

Future Earth Norway

Workshop 7. May, 2015,
Research Council of Norway, Oslo

Summary and reflections

Background: About Future Earth

A major restructuring of the global change research programs started in 2011 as a result of several call for more coordinated scientific and societal responses to global environmental change. The result is the 10-year international research initiative Future Earth, a global environmental change research platform with the aim of providing knowledge and support to accelerate transformations to a sustainable world.

Future Earth will coordinate new, inter- and trans-disciplinary approaches to research on three themes: Dynamic Planet, Global Sustainable Development and Transformations to Sustainability. It is open to scientists of all disciplines, natural and social, as well as engineering, the humanities and law, and seeks to work together with business, NGOs, civil society and government to foster equitable and sustainable responses to global challenges.

The design and implementation of Future Earth is innovative and calls for new ways of approaching and managing research. It will promote integrated, interdisciplinary research that is *co-designed* and *co-produced* with stakeholders to ensure research that is socially relevant and solutions oriented. Stakeholder engagement is considered important in framing research questions, analyzing problems, making sense of results, and dissemination.

About the Workshop

Future Earth Norway Secretariat (UiO), in collaboration with the Research Council of Norway (RCN), organized a Future Earth Norway start-up workshop on 7. May 2015 at the RCN in Oslo. The goal of the workshop was to initiate discussions on how researchers in Norway can get involved in Future Earth, to take advantage of the opportunities that international science has to offer and build a vibrant Future Earth Norway community.

The workshop gathered about 36 participants that included researchers and experts from a range of organizations, disciplines and thematic areas (see attached participant list). There was a mix of natural and social scientists, as well as several researchers from the humanities. Although the majority of participants associate themselves with global environmental change research, some of the participants were from the field of sustainability and poverty research. Participants also included one researcher from the business sector, and several people from RCN. Ongoing global change core projects were represented, including the Global Carbon Project (GCP), the Integrated Marine Biogeochemistry and Ecosystem Research program (IMBER), and the Climate and Cryosphere Project (CliC).

The workshop started out with a welcome speech by Kirsten Broch-Mathisen (RCN), who provided an overview of past Norwegian engagement with the global programs and initiatives. Linda Sygna (Future Earth Norway Secretariat, UiO) followed by presenting the goals and program for the workshop, including a short update on the process of establishing a Future Earth Norway Secretariat at Department of Sociology and Human Geography at University of Oslo. Karen O'Brien (Future Earth Science Committee; UiO) gave an overview of the Future Earth vision and research agenda, including the role of core knowledge networks and fast track initiatives. Owen Gaffney (Future Earth Stockholm Hub; Stockholm Resilience Centre) then followed with an overview of how Future Earth will operate and how research communities can get engaged in Future Earth.

With this as a starting point, the workshop moved into an open space format with discussions, brainstorming and a 'Future Earth Café.' Questions such as the following were discussed:

- What can Future Earth bring to Norwegian research?
- How can Norway develop a vibrant Future Earth Community?
- What do we want to achieve with Future Earth Norway?
- What would a successful Future Earth Norway community look like?
- What needs to be in place for a successful Future Earth Norway community to develop?

In the following we report back from the workshop conversation by focusing on some of the key issues that emerged during the workshop. One point that was stressed repeatedly by participants was the desire to create spaces for developing critical scientific knowledge for understanding and enabling transformations to sustainability.

New opportunities for integrated research

Future Earth will create a space for a wide spectrum of integrated global change and sustainability research. This space needs to be filled with solutions-oriented research that brings together the natural and social sciences and the humanities. Although this integration is long overdue and needs to happen, past experience shows that this is a difficult task. Many efforts have been made to promote interdisciplinarity and integration between natural and social sciences and humanities, often with limited success. Many at the workshop thus expressed a frustrated optimism.

Norway has a strong research community to build on when developing a Future Earth Norway research community. A key challenge is integration, which is seen as part of a longer process of collaboration, capacity building and experimentation. It would be considered very valuable if Future Earth could offer a model, a platform, or a process that takes integration a step or two further.

