

Strengthening the Involvement of Developing Countries in Setting and Implementing the Research Agenda for Global Sustainability

Submitter: International Council of Science (ICSU)

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This project proposal is for support for a range of activities (including consultation, integration and implementation activities) to ensure that the scientific community in low-income countries is involved in defining and developing global research initiatives to address the Grand Challenges of Sustainability and that the resulting international research agenda is responsive to the needs of low-income countries. Initial funding is requested for an 18months pilot period, although the proposal has been developed within a longer-term, decadal perspective and includes an assessment and analysis period during which a follow-up funding application will be prepared.

I. Background

Over the past two decades research on global environmental change (GEC) – much of it coordinated by ICSU-sponsored research programmes, has resulted in a better comprehension of the state of the planet and an understanding of how some human behaviour is adversely affecting this. The term “Anthropocene” has been coined to describe our entry into a new era when the future of our planet is significantly affected by human actions. Rapid changes are occurring in climate and ecosystems, which if continued will have serious deleterious effects on society. Having, to a large extent, identified the problems and causes, researchers now needs to turn their attention to providing solutions – both by informing policy and through the development of new tools and technologies. *These solutions are most urgently needed in the developing world, where populations are most vulnerable to adverse environmental change and where the resilience to resist this change is often weakest.*

It is within this context that ICSU launched a visioning exercise in 2009 to identify the key scientific questions for Earth system research over the next decade. Following a worldwide consultation, five Grand Challenges were identified that provide a framework for future global Earth system sustainability research. This framework is already being widely adopted by research funding agencies (e.g., NSF [USA] and ANR [France]) and ICSU is using it to orient its own activities. *However, the effectiveness of these efforts depends very much on the extent to which scientists in developing countries participate and are able to contribute to the development of the international research agenda, and of mitigation and adaptation strategies in their countries.*

ICSU Regional Offices in Africa, Asia/Pacific and Latin America/Caribbean were established in 2005-2006 and are specifically charged with promoting ICSU’s global activities in low-income countries and incorporating regional scientific perspectives and the needs of these countries into ICSU’s global research agenda. Information on ICSU and each of its regional offices is available online: [ICSU](#) and its Regional Offices for [Africa](#), [Asia and the Pacific](#) and [Latin America and the Caribbean](#). [A fourth Regional Office is planned for the Middle East and North Africa (MENA) Region. A number of countries have expressed an interest in hosting this Office but the political and social transformation that is taking place in several countries in the region has complicated the process of establishing an Office. Nevertheless, the MENA region is important to ICSU and opportunities will be taken during

the course of this 18mth pilot period with Sida funding to include scientists from that region, particularly in consultations on the Earth System Sustainability Initiative.]

Within the framework of ICSU's overall strategy, each Regional Office has identified research priorities for the region and developed a series of related Science Plans. During 2009-2010, the activities of the three Offices were each subject to an independent review of their initial performance and future plans. These reviews were positive and provided the basis for renewed core support from the host countries to the Offices for the next five years. The major strategic challenge identified in the reviews was to ensure that the regional Science Plans and activities of the offices were fully integrated into ICSU's overall strategy. This has been taken into account in developing the second ICSU Strategic Plan 2012-2017 (see Annex 3) and the funding requested in the present proposal to Sida will help strengthen the links between ICSU's global and regional activities.

This project proposal is for support for a range of activities (including consultation, integration and implementation activities) to ensure that the scientific community in developing countries is involved in defining and developing ICSU's global initiatives to address the Grand Challenges of Sustainability and that the resulting international research agenda is responsive to the needs of developing countries.

Grand Challenges

The [Earth System Sustainability document](#)¹ provides a global framework for the integration of natural and social sciences and the organisation of research programmes and funding for research over the next decade. The five identified challenges are:

1. Forecasting: improve the usefulness of forecasts of future environmental conditions and their consequences for people;
2. Observing: develop, enhance and integrate the observation systems needed to manage global and regional environmental change;
3. Confining: determine how to anticipate, recognize, avoid and adapt to disruptive GEC;
4. Responding: determine what institutional, economic and behavioural changes can enable effective steps towards global sustainability;
5. Innovating: encourage innovation (coupled with sound mechanisms for evaluation) in developing technological, policy and social responses to achieve global sustainability.

Major societal and development concerns, such as water, food and energy security can all be comprehensively addressed within this Grand Challenges Framework, which can be adapted to different scales from global to local. These Grand Challenges have been broadly accepted as priorities by a group of key research funding agencies, who had been conducting a parallel prioritization process (Belmont Report, ICSU, 2010), which was subsequently integrated into the plans for an Earth System Sustainability Initiative (ESSI). The development of this Initiative, which will build on the strengths of existing research programmes², is now being taken forward by an Alliance of ICSU, the International Social Science Council (ISSC), the Belmont Group of funding agencies and several UN bodies (UNEP, UNESCO, UNU). In addition to ESSI, the recently launched ICSU initiatives on hazard risk (Integrated Research on Disaster Risk [IRDR]) and ecosystem change (Programme on Ecosystem Change and Society [PECS]) have an important part to play in meeting the Grand Challenges, as do the co-sponsored Global Observing Systems and the newly established World Data System (WDS).

