

futureearth

research for global sustainability

Report on Future Earth regional workshop for Europe

13-14 May2013

Paris, France



Introduction

This document is a report of the European workshop on Future Earth organised by the Institut Pierre-Simon Laplace with the support of the International Council for Science (ICSU) – and especially the Group of the European members of ICSU - and the International Social Science Council (ISSC). Thanks to the Académie des Sciences, the event was hosted at the Fondation Simone et Cino Del Duca, in Paris on 13-14 May 2013. The event gathered 96 scientists and stakeholders from 23 countries.

The workshop was structured around plenary information-sharing sessions, roundtable discussions (on the Sustainable Development Goals, current landscape of global environmental change research, etc.), and breakout sessions providing spaces for different views around the development and implementation of Future Earth in Europe to be expressed. The present report aims to reflect the diversity of views and opinions expressed during the meeting, whether from individuals or groups, and highlight commonalities and differences.

This initial consultation for Europe aimed to provide a forum to discuss and provide recommendations on the development of Future Earth, a 10-year international programme on Earth system research for global sustainability that was launched in Rio de Janeiro in June 2012. The goal of Future Earth is to provide the knowledge required for societies throughout the world to face the risks posed by global environmental change and to seize opportunities in a transition to global sustainability.

More information on Future Earth is available at: <http://www.futureearth.info/>

Presentations made during the workshop can be found here: http://wcrp.ipsl.jussieu.fr/future_earth/programme.html

1. Key recommendations

Future Earth provides an opportunity to mobilise science in new ways to support transformations towards global sustainability. The integration of scientific approaches across disciplines and domains is very much needed in the face of the global and regional environmental challenges as well as new ways of thinking about local problems in a global context to bridge the different scales of the problems and solutions.

Europe has an important role to play in the implementation of Future Earth given its long history of international collaboration and the numerous tools and initiatives that promote and support European collaboration on scientific issues and the delivery of excellent research. The level of political and economic integration achieved in Europe, especially within the EU, together with existing scientific capacity provide a strong base for Future Earth to grow.

The research framework of Future Earth cover three main areas of focus: “Dynamic Planet”, “Global Development” and “Transformation to Sustainability” and caters to a wide range of research communities and stakeholders. This could potentially create a number of challenges going forward:

- The broad scope of Future Earth makes it difficult to determine what falls within Future Earth’s scope and what does not at this early stage.
- Clear measures of success and milestones for implementation which are critical elements for fundraising and stakeholder engagement should be defined
- “Co-design”, “Solutions-oriented research”, etc. which are defining elements of Future Earth can be perceived as buzzwords and may drive away some excellent researchers. On the other hand, this process of stakeholder engagement could help to redefine research procedures
- Domain-specific communities are likely to be less visible, but possibly more effective within Future Earth

However, the open frame within the three research themes of Future Earth provides opportunities for the research community to shape the programme in a bottom-up manner. This has been initiated with the invitation to current GEC projects to transition into Future Earth. There is also a need for new mechanisms to encourage inputs from a wide range of stakeholders and the initiation of new activities.

In order to reach a clearer definition of the Future Earth vision, scope and objectives, there needs to be a stronger emphasis on communications and stakeholder engagement, fundraising and guidance from the interim secretariat and Future Earth science committee as they start operating.

The science-policy nexus also came across as critical for the development and value generation of Future Earth in Europe. While there are some processes in place at the global level (intergovernmental assessments, Sustainable Development Goals, etc.) and national level where the research community is engaging, other fora and mechanisms could be devised within Future Earth to strengthen science uptake and achieve higher impacts.

2. Other discussion points

A global context conducive to transformational thinking

The need for Future Earth to provide scientific insights and the benefits and challenges of different pathways to societal change was extensively discussed. All participants emphasised that in supporting a transformation towards global sustainability, the scientific community has a big role to play in providing robust science on the context and process of transformation. Some participants argued that the current global economic downturn creates a ‘spirit of frugality’ and a ‘spirit of transformation’ that Future Earth should harness to encourage innovative thinking. A critical aspect of that transformation relates to behaviour, lifestyles, governance and institutions where the insights from social sciences are crucial.



Whilst there was a consensus on the need to improve the uptake of science and for science to be more responsive to societal needs, participants cautioned against a purely “functional” approach to research that would be primarily policy-driven. Participants made clear that a balance between applied and basic science is needed and that an

appropriate balance of transdisciplinary, interdisciplinary and disciplinary research approaches is needed.

During discussions of metrics for success for Future Earth, different views emerged: while some wanted Future Earth to foster better governance and citizenship, we were reminded that Future Earth was first and foremost a research programme and, as such, should aim at delivering knowledge and development options to society and decision-makers. There was a call to develop metrics of success which extend beyond the policy realm at global, regional and national levels.