Although integration is a key characteristic of Future Earth research, it was made clear at the workshop that there are many ways of engaging with Future Earth, and maintaining this diversity of options will be important to its success. Importantly, this includes making a space for social scientists who are critical of the 'Earth System' framing. Similarly, it was considered important to integrate researchers from the humanities. Funding for interdisciplinary research was mentioned as an important prerequisite for any integration. It was pointed out that it seems easier to get funding for networking among different disciplines and perspectives, than for actual research.

There were concerns among the workshop participants that Future Earth would not maintain a place for foundational research. In an eagerness to promote co-production of knowledge and

transdisciplinarity, one can lose sight of the significance of disciplinary research. This is particularly a concern for research linked to the Dynamic Planet theme (one of the three main themes in Future Earth).

Another concern that was raised was the harmonization and streamlining of research agendas could potentially result in little room for independent research, diversity and openness. There seems to be a very open approach at Future Earth, where different research projects and sustainability initiatives can be endorsed or affiliated with Future Earth.

It was stressed that Future Earth Norway should provide a platform for creating teams around interesting issues, including mediators, translators, and facilitators. One example was related to oceans, sea level rise, flooding and migration. Another example brought up during the workshop was the need for a more integrated approach to research on renewable energy, where technical, social, cultural, and environmental knowledge are all relevant and connected.

A Norwegian Future Earth community

Building a community and getting the scientists (and actual research) on board will be critical to the success of Future Earth. This itself is a transformative journey that can be likened to building the ship while sailing. And according to Owen Gaffney, the heart of Future Earth's ethos is for nations to self-organize around Future Earth research agenda through dialog with funders, researchers and stakeholders.

Innovative ways of informing and recruiting members to Future Earth Norway would be essential for building a vibrant and broad "network of networks" that is attractive to the whole spectrum of disciplines and themes. The diversity and linkages among themes was considered a prerequisite for a successful Future Earth Norway, avoiding for example that climate change is seen in isolation from other challenges. Further, the network should be attractive to excellent scientists, both young and more senior, from both natural and the social science and humanities. The humanities can serve as a very valuable link between the natural and social sciences. It was also made the point that a successful Future Earth Norway community should include civil society, policy and private sector members as well as researchers.

One idea that came up at the workshop was to map current activities that can potentially feed into Future Earth. Such a mapping could represent one way to tap into experiences of what works and what does not work in terms of both integration and internationalization of research.

Secretariat and national committee/steering group/or other

We have now established a Future Earth Norway secretariat at the University of Oslo. Linda Sygna will lead this secretariat with some support from Karen O'Brien. The main task for the secretariat in the start-up phase will be to provide platforms for dialogues about what organizational model Norway can follow. In parallel, the secretariat will catalyze, coordinate, and organize activities for Future Earth Norway and communicate on the national and international level. The secretariat will also be the national contact point for Future Earth and other international and regional initiatives for global change research. Our hope is that the secretariat will eventually move among institutions so that we develop a community of researchers and stakeholders who are committed and engaged with Future Earth.

Future Earth does not instruct how each country should set up their structure and whether and how to develop national committees; it keeps it quite flexible for countries to develop organizations and committees that are best suited to the countries needs. At the workshop there were mixed opinions as to whether Norway should have a national committee/steering group. Some felt that such a committee would be adding just another committee to a well-covered field, and that meeting and networking would draw time and resources away from actual research. Others made the point that a committee or steering group could serve as catalysts for broader networks and visibility, and at the same time include stakeholders. This group would then require a clear mandate and need visibility and a strong voice. In addition, the costs of convening the group or committee would need to be met. One idea that came up at the workshop was a Future Earth Norway research structure with distributed centers.