¹ Earth Systems Science for Global Sustainability: The Grand Challenges (ICSU-ISSC, 2010)

² ICSU sponsors or co-sponsors several GEC programmes on climate (WCRP), geosphere-biosphere (IGBP), biodiversity (DIVERSITAS), and human dimensions (IHDP); these programmes joined together to form ESSP.

A major objective of these initiatives is to address the Grand Challenges in the regions. The activities proposed in this grant are specifically designed to strengthen linkages between global research programmes and regional priorities and to facilitate implementation of regional Science Plans. Also included in the work described here are urgently needed capacity-enhancing actions to help strengthen the research communities in developing countries. Across all these activities there is a focus on fostering effective communication between the research and decision-making/policy communities.

II. Objectives and expected outcomes

This proposal is for an initial 'pilot' period of 18 months, with a longer-term perspective of at least a decade. During this initial pilot period, the aim is to strengthen and test the relationships and links between various global and regional structures and develop common strategic frameworks and initial actions that will lay the foundation for an effective long-term research effort that enables developing countries to *generate the new knowledge that is necessary to establish their own development pathways in a sustainable manner (italicised words quoted directly from ICSU's vision statement)*. The proposed activities for the first 18 months are mainly workshops and meetings. During this period the balance in emphasis will shift from planning to action and this will be reflected even more in the 10 year follow-up period (for which the intention is that Sida funding will also be sought).

Thus, within an 18 month initial period but a longer-term decadal perspective, this proposal is focused on three main objectives:

1. **Strengthening high-quality research** in the regions and integrating of regional and global research activities;
2. **Research Capacity Enhancement** in developing countries;
3. Ensuring that there is a **Policy Impact**.

In order to be effective, the three objectives must be addressed as a package. The research topics being proposed address the priorities of developing countries and are of interest also to researchers from the North (including Sweden). Expected outcomes include creating new collaborative research partnerships and producing research results that are ultimately communicated to decision makers from the regional to global scale. The LFA-log frame (Table 1) summarizes the overall expected Outputs, Outcomes, Performance Indicator of Outcomes, Source Data, Data Collection Strategy, and Assumptions. Table 2 illustrates the project timetable; and Table 3 is a budget summary for the funds requested.

Objective 1: Strengthening high-quality research

The Earth System Sustainability Initiative (ESSI) is co-sponsored by a number of partners, who have come together in a unique Alliance. It is being developed by a Transition Team that includes 17 international experts representing all regions, natural and social sciences, industry and policy-making. The Alliance partners – ICSU, International Social Science Council (ISSC), funding agencies and relevant UN bodies (UNESCO, UNEP, UNU) have ex officio representation on this Team. The first meeting of the Team took place in June 2011 and its work is expected to be completed at the end of 2012. It is charged with producing a plan for a global Initiative to promote and support research to address the Grand Challenges. This plan will build and expand on the strengths of the existing ICSU-sponsored GEC programmes and their Earth Systems Science Partnership (ESSP), which includes SysTem for Analysis Research and Training (START). The Partnership and some of the activities of the GEC programmes will be subsumed into the new Initiative. The importance of having strong regional nodes within ESSI has been stressed from the outset in the original [Conceptual Paper](#). In this context, the ICSU Regional Offices have an important role to play in convening regional consultation meetings on ESSI over the next 18 months, and Sida funding is requested to support these meetings. It is also proposed that a smaller scale consultation be organised in the MENA region.

Within the overall framework of ICSU's Strategic Plan, 2006-2011, each Regional Office has developed its own Science Plans, based upon regional priorities, as determined by regional scientific experts. Activities that have been envisioned in the Science Plans aim to significantly enhance the regional knowledge base. The regional Science Plans prepared by each office are as follows:

- **Regional Office for Africa (ROA)** has Science Plans in the areas of: Sustainable Energy, **Natural and Human-induced Hazards and Disasters**, Health and Human Well-being and GEC (including climate change and adaptation);
- **Regional Office for Asia and Pacific (ROAP)** has Science Plans in the areas of: **Human-induced and Natural Hazards and Disasters**, Sustainable Energy, Ecosystems and Health and Well Being in a Changing Urban Environment;
- **Regional Office for Latin America and Caribbean (ROLAC)** has Science Plans in the areas of: **Natural Hazards and Disasters**, Sustainable Energy, Biodiversity, and Mathematics Education.

