



**International
Council for
Science**



**Challenges and Opportunities of
Interdisciplinary and Trans-disciplinary
Science for Sustainability: Future Earth
World Science Forum, Rio, 2013**

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President-elect, International Council for Science

Sustainable Development

“Humanity has the ability to make development sustainable - to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs”.

– future generations – “seeing the future”

- **integrated, multi-disciplinary, science-based predictions of the future are essential. - FUTURE EARTH**
- **World Commission on Environment and Development (1992) – acceptance by govt of the SD concept [Rio +20]**

THE FUTURE WE WANT

I. Our Common Vision

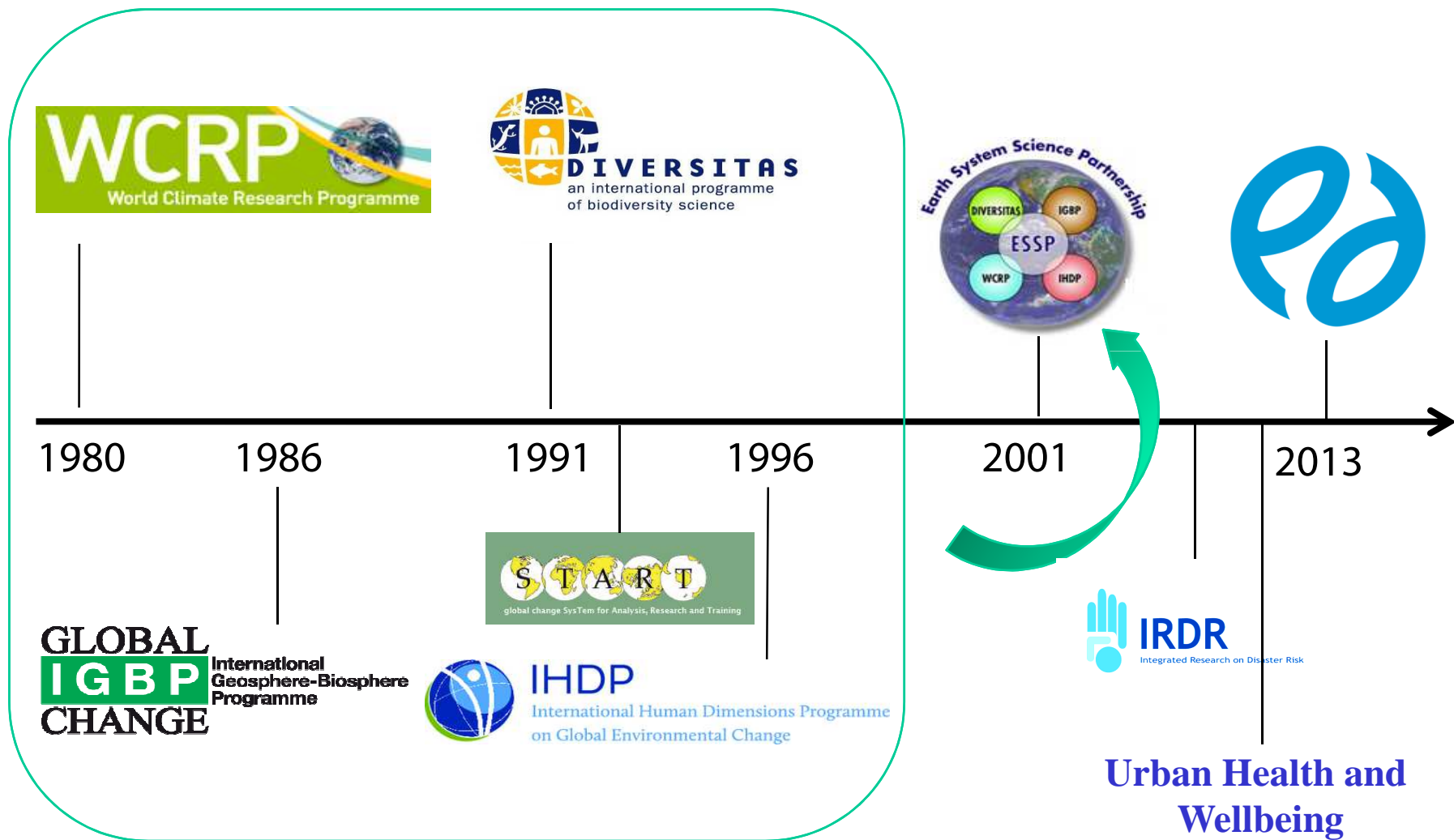
- Rio de Janeiro, Brazil, from 20-22 June 2012,
13. We recognize that people's opportunities to influence their lives and future, participate in decision making and voice their concerns are fundamental for sustainable development. We underscore that sustainable development requires concrete and urgent action. **It can only be achieved with a broad alliance of people, governments, civil society and private sector, all working together to secure the future we want for present and future generations.**