Although the willingness to self-organize is high, there is a need for specific contact points in the network with clear links to Future Earth, which a committee could fulfill. There are several arguments for this: First, such a committee could serve as a platform for Norwegian researchers to connect with global and regional activities in Future Earth, including collaboration with the European Alliance and the European Future Earth Hubs. Second, it could advance transdisciplinary research networks related to Future Earth topics, and thus foster more linkages between scientists (across disciplines) and stakeholders. Third, a committee could support the dialogue between researchers, users and funders to identify high impact research topics. And finally, it could support networks and engagement of young scientists.

Germany has been brought up as an example of a good national Future Earth structure (www.dkn-future-earth.org). It has an active National Committee of Future Earth that is supported by the German Science Foundation (DFG) and has six permanent members. The committee is supported by a Scientific Secretariat that handles the day-to-day operations.

Co-Design and co-production of research

One of the most innovative aspects of Future Earth is the co-design and co-production¹ of knowledge. The aim is to build and connect global knowledge to expand the impacts of research and accelerate sustainable development.

Co-design and co-production of research was an important topic throughout the workshop. Future Earth can catalyze new ways of doing research on global challenges and deliver research that is relevant for end-users. Future Earth Norway should connect research and society, and provide the infrastructure and platforms for interaction. The network should be a pool of different networks (municipalities, smart cities, private sectors etc.) that can come together to find shared themes and generate activities.

Several workshop participants expressed frustration and uncertainty on questions such as: Who are the key stakeholders? How can one keep research from being politicized? Collaboration with stakeholders takes time and resources, and the question is how well current funding models are set up for such collaboration? Expert involvement can complicate research, especially when new concepts

¹ ”Co-design and co-production of knowledge envisage that both researchers and stakeholders are involved in framing questions, analysing problems, and making sense of results together. Whilst researchers are responsible for the scientific methodologies, the definition of the research questions and the dissemination of results are done jointly” (<http://www.futureearth.org/impact>).

and interests are brought in. Owen Gaffney stressed that this new way of research is not an end in itself, but rather represent tools to reach Future Earth's goals. They are not the goals themselves. And importantly, there are many other essential tools too, including disciplinary research.

The co-design and co-production approach is new to many, but there may be examples in Norway that can serve as an inspiration. These cases should be looked into and learned from. The field of development research was mentioned as a good source of learning about participation and engagement of stakeholders.

During discussions on who are important stakeholders, the Ministries were mentioned, as these are important sources of information about pressing knowledge gaps, as well as important funding sources through the RCN. It was also stressed that these changes in ways of doing research requires time and money.

Education and training

Education and capacity building have been identified as important cross-cutting issues in Future Earth. The education system in Norway was brought up several times, particularly in discussions about integration and transdisciplinarity. Just as research tends to remain in disciplinary "boxes," so does education, making it difficult to look beyond disciplinarity to understand other perspectives and how they fit into a larger picture. Universities are important stakeholders and arenas where Future Earth Norway can make a difference in influencing curricula and organizing courses, talks and dialogues. This can potentially change universities and attract young researchers who are interested in interdisciplinary education. However, universities have to see the value added by transdisciplinary and interdisciplinary research before any larger change takes place. It would therefore be important to establish research collaborations that can serve as good examples of integration and co-designed research on global challenges. A measure of success would be the emergence of sustainability centers/faculties.

One of the young sustainability/climate change researchers made an interesting comment about the lack of integration. She explained that she felt that she was not in a box, but in many boxes, as she had double degrees. Many young researchers have a foot both in environmental sciences and in social sciences and can serve as translators between natural and social scientists, and as catalysts for transdisciplinary research.

Future Earth Norway can provide arenas for engaging students and young researchers. Training for young researchers was mentioned several times during the workshop. The summer schools at different universities provide an easily-accessible arena for setting up an interdisciplinary Future Earth Norway Summer School on various themes. This is something that can be done in the summer of 2016, and the secretariat will send out a request for potential ideas for integrated summer school courses. Research schools are another available arena where Future Earth Norway can offer courses for PhD students both in Norway and internationally. The potential with online education was mentioned at the workshop. Several institutions have experimented with massive open online courses (MOOC) -- online courses aimed at unlimited participation and open access through the internet. This is a tool that Future Earth Norway could explore. START is a potential collaborator when it comes to the transfer of knowledge from Norwegian researchers to students and early career researchers in the south. The North-South/South-North dialogue on scientific capacity building should be emphasized in Future Earth Norway.