The shared interest in various aspects of global environmental change will to some extent be incorporated into the development of the ESSI initiative and the identification of regional nodes and networks. **In addition, 'Natural Hazards and Disasters' and 'Sustainable Energy' have been identified as priorities in all three regions and it is proposed that Sida funding be used to advance activities under these themes during the 18 month pilot period. For Natural Hazards and Disasters there is an ICSU-sponsored global programme (described below), whereas for Sustainable Energy there is no such global equivalent, so the Regional Offices have the opportunity to take the lead in setting ICSU's overall agenda on this topic.**

As an ICSU co-sponsored global programme, the 10 year initiative on *Integrated Research on Disaster Risk (IRDR)* started in 2010 with the establishment of an International Programme Office in Beijing. This is a global activity that integrates research across hazards, disciplines and geographical regions. Disasters are a major obstacle to sustainable development and IRDR has an important role to play in addressing various aspects of the Grand Challenges. The IRDR initiative includes three major thrust areas: Forensic Disaster Investigations, Risk Interpretation and Analysis, and Integrated Data and Information Systems related to disaster risk reduction. Capacity building is an essential component of the IRDR programme and regional partners, including START have been identified as part of the framework. Disaster risk is a common theme across the global and regional science plans.

Addressing energy needs is a crucial part of any agenda for global sustainability research. Sustainable energy is a strategic priority for ICSU and it is an area in which action needs to take place at the regional and local level. There is no single global solution for the provision of energy that meets the needs of the present without compromising the ability of future generations to meet their needs. Sustainable Energy sources include hydroelectricity, solar energy, wind energy, wave power, geothermal energy, bioenergy, and tidal power and the feasibility of utilising these sources varies between regions. It is not surprising that the science plans developed by the ICSU Regional Offices identify different priorities for action. At the same time, there are shared challenges and considerable and currently unexploited potential for combining expertise across institutes, countries and regions to address specific priority topics. There is a need to develop a common framework in which North-South and South-South research partnerships can be promoted to develop local solutions for sustainable energy provision.

In addition to the research topics detailed above, for which funding is being requested, there are a number of other ICSU programmes that have both global and regional components. Two programmes that are closely related to the work described here, but for which we are not seeking for funds during this time period are in the areas of ecosystem services and urban health. The Programme on Ecosystem Change and Society (PECS) is a 10-year initiative that started in 2011 with

the establishment of a Programme Office that is hosted by the Stockholm Resilience Centre (Stockholm University) in partnership with Centre for Global Sustainability Studies (Universiti Sains Malaysia) in Penang. Urban Health and Wellbeing is a new priority for ICSU that fits within the Grand Challenges framework for global sustainability research. Over half of the world's population live in urban areas and this proportion is increasing rapidly, generating both opportunities and threats to human wellbeing. The International Institute of Applied Systems Analysis (IIASA, Austria) has been an important partner in the development of this programme and will continue to play a key role in its implementation, with a particular focus on training. Currently these two research areas (and others) are being funded by other sources but they are areas in which regional involvement and capacity needs to be developed and could be included in the planned future funding application to Sida.

Objective 1 includes two aspects: the first aspect includes the more regional priority based activities, and the second aspect involves activities in relation to integration of the regional and global research including Swedish research.

Objective 1.1: Regional meetings

A series of regional consultation/scoping and implementation meetings will be organized by each of the Regional Offices and in the Middle East and North Africa (MENA) region, focusing on identifying and incorporating regional nodes into the ESSI. These nodes will help ensure that regional priorities are fully incorporated into ESSI and promote the necessary research and communication activities within the region.

During the second half of the 18month funding period, two regional implementation workshops on Hazards and Disasters and Sustainable Energy are planned. Ideally these will take place not more than six months after the regional-global integration workshops (see ahead, 2.1). These meetings will address implementation needs broadly. They may focus mainly on a particular region but will also include experts from other regions. Outputs will include design of specific projects and identification of funding opportunities for these projects.

Request to Sida:

- 1 'ESSI/GEC' consultative meeting with ~36 participants in each of the regions (Africa, Asia and the Pacific, Latin American and the Caribbean and MENA)
- 1 'Hazards' implementation meeting of ~24 participants with representation from each region. This meeting will be held in the developing world and will occur after the regional-global 'Hazards' integration workshop (see Objective 1.2).
- 1 'Sustainable Energy' implementation meeting of ~24 participants with representation from each region. This meeting will be held in the developing world and will occur after the regional-global 'Energy' integration meeting (see Objective 1.2).

Objective 1.2 Regional-global integration meetings

Natural Hazards and Disasters is a priority for all three ICSU Regional Offices. Each of the three ICSU Regional Offices have developed their own Science Plans with regional scientists and these have a focus on specific hazards that are predominant in each region; however, it is crucial to align these Science Plans with the ICSU global programme, IRDR, and its overall focus on disaster risk. The International Programme Office in Beijing has access to resources and expertise that can assist implementation of actions at the regional level. There is an urgent need to bring together the researchers involved in the global and regional planning exercises to develop an overall implementation strategy.

A similar integration exercise will be undertaken in relation to Sustainable Energy, but the organization of this meeting, will be notably different as there is no existing ICSU global programme in this area. Nevertheless there is considerable potential for developing North-South and South-South partnerships and ICSU's Committee on Scientific Planning and Review (CSPR) will be responsible for ensuring that the proper linkages are made.

