation: Successional Pathways in European Habitats. *Folia Geobotanica* 46, 303-325.

Institute first author: Irstea

Institutes co-authors: Alterra, INBO, Irstea, Other

In summary

6 papers were realized with direct ALTER-Net funding in 2011 and the papers acknowledged ALTER-Net for this.

Appendix 3: Work plan, allocated budget and financial overview 2011

Table 3.1. Overview of expected income and budget allocation April 2011 – March 2012

INCOME	EURO	Expected
DN/NFR/All institutes		305 000
COSTS	fixed with contract	APPROVED BY COUNCIL:
	*	145 000 Secretariat (Hours)
	*	20 500 Running Secretariat
	*	50 000 Summer School
	*	10 000 Multi Site Exp
	*	8 500 LTER secretariat
		10 000 communication + publication
		6 000 Mobility fund /contingency
		13 000 ALTERNet Helsinki workshop on LTSER
		7 000 ALTER-Net TEEB workshop
		4 000 Brussels workshop (Directors meeting and Commission briefing)
		13 000 ALTER-Net Paris follow up conference
		8 000 Funding "Infrastructure" (incl. Background study on use of LTER for N2000)
		5 000 Task force "Infrastructure" (incl. Meeting with Commission and development of "infrastructure")
		5 000 Strategic meeting with Council, young researchers and stakeholders
		305 000

Explanations to budget – work plan:

- The sections marked with a star are contract bound funding.
- Within the communication and publication are included: New and updated website, general communication building, products from ALTER-Net events, and the expert database development. We must also sell our events to researchers within the partner institutes.
- Contingency also includes the mobility fund.
- LTER bridge to NATURA 2000 – The Management board will organize a background study on how to make use of the LTER-site data for the NATURA2000 management plans.
- We do not allocate any money on connecting with Marbef, as this can be done without funding.
- The 5000 Euro for the LTER task force is for lobbying and promoting the LTER-ALTER-Net bond and implementing the actions resulting from the policy document. There also came up a suggestion to hold a meeting for the Commission about the infrastructure activity of ALTER-Net.

Table 3.2. Budget used versus budget allocated, April 2011 – March 2012

INCOME		EURO		
DN/NFR/all institutes		307 000		
SUM		307 000		
<hr/>				
COSTS				
SALARIES SECRETARIAT		<i>Allocated</i>		<i>Left-over for re-allocation in 2012</i>
Hours JvD, KU, GU		80 160		
SUM		80 160	145 000	15 000
RUNNING SECRETARIAT				
Costs ECNC (fundraising)		1 000		
Printing, post, teleconf		495		
ICSU meeting travel costs Geert		240		
Travel & hotel secretariat		8 240		
Travel & hotel Taru for participation EPBRS meeting Hungary		653		
ECNC at ALTER-Net council meeting Helsinki		664		
SUM		11 292	20 500	5 000
SUMMER SCHOOL				
Travel costs		8 020		
Accommodation Peyresq		24 804		
Excursion		2 450		
Miscellaneous		1 690		
Salary Sabine		30 000		
Payment tutors		8 000		
Student fee (income)		-23 000		
SUM		51 964	50 000	
MULTI-SITE EXP II		<i>Allocated</i>		
Travel reimb for repeat		1 380		
Repeat of Experiment		3 393		
New meeting		5 227		
SUM		10 000	10 000	
Communication and publication		<i>Allocated</i>		
Moving to new website		466		
Ecsite membership 2011		433		
Assistance new website and e-letter		4 000		
SUM		4 899	10 000	5 000
LTSER meeting (SYKE)				
5th payment		13 062		
SUM		13 062	13 000	
LTER-secretariat: ERCE				
according to contract NINA-ERCE		8 500		
SUM		8 500	8 500	
Infrastructure				
Natura 2000		8 000		
Task force LTER/ALTER-Net relationship		5 000		
SUM		13 000		
Contingency and Mobility fund				
Simron Singh (IFF)		1 399		
SUM		1 600	6 000	4 000
Young researchers meeting		5 000		5 000
TEEB workshop		7 000		7 000
Brussel workshop		4 000		4 000
PARIS follow up conference		13 000		13 000
SUM COSTS		181 477	305 000	58 000