Training and involvement of students could also be a priority for Future Earth Norway. Vitenskapsbutikken (a clearing house for master thesis themes) is potentially one way to go. Internships were also mentioned as a tool to engage students.

It is important to also recognize that many researchers and stakeholders are moving into new territories with co-design and co-production of knowledge. It will be important to support the research community and stakeholders to develop and share necessary skills, for example through capacity building workshops and events.

Communication and media

It will be important to build a brand around Future Earth Norway, where both credibility and visibility is central. A measure of success is the level of awareness about global challenges among the Norwegian population.

At the workshop the need for a media strategy was mentioned, to ensure media presence and skillful communication to policy makers and the general public. Future Earth Norway should be able to connect journalists with interests on certain topics with researchers or direct journalists to relevant sources of information.

Dialogs were mentioned several times during the workshop as an tool to present different perspectives and also an arena to meet stakeholders, such as for example policymakers and experts. It was suggested that Future Earth Norway has its own conference series. In other countries, Town Hall meetings have been tried out. Finland hosted their second Town Hall meeting 26. May (http://futureearthfinland.fi/index.php/tapahtumat/15-future-earth-townhall-meeting/event_details).

Being more present in the public debate on global change and sustainability issues should be a goal for Future Earth Norway. It would be effectual to be able to mobilize a group of researchers from multiple institutions and disciplines to answer on pressing issues in the public debate. Talk shows were mentioned as one avenue for publicity. Sweden is potentially an good role model on making research and researchers available to media.

Alignment of research agendas and funding

One important task for Future Earth Norway is to give advice to national research funders about the opportunities in Future Earth and related programs. There were concerns among the workshop participants that national and international research funding agendas were not aligned with Future Earth. An important task for Future Earth Norway is working towards alignment the research agenda of existing programs such as for example in the RCN and NORHED (Norwegian Programme for Capacity Development in Higher Education and Research for Development), with those in Future Earth. It also means integrating environment in multiple research programs at RCN and Horizon 2020. The European Alliance (<http://ea-globalchange.org>) and the Future Earth European hubs are important collaborators when it comes to influencing European research priorities and interests.

Key research questions in Norway

During one of the workshop breaks we asked each participant to suggest one or two research themes that he or she would like to bring to Future Earth. Also during the discussions topics for research were

brought up. Several workshop participants mentioned the need to gather around some key themes/questions that we want to address in Norway. These would be strategically important topics in global change and sustainability research with scientific and societal relevance, and areas where we are strong. It would, however, be important that these are bottom-up research priorities championed by engaged and connected researchers. One idea could be to establish a few topical working groups to develop Norwegian Future Earth research.

Several participants suggested that ocean would be a strategically important theme to bring into Future Earth and where Norway could produce integrated research with stakeholders. Also the need for critical scientific knowledge for transformation to sustainability was mentioned. Issues of concern in a developing country context were also mentioned as important to include in a Future Earth Norway research portfolio.

The list of topics that resulted from the coffee break exercise at the workshop is given below:

- Participation (How do we know how are key stakeholders, how do we engage them)
- Power structures and special interests.
- What do governance structures facilitating a sustainable development look like?
- Effects of climate change on migration.
- Methodology on how to define relevant stakeholders and efficient co-creative structures.
- Water cycle
- The role of celebrities and the media.
- Links between human population growth and climate change.
- How to hinder that economic power interests forms the research policy agenda in a co-design process?
- Education and capacity building.
- Regional/Nordic teleconnections: Climate change and impacts on society.
- Marine resources moving into new areas controlled by other states.
- Scenarios: Ability to predict the state of the ocean.
- What are the pro and cons for societal actors (private businesses) involvement in co-test/pilot/case studies?
- Research on science-policy interface, uptake and use of knowledge.
- Questions of how a transition happens, how to initiate it, what types of tools/methods are relevant?
- Why are costs of transformations typically underestimated?
- How to change the motivation of the business sector?
- “Communication” of “Big Picture”: humans as part of system.
- Social tipping points.
- Renewables
- Motivations to respond (psychology).
- Greenhouse gasses in the atmosphere, land and oceans (observations and networks).
- Political economy dependent on growth.

