

AOA2012-07NSY-ICSU-ROAP

Future Earth in Asia and the Pacific

Nordin Hasan¹

¹Corresponding Author

ICSU Regional Office for Asia and the Pacific, 902-4, Jalan Tun Ismail, 50480 Kuala Lumpur, Malaysia

Email: nordin.hasan@icsu-asia-pacific.org

ABSTRACT: *Future Earth* is a 10-year international programme on Earth system research for global sustainability. The goal of *Future Earth* is to provide the knowledge required for societies in the world to face risks posed by global environmental change and seize opportunities in a transition to sustainability. While the scope of *Future Earth* is global, a number of issues requires region-specific approaches. The *Future Earth* Regional Workshop for Asia and the Pacific was organised as a first step to look at a regional approach for *Future Earth* and as part of a broader consultation process. The workshop was effective in building an understanding of *Future Earth* among participants, providing information on current initiatives and developing a common vision for *Future Earth* in the region. The key recommendations made at the workshop refer to the coordination and convergence of activities under *Future Earth*. These include the needed learning and capacity development initiatives, and elements of science-policy and stakeholder interfaces required to make *Future Earth* a success. The Asia-Pacific region has the capacity to drive the transition towards global sustainability under the *Future Earth* programme. Its scientific community is ready to make the change to support integrated research that can build new ways to engage developed and less developed countries and help ensure socially-inclusive and environmentally-sound development.

KEYWORDS: *Future Earth, global environmental change, coordination and convergence, capacity development, science-policy and stakeholder interfaces*

HIGHLIGHTS

- » Future Earth is an international programme on Earth system research for global sustainability which aims to provide the knowledge required for societies in the world to face risks posed by global environmental change and to seize opportunities in a transition to global sustainability.
- » The Future Earth Regional Workshop for Asia and the Pacific provided specific recommendations on coordination and convergence of activities and initiatives; learning and capacity development needs; and science-policy and stakeholder interfaces required to make Future Earth a success.
- » The Asia-Pacific region has the ability to lead the move towards global sustainability under the Future Earth programme. Its scientific community is ready to make the change to support integrated research that would build the knowledge and solutions necessary for the transition to sustainability.

Introduction

Future Earth is a 10-year international programme on Earth system research for global sustainability that was launched in June 2012 at the United Nations Conference on Sustainable Development (Rio+20). It will provide critical knowledge required for societies in the world to face risks posed by global environmental change and to seize opportunities in a transition to global sustainability.

Future Earth aims to build on, and augment, the Earth system science capabilities developed over the last few decades by incorporating research on the impacts of environmental change on people, developing and assessing strategies for response, and developing models of adaptation and transformation. It will engage a broader range of natural and social science disciplines so that the international research community can take the next critical steps in providing the knowledge needed. It also recognises that research needs to be co-designed with governments, industry and civil society groups if pathways to a sustainable future are to be found.

Connecting Research Responses to Societal Challenges

Future Earth will address issues critical to poverty alleviation and development such as food, water, energy and human security and

the connection between these areas and the overarching imperative of achieving global sustainability. It provides an opportunity to refocus research priorities, open up new research frontiers and establish new ways to produce research in a more integrated and solutions-oriented way.