These integration meetings will either be organised in one of the Regions or in Paris

Request to Sida:

- 1 regional-global 'Hazards' integration meeting with ~48 participants
- 1 regional-global 'Sustainable Energy' integration meeting with ~48 participants

Objective 1.3 Swedish-Regional Office Planning Grants for 2012

Implementation of ICSU's strategy and the Regional Office Science Plans requires not only research projects designed by regional experts but also research projects designed within an active North-South research collaboration. During this 18 mth pilot period, Sida's support in the form of Planning Grants will provide an opportunity for Swedish scientists to be involved with regional research and to help implement regional priorities.

This collaboration will:

- Improve research capacity in relation to ICSU Regional Office Science Plans;
- Increase collaboration between Swedish scientists and scientists from developing countries within the framework of the Grand Challenges;
- Enhance the implementation of ICSU's regional Science Plans.

Description of the proposed process for allocating Planning Grants:

1. Structure of the Call: In 2012 and based on a call for applications, five Planning Grants of €10 000 will be provided to North-South research consortia consisting of Swedish and developing countries scientists working with GEC/Global sustainability research. The Planning Grants will cover extra costs for collaboration (i.e. travels meetings, workshops, publications, communications, etc.) Salaries of the applicants cannot be funded through the grant.
2. Time line of the Call: If the implementation package from Sida becomes available to ICSU from January 2012, the Grant Call will be announced in February 2012, with deadline for applications in April 2012 and start of the collaboration in June 2012.
3. Call requirements: The main applicant must be affiliated with a Swedish research institution and the collaborating partner must be affiliated with a developing country's research institution. The planned research should be relevant to the respective ICSU Regional Office's Science Plans. It is an advantage for the applicants to have affiliation with one of ICSU's research programmes.
4. Evaluation process: SSEESS in collaboration with START is responsible for announcement of the call, and the review and decision-making process. The Regional Offices will be consulted for relevance of the applications to the ICSU's regional Science Plans. Minimum overhead costs for the evaluation and administration procedure is accounted as € 5 000.

The planning grants will enhance preparation and design of projects and therefore contribute to the implementation of regional Science Plans. The aim is that the planning grant awards will be continued and even transformed to a more comprehensive form of regional grant during the long term (10 year) collaboration between Sida and ICSU.

Request to Sida:

- 5 planning grants (€10k each) in 2012.

Objective 2: Research Capacity Enhancement

Objective 2.1 START workshops with the African Regional Office

START, as the capacity building body of ESSP and the ICSU GEC programmes, promotes research-driven capacity building to advance knowledge on GEC in Africa and Asia-Pacific. The mission of START is to enhance scientific capacity in developing countries by strengthening and connecting existing institutions; START also mobilizes resources that augment existing capabilities and develops capacity on GEC in developing countries. In the context of Grand Challenges and the ESSI there is considerable potential for START to work with the ICSU Regional Offices to build capacity. Funding is requested from Sida for three specific activities, which will be held in partnership with the Regional Office for Africa.

Two workshops are being organised that relate to the Regional Office of Africa's Science Plan on global environmental change:

- 1) In the Context of CGIAR Program on Climate Change And Food Security CCAFS: a workshop in the first half of 2012 in Eastern or Southern Africa, in partnership with ROA and the recently established Applied Centre for Climate and Earth Systems Science (ACCESS) by the Department of Science and technology of South Africa. This workshop will build upon the existing CCAFS and START effort in Africa, add perspectives of food system issues in the GEC Science Plan and develop a strategy for capacity building and resource needs for a sustained research-to-informed action effort.
- 2) In the context of the Global Framework for Climate Services, a second workshop to be held in the second half of 2012 will build upon the START-WCRP-University of Cape Town-led "CORDEX-Africa" effort³. The main outcome of this workshop will be a strategy for regional institutions in Africa (such as ACMAD: The African Centre for Meteorological Applications for Development), as well as national meteorological and hydrological services, to work proactively with user communities in key sectors (food-water-health-energy-ecosystem services) to make a transition from providing purely weather/seasonal climate forecasts to the provision of value-added products consistent with the Global Framework of Climate Services.

A third series of workshops will be conducted in collaboration with ROA and the ICSU programme on disaster risk (IRDR).

- 3) START's Pan-African Secretariat has just completed a small study on Climate Change, Urban Poor and Livelihoods in Dar es Salaam, Tanzania, and in collaboration with the IRDR, START has initiated research on risks related to climate changes in major urban centres in Africa, such as the Lagos Metropolitan area. These initial efforts provide the basis for developing a more sustained effort across Africa. START proposes to hold three regional training workshops in Southern, Eastern, and Western Africa on Methods and Tools for Assessing Urban Vulnerability related to GEC. Partial support from Sida for these series of workshops is requested, additional support is expected from US and Canadian agencies. Outcomes of the workshops will be a critical mass of young African scientists and decision makers familiar with the process of assessing urban vulnerabilities, and a programme of action to engage science-policy communities on an ongoing process of assessments and actions on urban sustainability.

³ CORDEX: Coordinated Regional Downscaling Programme of World Climate Research Programme, WCRP, that is intended to provide inputs to IPCC's ongoing assessment and be a basis for adaptation planning and action.