Linking across scales, from local to global

The goal of Future Earth to provide “actionable, solution-inspired” research for achieving global sustainability poses the question of the scales at which Future Earth will operate and produce knowledge, and the articulation of these scales. How will Future Earth strike the right balance in delivering knowledge that is specific enough to be of interest to a local policy body while addressing challenges that have a global scale to them?

Future Earth needs to work in its co-design approach with key stakeholders at different scales to identify what information is needed and at what scale. For many issues, coordination, integration and synthesis might be most effective at the regional scale.

The European context

At the EU level, *Horizon 2020* provides a framework for research and innovation for the period 2014-2020. There are a number of strategic orientations that align with the Future Earth framework including the focus on delivering scientific excellence, coupling research and innovation, addressing societal challenges through integrative (“de-siloing”) approaches.

A number of effective collaborative tools and funding mechanisms have been put in place which Future Earth research will benefit from: joint programming initiatives (JPI), ERA-NET, etc.

A lot of policies, regulations and legislations are generated at EU level and are implemented at national level, even in countries non included in the EU. This provides a unique context for Future Earth research to strengthen the science-policy interface.

Strengthening science-policy interfaces

Participants unanimously highlighted that research under Future Earth should not be policy-prescriptive but rather policy-relevant.

Future Earth should engage with existing science-policy processes and develop new spaces for dialogues only where needed. The current science-policy processes include the **intergovernmental assessments** such as IPCC and the newly formed IPBES. Future Earth has the opportunity to become



the major provider of broad scientific knowledge to these assessments and could contribute through knowledge gap analysis.

At the global level, the UN-driven process to define **Sustainable Development Goals**, in the wake of the Rio+20 Conference is another area where Future Earth can provide a major contribution. Future Earth could provide the underpinning science for the definition of the SDGs and help to devise scientifically sound monitoring and evaluation mechanisms of the goals and targets.

At national level, the function of **science advice** has developed in government agencies and ministries in some European countries (for example in the UK). Future Earth could play a role in supporting chief scientists, or national academies or similar bodies of national governments.

Future Earth should also connect with policy-makers in fora where policy-makers (government officials but also executives and staff working in government departments) forge their representation of the different issues related to global environmental change. Where these fora do not exist, Future Earth could support their creation.

Keeping Future Earth manageable and nimble at global and regional level

While the scope and ambition of Future Earth are very broad and exciting, participants highlighted the need to implement the programme at a scale that is manageable and can allow the effective delivery of its goals. This will be reflected in the **level of funding** that Future Earth will mobilise and also the number and **granularity of the projects** operating within Future Earth and the governance structure of the programme.

The development of Future Earth should not be too institutionally driven and rather focus on the integration of research approaches rather than structures. To this end, the Future Earth leadership is encouraged to devise a light governance structure and develop strong partnerships, including at the regional level, and connections with the regions around Europe with common problems as boreal regions or Mediterranean countries.

Participants emphasised that there are numerous initiatives and organisations working on GEC related research and Future Earth. The European community should support the Future Earth leadership in understanding this complex landscape in order to develop regional activities and a regional structure that can add value.

While participants felt that it was too early to define in detail the forms and functions of a regional node, it was recommended that all regional structures for Future Earth should be flexible and adaptive.

Functions that a **Future Earth European node** could take on include:

1. Integrate and disseminate knowledge to regional scientific and other stakeholder communities
2. Engage regional stakeholders and support on-going multi-stakeholder dialogues, co-design of research initiative and co-production of knowledge (matchmaking function)

3. Promote alignment of national programmes with Future Earth and influence the research agenda setting and programming at EU level as part of the co-design process
4. Identify, communicate and, where needed, coordinate funding opportunities
5. Map the European research landscape in key domains for integrative and multisectoral research. This should be complement existing mapping activities and tools (e.g. in Europe, mapping of research resources on marine environments by JPI Oceans, mapping for biodiversity by BiodivERsA, etc.)
6. Build regional capacity especially for young people and early-career scientists, and support education for sustainability at all educational levels
7. Support the coordination of regional Future Earth activities with other regions, and at global level
8. Strengthen institutional capacity (national level)
9. Act as an incubator of new projects

In addition, the need for a regional scientific body should also be explored.