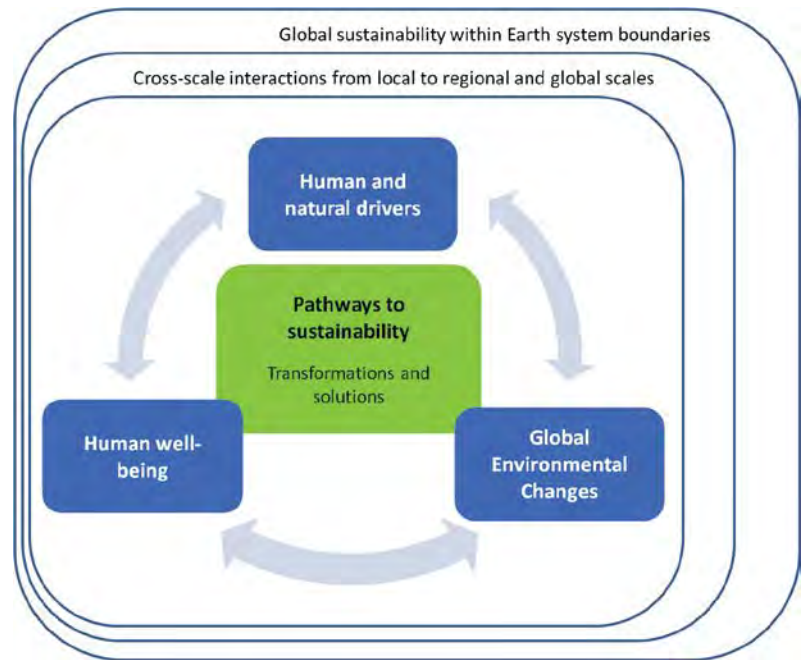
Future Earth will integrate and build on the strength of existing Global Environmental Change (GEC) programmes — the World Climate Research Programme (WCRP), the International Geosphere-Biosphere Programme (IGBP), the International Human Dimensions Programme (IHDP), DIVERSITAS and the Earth System Science Partnership (ESSP).

Future Earth will be one programme, which promotes co-designing of its research, capacity building and outreach activities by the broad community of researchers including natural, social, engineering and human sciences in partnership with governments, business and stakeholders in order to close the gap between environmental research, policies and practices. It will deliver a step change in making research more useful and accessible for decision makers.

The Conceptual Framework

The conceptual framework for *Future Earth* (Figure 1) describes an interconnected system in which both natural systems and human activity are driving changes in the regional and global environment,

Figure 1. Schematic of the *Future Earth* conceptual framework.



with significant implications for human wellbeing. This fundamental, holistic understanding is the basis for the identification of transformative pathways and solutions for global sustainability.

***Future Earth* Research Themes**

Future Earth's three research themes will function as broad platforms for integrated earth systems research, which will involve collaborative projects across disciplines that include:

1. **Dynamic Planet** — understanding how Planet Earth is changing due to natural phenomena and human activities. The emphasis will be on observing, explaining, understanding projecting Earth, environmental and societal system trends, drivers and processes, and their interactions; anticipating global risk thresholds.
2. **Global Development** — providing the knowledge for sustainable, secure and fair stewardship of biodiversity, food, water, health, energy, materials and other ecosystem services. The emphasis of *Future Earth* research will be on determining the impacts of human activities and environmental change on the health and wellbeing of people and societies through integrated social-environmental

research.

3. **Transformation Toward Sustainability** — understanding the transformation processes and options, assessing how these relate to human values, emerging technologies and economic ideas, and evaluating strategies for governing and managing the global environment across sectors and scales. The emphasis of *Future Earth* research will be on solution-oriented science that enables societal transitions to global sustainability.

These research themes will play the role as major integrating units under *Future Earth*, each hosting a collection of existing as well as new, co-designed international research projects.

***Future Earth* Regional Workshop for Asia and the Pacific**

While the scope of *Future Earth* is global, a number of issues requires region-specific approaches. Regions, as early witnesses of environmental change, have a critical contribution to make in assessing environmental change and to participate in building a global picture for transitioning towards sustainability.

As a first step in looking at a regional approach for *Future Earth*, a series of regional workshops were held as part of a broader

consultation process. This consultation process sought to test and refine the initial design proposal with key stakeholders as *Future Earth* enters its operating phase.

The *Future Earth* Regional Workshop for Asia and the Pacific was held from 21–23 November 2012 in Kuala Lumpur. It was attended by 51 participants from the Asia-Pacific region, members of the Transition Team and representatives of the Global Environmental Change (GEC) community.