These series of workshops will provide an excellent opportunity for strengthening the START - ROA partnership.

Request to Sida:

- 1 Climate Change, agriculture and food security workshop (~30 participants)
- 1 Climate Services workshop (~30 participants)
- 1 Cities at Risk workshop (~30 participants)

Objective 2.2 South-South assessment workshop

A major focus of this pilot grant is the development of effective South-South partnerships both at a strategic and operational level and across a number of different research themes. By the end of the funding period a number of different approaches will have been tested and it is proposed to bring together a number of the participants from the various activities to compare experiences and explore new ideas. The aim is to identify what has worked well and what can be improved and to clarify how the ICSU regional offices can best promote regional and trans-regional activities in the future. This assessment workshop will provide critical inputs to the development of the proposed follow-up grant submission to Sida.

The workshop will also provide an important opportunity to consolidate some of the partnerships that should have been developed during the initial 18mth 'pilot' period. These partnerships between individuals and structures will provide the basis on which future activities will be built.

Request to Sida:

- 1 South-South workshop of ~60 participants

Objective 3: Policy Impact

The ICSU-sponsored GEC Programmes have played a crucial role in providing the scientific evidence for the assessments of the Intergovernmental Panel on Climate Change (IPCC). **ESSI and other initiatives, such as IRDR, will continue to be responsive to IPCC in the future.** ICSU, together with its programmes on Biodiversity and Human Dimensions, has played a leading role in the negotiations that have led to the development of the new Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES).

At the regional and national level, where most policies are made and implemented, ICSU's impact is less obvious and there is an important role for the Regional Offices to play in redressing this. An integral part of developing and implementing ICSU's research programmes in the regions is the identification of decision makers. Techniques to effectively communicate with these 'users' will also need to be tested. For example, a major role of the regional 'nodes' of ESSI will be to build regional knowledge networks that provide relevant research information to decision makers and other stakeholders.

Objective 3.1 GEC/Development aid (Krusenberg II)

In January 2005, the International Group of Funding Agencies (IGFA) together with ICSU organized a "Krusenberg Conference" in Krusenberg, Sweden to consider strategies for enhanced collaboration between the GEC community (researchers and funders) and the Development Aid community (researchers and donors). While the discussions were encouraging, concrete follow-on actions were left to future meetings. SSEESS and ICSU, in collaboration with IGFA and development aid agencies, propose to reactivate the Krusenberg discussions with a specific focus on regional scales, where

defining priorities for action between the GEC/development aid researchers and funders may be most opportune and effective. Specifically, we propose an Africa-based meeting in early 2012 to bring together representatives of the research and donor communities that would take stock of the recent bilateral and multi-lateral donor-organized activities and consider effective modalities and opportunities for synergistic action. Outcomes of such a session will be further considered at an anticipated IGFA-Belmont Group global conference, which will examine GEC and development aid internationally.

This meeting will leverage a number of new assets and alignments to hopefully increase the probability of achieving lasting co-evolution between the international GEC and development research agendas. New elements since 2005 include:

- The ability of the ICSU Regional Office for Africa to host the meeting and leverage important actors in the African research community
- The ability of SSEESS personnel (which incorporates expertise from both the GEC and development & aid communities, and some of whom were involved in the first Krusenberg meeting) to spearhead organizing the meeting
- The fact that the SSEESS Director is currently vice-Chair of IGFA, hopefully easing the integration of the IGFA community in the effort

Request to Sida:

- Sida to partially support a 'Krusenberg II' meeting in Africa

Objective 3.2 United Nations Conference on Sustainable Development (Rio +20)

ICSU has been actively involved in the United Nations Conference on Sustainable Development (Rio +20) activities. ICSU, together with the World Federation of Engineering Organizations (WFEO), is the official co-organizing partner for the Scientific and Technological Community Major Group,. This is one of nine 'Major Groups' (civil society stakeholder groups) that will actively participate in the conference alongside governments. As the Rio+20 Conference will set the sustainable development agenda for the next 10 years, it is essential that the scientific community is well represented.

A series of Regional Science and Technology workshops have already been organised by ICSU in partnership with UNESCO and the outcomes of these have been fed into the UN regional preparatory meetings. To build on these, ICSU is organizing a 5-day Forum on Science, Technology and Innovation for Sustainable Development in Rio de Janeiro, which will be held in between the final Rio+20 preparatory meeting (28-30 May 2012) and the Rio+20 conference itself. The forum will be held in partnership with WFEO, and in cooperation with the Brazilian Ministry of Science and Technology and the Brazilian Academy of Sciences, with ISSC and UNESCO.

This forum will provide a space for international interdisciplinary scientific discussions, and dialogue between scientists, engineers, policy-makers, business and industry, and civil society. Key messages and conclusions from the Forum will be reported to the Rio+20 Conference.

Around 100 speakers will be invited from around the world. Funding from Sida is requested to ensure that a good proportion of these are from developing countries, including key participants from the regional workshops that have already taken place. It is essential have a good regional balance in the scientific discussions. It is expected that many of the invited scientists will participate not only in the Forum but also in the main Rio+20 Conference.