Appendix 4: The Interface between ALTER-Net and LTER-Europe

Strategic paper

Final v06, 2011-06-20

By the ALTER-Net task force on strengthening the ALTER-Net - LTER-Europe relationship

Vision

ALTER-Net and LTER-Europe are two international networks dedicated to environmental research covering biodiversity, ecosystem, and socio-ecological research. A close collaboration between ALTER-Net and LTER-Europe will strengthen the activities of both networks by linking the strategic planning of biodiversity, ecosystem and socio-ecological research with actual monitoring and experimentation on a European scale through recognized *in situ* infrastructures. By strengthening the activities of both networks our biodiversity, ecosystem and socio-ecological research area will be successful in the competition with research teams not only at the European level but also at the global level. A close collaboration between the networks will also provide sound environmental and biodiversity knowledge **to support public policies**.

- For ALTER-Net new emerging research priorities and policy relevant research issues should easily be captured by using the data infrastructure. ALTER-Net gains facilitated access to sites and data from the LTER-Europe network for comparative studies e.g. as part of EC FP projects.

Strengthening the ALTER-Net – LTER-Europe relationship will lead to a unique and very strong position of both networks in the European arena of problem oriented and dynamic biodiversity, ecosystem and socio-ecological research.

Background

LTER-Europe represents a network of in situ research facilities (with Long Term Ecological Research sites and Long Term Socio-Ecological Research Platforms), organized through national networks in which national key institutions have a leading role. **ALTER-Net is a formalized consortium of European institutions**, of which the majority acts as such national key institutes of LTER in their respective countries. The FP6 Network of Excellence ALTER-Net (2004-2009) conceptualized and initiated LTER-Europe mainly through its consortium partners as an important infrastructural component of the ALTER-Net network.

ALTER-Net is a network of institutions aiming at increasing the coordination, integration and the promotion of biodiversity, ecosystem and socio-ecological sciences between research institutes and to provide sound scientific knowledge. On the other hand LTER-Europe is a network of scientific infrastructures dedicated to monitoring, experimentation and research on biodiversity and ecosystems. ALTER-Net stakeholders are researchers, managers, policy makers, politicians and the general public. LTER-Europe stakeholders are especially scientific institutes and environmental agencies.

In both networks, active and engaged biodiversity research institutions play a key role when legal entities are required for consortia in response to typical EC calls. However, networks of institu-

tions, such as ALTER-Net, are more sustainable than networks of sites or national LTER networks because they meet the legalistic requirements to response to EC calls.

Indicators of success

- Increased use of LTER sites and LTSER platforms by the ALTER-Net scientific community (i.e. number of collaborative research activities using the main infrastructure of LTER. (Increased use in a network perspective and not based on single use by individual institutes)
- Number of joint events (i.e. meetings, workshops, symposia, trainings, Multi-Site Experiments) organized together (again in a network perspective)
- Number of problem oriented dynamic research initiatives for which ALTER-Net uses the multi-scale and nested social-ecological scientific infrastructure provided by *LTER-Europe*
- Increased number of ALTER-Net consortia for EU proposals relevant for integrating the use of LTER-sites and platforms
- Increased number of scientific publications citing both ALTER-Net and LTER-Europe as founders of the research possibility

Actions

- Joint identification of problem oriented dynamic research initiatives, which are scientifically interesting and societally relevant
- Consistent cross-referencing of ALTER-Net and LTER-Europe in public presentation, including the use of the statement on the interaction of ALTER-Net and LTER-Europe on the website, explaining the nature as in-situ pillar (data provider) of ALTER-Net
- Establish good links to administration and policy makers (nationally and on the European scale) by joint participation of ALTER-Net – LTER representatives (i.e. organize multiple lobbying through national networks (LTER) and centrally (advisory role for the EC))
- Promote data access and integration at European level by supporting convergence to standards for monitoring and reporting environmental and biodiversity indicators
- Organize joint training activities
- ALTER-Net and LTER-Europe co-finance joint activities such as MSE III
- See for emerging research questions which may come forward at the LTSER workshop in Helsinki for instance and use part of ALTER-Net's general budget for seed money (i.e. organize working group meetings, provide exchange possibilities so that working groups work out these emerging research questions)



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