Appendix I: Workshop Program

Future Earth Norway Workshop

Time: 10:00-15:30

Date: Thursday, 7. May, 2015

Place: The Research Council of Norway, Drammensveien 288, Lysaker

09:00 – 10:00 Registration and Refreshments

10:00 – 10:05 Presentation: Welcome

By Kirsten Broch Mathisen, Special Adviser, Research Council of Norway

10:05 – 10:15 Presentation: Workshop Background, Goals and Agenda

By Linda Sygna, Project leader, University of Oslo

10:15 – 10:35 Presentation: Future Earth- What is the Vision?

By Karen O'Brien, Science Committee Member, Future Earth, and Professor, Department of Sociology and Human Geography, University of Oslo

10:35 – 11:05 Presentation: Future Earth – Status on Initiative

By Owen Gaffney, Communications Consultant, Future Earth, and Director, International media and strategy, Stockholm Resilience Centre

11:05 – 11:35 Ice-Breaker Break

11:35 – 12:40 Group and Plenary Discussions: What can Future Earth Bring?

Chaired by Linda Sygna

Format: small group discussions followed by plenary dialogue.

12:40 – 13:30 Lunch

13:30 – 15:15 Future Earth Café: Sharing Ideas, Insights and Next Steps

Chaired by Linda Sygna

Format: world café/open space.

15:15 – 15:30 Final Remarks and Follow-Up

With Owen Gaffney and Linda Sygna

15:30 End of Workshop

Appendix II: Participants List

Future Earth Norway Workshop, 7. May, 2015

Participant List

Alf Håkon	Hoel	Institute of Marine Research
Arild	Vatn	Noragric
Asuncion Lera	St. Clair	DNV GL
Beatriz	Balino	Bjerknes Centre
Bjørn Tore	Kjellemo	Research Council of Norway
Camilla	Schreiner	Research Council of Norway
Corinna	Schrum	University of Bergen
Douglas	Sheil	Norwegian University of Life Sciences
Einar	Svendsen	Institute of Marine Research
Eivind	Hoff-Elimari	Research Council of Norway
Eystein	Jansen	University of Bergen/Bjerknes Centre
Glen	Peters	CICERO
Gwenaella	Hamon	Fram Centre
Hal	Wilhite	University of Oslo
Halvard	Buhaug	PRIO
Hans Kr.	Hernes	University of Tromsø
Inger-Ann	Ulstein	Research Council of Norway
Jenny	Baeseman	Fram Centre
Johnny	Johannessen	The Nansen Center
Karen	O'Brien	University of Oslo
Karen Victoria	Syse	SUM, University of Oslo
Katinka Elisabeth	Grønli	UiO Energi
Kirsten	Broch Mathisen	Research Council of Norway
Kristin	Rosendal	The Fridtjof Nansen Institute
Lars	Gulbrandsen	The Fridtjof Nansen Institute
Linda	Sygna	University of Oslo
Lutgart	Lenaerts	Noragric
Marit	Enger	University of Oslo
Olav S.	Kjesbu	Hjort Centre
Owen	Gaffney	Future Earth
Robbie	Andrew	CICERO
Rune	Solberg	Norwegian Computing Center
Svein	Østerhus	University of Bergen/Bjerknes Centre
Svein	Sundby	Institute of Marine Research
Truls	Johannessen	University of Bergen/Bjerknes Centre
Zlata	Turkanovic	Research Council of Norway