Request to Sida:

- Travel support to participants from developing countries to participate in the ICSU Science, Technology and Innovation Forum and in Rio+20.

Additional resources, project management and coordination

In addition to the requested funding from Sida, the majority of the proposed activities for which support is requested during this 18mth pilot period have already secured significant funding from a variety of sources. In most cases these secured funds are primarily to be used for global activities but they are entirely complementary to the requested Sida funding, which is focused on strengthening regional actions in a global context. The development of the global ESSI initiative has support from a consortium of commercial companies based in Asia (total ~€750k for 2011-2012). US NSF is providing grant support for activities related to GEC, including ESSI (total ~€300k p.a. 2008-2013). The Hazards Risk Programme has support from public research funders from both China: Beijing and China: Taipei (total ~€500k per year for 2011-2012). ICSU's Rio +20 activities are additionally supported by variety of commercial and public funding bodies (~€250k p.a., 2011 -2012). For Krusenbergl II, it is envisioned that this meeting will be carried out with Sida and other development aid organizations (Norad, [Norway], USAID [USA], IDRC [Canada], DFID [UK]). SSEESS has already initiated discussions with DFID and USAID, also with the GEC funders such as the US NSF, for support of this activity.

As emphasised previously one of the major aims of this 18mth pilot period is to test and refine the mechanisms and processes prior to applying for more substantive longer-term funding. Although the overarching theme is research for global sustainability, the proposed activities cover a diversity of topics across several regions. It is important that the grant be centrally coordinated and managed and it is therefore proposed that the requested administrative overhead (12%) be used to fund a full-time coordinator for the full period of the grant. This individual would ideally have experience of working with developing countries and of the reporting requirements of development donors, such as Sida. He/she would be expected to play a leading role in analysing the effectiveness of the activities for which support is currently requested and developing the longer-term follow-up application. He/she would be primarily located at ICSU headquarters in Paris but would be expected to spend a considerable amount of time in the Regional Offices.

Conclusions

The work described above provides an ambitious 18-month plan to test and implement processes and partnerships that will facilitate high-quality research and strengthen research capacity in the developing world, better integrate it with international programs, and increase the impact of science on policy development in developing countries and globally. The outputs of these 'pilot' activities will provide the foundation of a longer-term (10 year) proposal to Sida. This future proposal will build on the lessons learnt during the pilot period and focus more on implementation - providing societal-relevant solutions to the Grand Challenges, particularly at the regional level.

To address the Grand Challenges of the Anthropocene, truly global research initiatives that fully incorporate the needs of the developing world are urgently needed. In the context of ICSU's programmes, this grant can make an important contribution to ensuring this goal, and generating the knowledge that ultimately underpins a more sustainable future for all.

Table 1: LFA-Log Frame

Proposal: Strengthening the Involvement of Developing Countries in Setting and Implementing the Research Agenda for Global Sustainability

Overall Objective: to lay the foundation for an effective long-term research effort that enables developing countries to *generate the new knowledge that is necessary to establish their own development pathways in a sustainable manner.*

Type of outputs	Outcomes	Performance Indicator of Outcome	Data Source	Data Collection Strategy	Assumptions
Specific Objective # 1: Strengthening high-quality research					
Increased research capacity in the regions	A strategic approach that creates more high-quality interdisciplinary research that is policy relevant	Quality of the meeting reports and of the 10-year research proposal	Grand Challenges Report, Regional Science Plans, IRDR Science Plan, additional ICSU reports, GEC programme annual reports, web sites	Centralized collection at the ICSU secretariat of relevant reports from the regional meetings and delivery of them to Sida	No major strategic changes or loss of continuity due to personnel turnover
Project proposals, summary reports, consultant report					
Increased involvement of low income countries in global programmes and in international research steering committees	Guaranteed involvement of researchers from low-income countries in defining the international GEC research agenda	Number of researchers from developing countries involved in the global research programmes			Capacity in the regional offices to carry out the ambitious set of meetings (particularly for ROA) and identify participants
10-year research proposal to Sida					
Implementation of major components of ICSU's Strategic Plan for 2012-2017					Political and environmental stability
Specific Objective # 2: Research Capacity Enhancement					
Develop strategies and increase capacity in Africa with an emphasis on climate change and agriculture	Increased research capacity and cooperation in developing countries	Quality of the recommendations from the North-South and South-South meeting reports	Contact information/CVs of researchers, particularly in developing countries—this will help build a database of researchers and institutions	Collection of contact information of relevant individuals and regional networks	No major strategic changes or loss of continuity due to personnel turnover
Create new research partnerships (e.g., Swedish-developing countries)					
Increase South-South cooperation and capacity					

					identify participants Political and environmental stability
Specific Objective # 3: Policy impact					
Increased interactions between the GEC and Development Aid communities (i.e., researchers and funders), with the first meeting in Africa (aka, Krusenberg II)	Co-design and co-delivery of adequately resourced research that provides new insights and solutions to pressing global environmental challenges (e.g., climate change)	Extent to which developing country researchers participate and contribute in policy fora at the global and regional level	Background policy papers, candidates list	Collation of Rio+20 material at ICSU (Paris) Regional Offices to identify candidates from the regions	No major strategic changes or loss of continuity due to personnel turnover Capacity in the regional offices to carry out the ambitious set of meetings (particularly for ROA) and identify participants Political and environmental stability
Increase the input from developing countries in Rio+20 activities and decisions					