Areas for new research and activities within Future Earth

Thematic areas that are not sufficiently represented in the Future Earth science agenda include:

- Governance and institutional change
- Behaviour and lifestyles
- Food systems
- Health
- Demography
- Wellbeing generally
- Communication using all modern forms of media and social networks

Besides, given the focus on producing solution-oriented research, research and activities should also be conducted in the following areas:

- Science of implementation: knowledge of the GEC challenges is not enough; research is needed on the mechanisms that can enable effective implementation of sustainable development)
- Research on science-policy and science-society interaction: how to strengthen these and improve their effectiveness as the simple delivery of knowledge is not enough
- Policy and technological innovations: they will be key to achieving global sustainability
- Synthetic science: synthesis activities and meta-analysis are needed to connect the dots among different bodies of knowledge; develop “digests” for decision-makers
- Issue-specific assessments: providing integrated knowledge and developing products that can attract attention from a wide range of stakeholders on key issues

Participants also remarked that the involvement of the climate community in Future Earth is fundamental. Although the World Climate Research Programme (WCRP) will not be merged into Future Earth along with the other three GEC programmes (Diversitas, International Geosphere-Biosphere programme - IGBP, International Human Dimensions Programme - IHDP), it should be well-represented within Future Earth.

Future Earth also has a role in developing the cross-cutting capabilities needed to deliver its science agenda. These include the development of global observing systems and placing new demands on data centres to address gaps, and theory development, for instance through the development of a theory of environmental dynamics.

Creating the conditions for successful implementation of the programme

Future Earth aims to foster new research and science communication approaches in support of a transition to global sustainability. But do we have the people, the resources and the capacities to do that?

Along with building a research agenda and setting up a governance structure, Future Earth needs to create or seek support to foster an environment conducive to its success. This includes **developing capacity** among the research community to deliver transdisciplinary research and integrative science for sustainability.

Future Earth needs to organise **learning on how to do integrative science** starting with collecting and sharing lessons learnt on stakeholder engagement from the many initiatives on the ground.

Education is a fundamental enabler for connecting science and society and developing the capacity of future decision-makers in all sectors to take up the knowledge that Future Earth will deliver. Sustainability should be included in curricula at all educational levels. Beyond disseminating knowledge on the challenges to achieve sustainability, it will also help develop a common language among different societal actors on sustainability. Existing activities that could be further developed under Future Earth include: online platform educational materials, summer schools (such as IIASA summer school, YES, ProClim), PhD Symposia, internet platform for internships and job openings, transdisciplinary Master programmes, professorships, etc.

Robust national structures need to be developed or existing structures connected to Future Earth to ensure an effective implementation of the programme both at the regional and national levels.

Balancing out top-down direction and bottom-up innovation

The process so far to establish Future Earth has put a strong emphasis on bringing the current GEC projects in to Future Earth. New projects should also be encouraged and clear mechanisms and guidelines communicated to allow scientists to come up with new ideas.

The Future Earth Science Committee, together with the other governance bodies of Future Earth, will have an important role in developing the framework outlined by the Transition Team in their [initial design report](#) in consultation with the research community and develop mechanisms to initiate activities.

Raise Future Earth's profile and create momentum

In the short-term, Future Earth should develop a network of “**ambassadors**”, including among the young researchers, in order to raise awareness of the programmes across the research communities. “**Champion countries**” could also help raise the profile of Future Earth at national level by promoting examples of initiatives to develop Future Earth nationally (change in national structures for GEC research, alignment of national research priorities with Future Earth research agenda, mechanisms to facilitate transdisciplinary research, etc.). National meetings to raise awareness of Future Earth are also important to create this momentum and engage national communities (ex: Germany had a first meeting in fall of 2012, the CNFCG in collaboration with the French Academy organised a meeting in April 2013; the UK Royal Society and British Academy are hosting a national meeting in June).

Scenario-building and foresight exercises are also important areas for Future Earth to explore as they can foster creative thinking, help define important societal questions which can spur transformational thinking, bridge worldviews especially between different stakeholder groups and provide useful tools for stakeholder engagement. Future Earth regions should organise a **participatory scenario-building exercise** involving futurologists working on visions of sustainable futures in 20 or 30 years' time.

Other early activities within Future Earth could also include working on “**win-win scenarios**” which crystallise questions that preoccupy policy-makers and societies. For example, how can we successfully reduce greenhouse gas emissions while creating jobs? These societal questions should be identified through on-going dialogues with policy-makers. Similarly, comparative studies among European countries on ways to reach sustainability could also help generate new collaborations across Europe under the Future Earth umbrella.

It was also proposed that Future Earth conducts, within the coming 18 months, a **Europe-wide survey of social attitudes** to shed light on perceived issues related to sustainability with which Future Earth is concerned. The survey could cover say 100 social units in 30 European countries. This would provide initial material for Future Earth on the state of the way science is communicated, attract media attention and raise the profile of Future Earth across Europe, “connecting big science to little people”. CCAFS has conducted similar studies for the agricultural community.

Quick win projects that demonstrate the value added of Future Earth should also be considered, especially during the interim phase. A web encyclopedia on sustainability could also help integrate and disseminate scientific knowledge produced by Future Earth. A Future Earth Day could also be organised on the model of the EU Maritime Day.

