

Summary of the Sponsors Meeting on Visioning Institutional Frameworks for Global Sustainability

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The document *Grand Challenges for Global Sustainability Research* (ICSU-ISSC, 2010: <http://www.icsu-visioning.org/>) defines five major research challenges for the next decade and emphasises the need for an integrated, trans-disciplinary approach to address these. In brief, these challenges are concerned with 1) Forecasting, 2) Observations, 3) Thresholds, 4) Responses, and 5) Innovation. This sponsor's meeting was designed to examine the institutional frameworks that will be necessary at the global level to address these grand challenges. Around 40 people attended the meeting and contributed with their views on what would be the most suitable institutional framework to support this research agenda. The annex at the end of this summary provides a complete list of the participants who represent co-sponsors of the four global environmental change (GEC) programmes (IGBP, WCRP, DIVERSITAS, IHDP and their partnership ESSP) and the three global observing systems (GCOS, GTOS, GOOS), chairs of the scientific committees for these programmes, representatives of other related international programmes, research funding agencies, and international experts on related research and organisational structures. The meeting was chaired by Johan Rockström, with support from an expert ICSU visioning task team. The primary goal of the discussions was to agree on the essential elements of an Institutional Framework for implementing the Grand Challenges in Global Sustainability Research. The discussions were informed by a prior online consultation and an Open Forum on 22 June which had brought together over 100 experts to address both the *Grand Challenges* document and the institutional framework.

The sponsor's meeting was organised as a workshop and included both plenary and break-out group discussions. The following consensus conclusions reflect these discussions.

On the Grand Challenges:

- The (further revised) *Grand Challenges for Global Sustainability Research* document is an acceptable Framework for organising sustainability (or integrated Earth Systems) research over the next decade.
- The Grand Challenges document is attractive in that not only does it integrate research but it also provides a link with integrated services, eg for climate and adaptation.
- A more detailed implementation plan with more specific project criteria and/or research priorities at the programme level now needs to be developed.

On institutional structures:

- The *status quo* cannot deliver the integrated research that is needed to effectively respond to the Grand Challenges.

- The existing GEC programmes have performed very well, but are now variously struggling to attract funding and young researchers.
- The Earth System Science Partnership (ESSP) does not have the resources or the authority to play a lead role in responding to the Grand Challenges. Any evolution of ESSP, or development of a new overarching structure, needs to have both of these.
- Increased resources are essential to make (existing and/or) new structures work.
- The current complex system of global structures, with multiple interlocutors, makes it difficult to co-design with funders and other key stakeholders.
- There is considerable potential for greater ‘core’ integration of the existing programmes, eg IGBP and IHDP.
- A complete merger of all the programmes is not feasible at this stage.
- A more systematic SWOT (Strength Weakness Opportunity Threat)/gap analysis of the current programmes, joint projects and other international initiatives, eg GCOS and GEOSS, relative to the Grand Challenges would help in defining redundancies and unmet needs.
- Much integrated research in line with the grand challenges is already happening in institutions and networks outwith the GEC programmes and ESSP and this will continue regardless of whether the structures change. However, this opportunistic approach does not constitute the concerted coordinated global effort that is really necessary. Part of the research efforts in many countries will remain poorly connected in the absence of an agreed global agenda.
- Experts caution that there is a window of opportunity and momentum now that has been built during the development of the Grand Challenges and this must not be lost in prolonged discussion about structures. Prompt action is desirable.
- In the end, what matters is delivering the science to answer the Grand Challenges and to do this more rapidly and effectively than is likely to happen with the current structures.

The way forward

Based on the general consensus on key issues summarised in the bullets above, the first steps towards developing a new institutional framework can be proposed.

- There is a need for a new structure which allows more integration of the existing GEC structures and activities. This might be envisaged as a transformed and strengthened ESSP.
- The Grand Challenge agenda should be owned by the new structure and an overarching governance/steering committee should be set-up rapidly to guide the implementation of the transformation,
- The overarching steering committee should have the following tasks:
 - 1) Scientific leadership and coordination of a major new integrated research program emanating from the Grand Challenge doc (the Global Sustainability Research Program, GSRP flagship),
 - 2) Co-design and coordination with international funding agencies,
 - 3) Co-design with partners

[A potential role for the Steering Body in overall strategic planning for ICSU global environmental change research was also discussed.]

- In order to achieve these tasks, the steering committee will need dedicated secretariat support and resources, which might be co-opted from some of the existing GEC programmes and ESSP

As mentioned above a number of participants focused on the lack of evidence regarding the conduct of a systematic gap analysis or SWOT analysis during the course of the visioning process.

There was also a sense that specific and concrete action plans, using the five challenges as a framework, need to be developed to provide a sufficiently inspirational vision to capture the interest of leading scientists and galvanize them into a ten-year commitment to a coordinated research effort. In this regard, the organisational model and success of the recent International Polar Year was noted. The participants noticed an excellent opportunity to formally launch this 10 year initiative during the 2012 Open Science Conference being planned by the Global Change community.

The importance of identifying a few "flagship initiatives" that can galvanize the scientific community to work together constructively to achieve a fairly well-defined goal with a fixed timeline is also emphasized. The Appollo Project metaphor is probably not a good one. But the idea of a focused and goal-directed effort in which we all join forces is crucial to the future development.

Furthermore, several participants argued that any new initiatives should as much as is feasible: 1) be targeted towards the development of operational, integrated, and end to end environmental services delivery systems, and 2) be managed in partnerships with those institutions, such as WMO (and a number of others), that ensure the appropriate operational international coordination between these service providers, and linkages with the stakeholders and less developed countries.

The steering Committee should take up these points and work closely with the existing structures, experts, sponsors, as well as the funders and other stakeholders to guide the transformation.

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