Table 2: Project Timeline*

	Objectives		
	1	2	3
	Strengthening high-quality research	Research Capacity Building	Policy impact
2012			
Jan		START: Cities at Risk (2.1)	Krusenberg II (3.1) -focus on Africa
Feb	Hazards regional-global integration (1.2)		
Mar	[NB: Planet Under Pressure (PUP) meeting 26-29 March]		[PUP]
Apr	ESSI/GEC (1.1.1) [Africa]		
May	Energy regional-global integration (1.2)	START: Climate Change - Ag. (2.1)	Science Forum prior to Rio+20 (3.2)
		START: Climate Services (2.1)	
June	ESSI/GEC (1.1.1) [Asia and the Pacific]		Rio+20 (3.2)
July	Hazards implementation (1.1.1)		
Aug			
Sept	ESSI/GEC (1.1.1) [Latin America and the Caribbean]		
Oct			
Nov	Energy implementation (1.1.1)		
Dec	ESSI/GEC (1.1.1) [MENA]		
2013			
Jan	Preparation of the S-S workshop		
Feb		S-S workshop (2.3)	Continues until June 2013 ↓
Mar	Collection and analysis of regional results		
Apr	Consultation for the 10 year grant		
May	Preparation of the 10 year grant		
June	Submission of the 10 year grant		

* This is a tentative Timeline. The dates of some of these meetings may shift. In the preparation of the 18 month grant, the importance of consultation and coordination was stressed. For this reason, time has been budgeted for this.

Lead Office

Legend

ICSU (HQ)

Lead Regional

Office

Africa

Asia and the

Pacific

Latin American and the Caribbean

Other Lead

Offices

Swedish Institutions

START

III. **Communication Strategy- access, dissemination and change of policies and practices**

In addition, ICSU has a public web portal for the distribution of its publications <http://www.icsu.org/publications> and each of the regional offices have similar publication portals. In addition, in mid-2011 ICSU updated its website to allow for the exchange of documents (pdf, Word, Excel, PowerPoint, images) for committee members. This promotes collaboration across geographical regions

All ICSU publications are available free of charge and can be used, reproduced and distributed for non-commercial purposes in line with a creative commons license. Also, ICSU policy of promoting full and open access to research data and this will apply also to all the supported activities.

IV. **Linkage to national universities and regional research institutions**

Each ICSU Regional Office has a Regional Committee consisting of outstanding scientists from the region with access to regional research networks, universities and other research institutions. Often there are links to policy-making institutions. Indeed, the regional offices have developed linkages to important intergovernmental organizations such as the African Union, the New Partnership for Africa's Development, Association of Southeast Asian Nations, the South Pacific Commission, and Organisation of American States. Therefore, there are various channels for the distribution of results and recommendations, as well as possibilities for linkages to universities and research institutions. Furthermore, ICSU's National Members (e.g., National Academies of Science, Ministries of Science or national research organizations) and representatives of Scientific Union Members from the regions are important participants, as they also provide possible channels to potentially disseminate results to policy makers.

V. **Risks and risk mitigation**

As mentioned in the Log Frame (Table 1) there are several potential risks. One is the loss of continuity due to personnel turnover. The Regional Offices have a relatively small staff (2-5 people), compared to ~15 at the ICSU secretariat in Paris. Turnover of the regional offices staff could have a significant effect. It should also be noted that the activities proposed here are new ones, which will increase the workloads, at ICSU (Paris) and in the regions, particularly for the African region.

In terms of mitigation, it is proposed that a full time programme coordinator be employed to manage the Sida grant. If there would be a significant change of staff in one of the Regional Offices, this person could help in mitigating the effect and ensuring continuity.

Additional risks are geo-political and environmental considerations. The former is particularly relevant to the MENA region and the plans in this regard are flexible from the outset.

In the broader context of environmental risks or risks to the environment, traveling, particularly by plane is a primary concern. Since May 2008, the ICSU secretariat has instituted a carbon offsetting programme in partnership with [Climate Friendly](#), which has a Gold Standard certificate.

VI. System for follow-up and monitoring

ICSU will prepare an update three month after the end-date (i.e., 30 September 2013) of this grant. This report will include an overall summary and annexes, which will include meeting reports. The overall report will also include a final financial statement.

VII. Sustainability

This initial proposal to Sida is for a period of 18 months. The intention is to submit a follow-up application for 10 year funding, which matches the time period for the described ICSU research initiatives.