Engaging stakeholders at European level

Stakeholder engagement is an instrumental part of the global framework of Future Earth. The **mapping and understanding of stakeholders** is a pre-requisite to their successful engagement in Future Earth. However, it was felt that this exercise can be most meaningful when conducted at the regional level as there are significant regional specificities that a global mapping exercise would not capture. The mapping exercise should feed into a regional **stakeholder engagement strategy**.

This mapping exercise should help identify and understand the “customers” of Future Earth. The workshop did not aim to do this exercise; however, a number of organisations, funding mechanisms and tools were mentioned as important for Future Earth going forward:

- European Commission
- COST
- European Environmental Agency
- Eurostat
- Eurobarometer
- European south partnerships (AMMA, LBA, national ones)
- European Alliance of Global Change Research Committees
- European Business Council
- World Business Council on Sustainable Development

Funding perspectives

The main elements of the European Commission’s *Horizon 2020* proposal were presented. This included the overall decision making and consultation process and the priorities relating to: Responding to the economic crisis; addressing people’s concerns about livelihoods; safety and the environment; and strengthening the EU’s global position in research and innovation. A particular challenge relating to ‘sustainable development and climate change’ was introduced, with an emphasis on achieving a resource efficient and climate change resilient economy and a sustainable supply of raw materials, in order to meet the needs of a growing global population within the sustainable limits of the planet’s natural resources.

The strong link to the challenge and solution-orientated approach of Future Earth, and integration of natural and social sciences was very much recognised; the importance of the Future Earth community as a key stakeholder group for Horizon 2020, and the opportunities to engage with the Commission, both in regard to discussing priorities, shaping the guidelines for the research calls, and potential funding opportunities for research and co-ordination activities were highlighted.

The Belmont Forum Collaboration Research Actions provide funding opportunities for international projects contributing to the Future Earth agenda.

Besides, participants discussed the need for Future Earth to leverage new funding from a variety of sources and establish a pluri-annual funding strategy. It was suggested that Future Earth develops mechanisms to endorse projects (‘Future Earth label’).

3. Conclusion and next steps

Future Earth needs to be more than the sum of its parts. It needs to build on the existing research programmes but also open new research spaces through integrating approaches on fundamental issues, delivering solutions-oriented research that can effectively respond to societal needs and inform policy processes and contribute to transformation towards global sustainability.

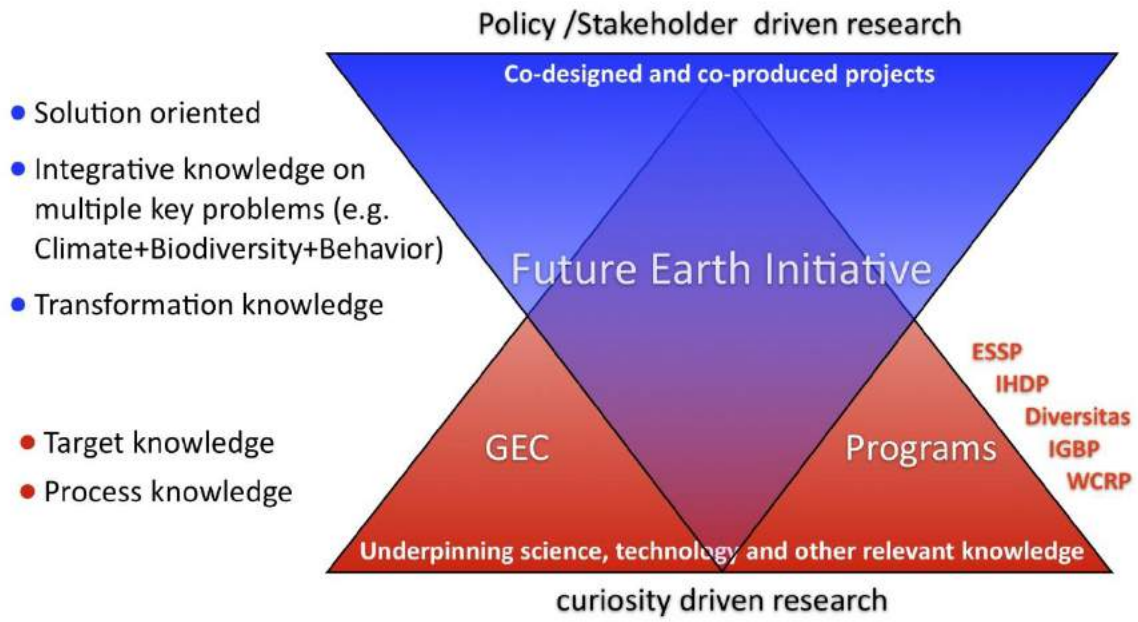


Figure 1: From C. Ritz's presentation - ProClim