The workshop aimed to develop a common understanding of *Future Earth*, including its vision, research framework and governance; to identify regional research priorities that will help shape the *Future Earth* research strategy in the Asia-Pacific region; to discuss opportunities and challenges for implementing *Future Earth* in the region; and to explore ways of establishing a regional interface for *Future Earth*.

Key Recommendations from the Regional Workshop

The Asia-Pacific region has the capacity to drive a transition towards global sustainability under the *Future Earth* programme. Its scientific community is ready to make the changes needed to support integrated research that would build the knowledge and solutions for the transition to sustainability. Through *Future Earth*, the region can develop new ways to engage developed and less developed countries and help ensure socially-inclusive and environmentally-sound development.

The workshop made the following specific recommendations:

Coordination and convergence

- Develop an understanding of what sustainability means at the national and regional levels, taking into account varying cultural contexts
- Develop global sustainability indicators that can guide implementation at the regional and sub-regional levels

- Develop strong regional representation in *Future Earth* and regional priorities that are developed through in-depth, long-term and sustained discussions
- Create alliances of current integrated research projects and researchers upon which to build long-term strength
- Define clear mechanisms, such as an endorsement process, for projects to become part of *Future Earth*
- Develop incentive mechanisms to promote transdisciplinary research
- Foster networks for scientists across regions, disciplinary fields and stakeholders.

Learning and capacity development

- Compile examples of best practices of transdisciplinary research on sustainability issues beginning with small and local scale projects that could be scaled up through programmes at the regional and national levels
- Document case studies of successful integration and interdisciplinary work in the region and create guidelines on co-design and co-produce research
- Increase human capacity development training programs, through short-term workshops, exchange of graduate students, increasing the number of graduate research positions and Professorial Chairs within countries in the region, and develop mentoring of young scientists in least developed countries by more experienced researchers.

Science-policy and stakeholder interface

- Develop an understanding of what the points of entry into the policy arena are
- Develop approaches and programmes to bring into dialogue groups of people who do not normally talk to each other



Figure 2.
Participants at
the Future Earth
Regional Workshop.

- Translate and share models on how to influence policy makers — taking into account the wide range of political systems and cultural settings prevalent in the region — and businesses, and sustain successful science-policy dialogues
- Create or identify science-policy platforms to effectively inform and engage decision and policy makers
- Engage indigenous communities and local knowledge systems in the research process

Way Forward

The way forward for *Future Earth* in the Asia-Pacific region will begin by involving existing GEC-related programmes, networks' leaders and their funders in discussions that would enable

the establishment of a linkage between the regional *Future Earth* interface and the governing bodies of *Future Earth*.

It is also very crucial for a regional plan for the implementation of *Future Earth* in the Asia-Pacific region to clearly define priority research areas and desired outcomes in the first five years of *Future Earth*.

The regional component is extremely important for *Future Earth*, and the Asia-Pacific region has the ability to lead the move towards global sustainability under the *Future Earth* programme. Through the *Future Earth* initiative, a new way of doing research will be developed that will connect knowledge about sustainability to effective solutions and actions that can help bring about key transformations to the region that will get our societies on the path to sustainability.

AOA2012-07NSY-ICSU-ROAP

PROJECT TITLE

Future Earth Regional Workshop for Asia and the Pacific, Kuala Lumpur, Malaysia, 21–23 November 2012

COUNTRIES INVOLVED

Australia, China, Fiji, India, Indonesia, Japan, Malaysia, Mongolia, New Zealand, Philippines, Republic of Korea, Sri Lanka, Thailand, USA, Viet Nam

DURATION

1 year

APN FUNDING

US\$ 19,400

PROJECT LEADER

Mohd Nordin HASAN

International Council for Science Regional Office for Asia and the Pacific (ICSU-ROAP)
902-4, Jalan Tun Ismail, 50480 Kuala Lumpur, Malaysia

Tel: +603 2694 9898

Email: nordin.hasan@icsu-asia-pacific.org

Website: www.icsu.org/asia-pacific