VIII. Ethical considerations and Intellectual Property Rights

This request is mainly for support for consultation and planning workshops, some of which are expected to lead to the development of research projects that will be submitted separately for support. Given the focus of this proposal, it is unlikely that any of the subsequent research projects will involve experimentation with human subjects or animals or endanger humans or animals in any other way, and so no specific ethical concerns are foreseen in this regard. The activities proposed for Sida support in the current funding request do not require any special consideration by ethical committees or authorities and any subsequent project proposals will address ethical issues, as relevant, on a case by case basis.

Likewise, with respect to intellectual property rights, any issues concerning patenting or ownership of products that might eventually arise out of downstream projects that may be seeded with the current support will be dealt with on a case by case basis at the time of project grant submission. With regards to copyright and publications arising directly from the activities supported by Sida, ownership will comply with the conventions of the publisher. In the case that ICSU is the publisher, all ICSU publications are available free of charge and can be used, reproduced and distributed for non-commercial purposes in line with a creative commons licence.

All work conducted via ICSU must comply with the Principle of Universality of Science (ICSU Statute 5). This principle embodies non-discrimination and equity and dictates, for example, that attendance at scientific meetings should not be affected by factors such as ethnic origin, religion, citizenship, language, political stance, gender, sex or age. This principle is affirmed in the MoUs with the organisations that host the ICSU Regional Offices. All activities supported by Sida under the present grant will comply with the Principle of Universality. In this context, the ICSU policy of promoting full and open access to research data will apply also to all the supported activities.

IX. Budget for the programme**Proposal: Strengthening the Involvement of Developing Countries in Setting and Implementing the Research Agenda for Global Sustainability**

	Meeting equivalents*	Physical meetings	Budget Euros	Budget SEK
Objective 1: Strengthening high-quality research				
1.1 Regional meetings				
1.1.1 ROA				
ESSI/Global Environmental Change	3	1	€ 75,000	690,000 kr
Hazards implementation	2	1	€ 50,000	460,000 kr
Energy implementation	2	1	€ 50,000	460,000 kr
1.1.2 ROAP				
ESSI/Global Environmental Change	3	1	€ 75,000	690,000 kr
1.1.3 ROLAC				
ESSI/Global Environmental Change	3	1	€ 75,000	690,000 kr
1.1.4 MENA				
ESSI/Global Environmental Change	2	1	€ 50,000	460,000 kr
1.2 Regional-global integration meetings				
Hazards	4	1	€ 100,000	920,000 kr
Energy	4	1	€ 100,000	920,000 kr
1.3 Swedish - Regional Office Planning Grants (SSEESS)			€ 50,000	460,000 kr
Objective 2: Research Capacity Building				
2.1 START workshops with the African Regional Office				
Climate Change-Agriculture		1	€ 30,000	276,000 kr
Climate Services		1	€ 23,000	211,600 kr
Disasters/Cities at Risk		3	€ 50,000	460,000 kr
2.2 South-South RO workshop	5 (Sida to support half)	1	€ 66,000	607,200 kr
Objective 3: Policy impact				
3.1 ESSI/Global Environmental Change				
GEC/Development aid (Krusenberg II)		1	€ 45,000	414,000 kr
3.2 Rio+20				
			€ 38,000	349,600 kr

SSEESS Administrative costs for activity 2,2 (10%)			€ 5,000	46,000 kr
SSEESS organizational costs for activity 3,1 (travel, human resources) (10%)			€ 10,000	92,000 kr
ICSU Administrative costs (12%)			€ 118,000	1,085,600 kr

Total			€ 1,010,000	9,292,000 kr

*One meeting equivalent is for ~3 day meeting of 12 people which costs 25,000 Euros/meeting.

List of acronyms

ACMAD	African Centre for Meteorological Applications for Development
ANR	Agence Nationale de la Recherche (France)
CCAFS	Climate Change and Food Security
CGIAR	Consultative Group on International Agriculture Research
CORDEX	COordinated Regional climate Downscaling Experiment (WCRP)
CSPR	Committee on Scientific Planning and Review
CV	curriculum vitae
DIVERSITAS	An international programme of biodiversity science
ESSI	Earth System Sustainability Initiative
ESSP	Earth Systems Science Partnership
GEC	Global Environmental Change
ICSU	International Council for Science
IGBP	International Geosphere-Biosphere Programme
IGFA	International Group of Funding Agencies for Global Change Research
IHDP	International Human Dimensions Programme on Global Environmental Change
IIASA	Institute of Applied Systems Analysis
IPBES	Intergovernmental Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
IRDR	Integrated Research on Disaster Risk
ISSC	International Social Science Council
LFA-Log frame	Logical Framework Approach –Log frame
MENA	Middle East and North Africa
MoU	Memorandum of Understanding
NSF	National Science Foundation
PECS	Programme on Ecosystem Change and Society
ROA	Regional Office for Africa
ROAP	Regional Office for Asia and Pacific
ROLAC	Regional Office for Latin America and the Caribbean
SEK	Swedish Krona
Sida	Swedish International Development Cooperation Agency
SSEESS	Swedish Secretariat for Environmental Earth System Sciences
START	System for Analysis Research and Training
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational Scientific and Cultural Organization
WCRP	World Climate Research Programme
WDS	World Data System
WFEO	World Federation of Engineering Organizations