A 10-year initiative by a new global Alliance

‘Science and technology alliance for global sustainability’



Origins of Future Earth



Goal: 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

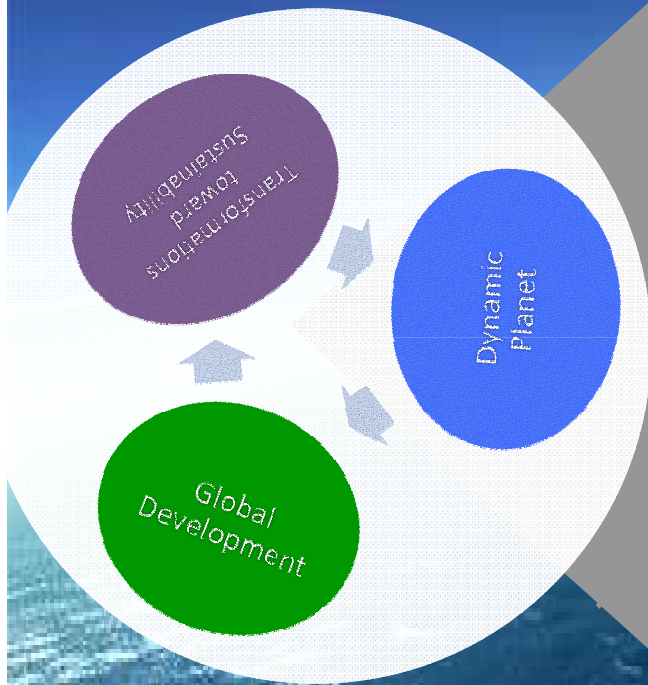


Challenges

- **Feeding 9 billion people within sustainable planetary boundaries**
- **Valuing and protecting nature's services and biodiversity, including the oceans**
- **Transitioning to low carbon societies**
- **Adapting to a warmer and more urban world**
- **Coping with disasters**
- **...**

Themes

Dynamic Planet



projecting environment

- **Approaches and Models**

drivers

societal system

observing

- **States and Trends**

explaining

thresholds

understanding

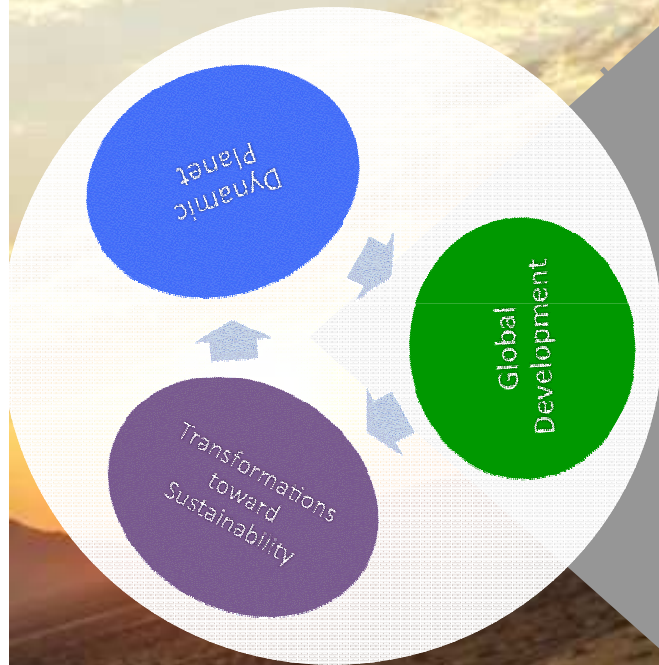
- **Critical Zones**

coasts

tropical forests

polar regions

Global Development



- **Stewardship of resources**

materials

mining

clean air

biodiversity

- **Ecosystem services**

Trade-offs

climate change

fisheries

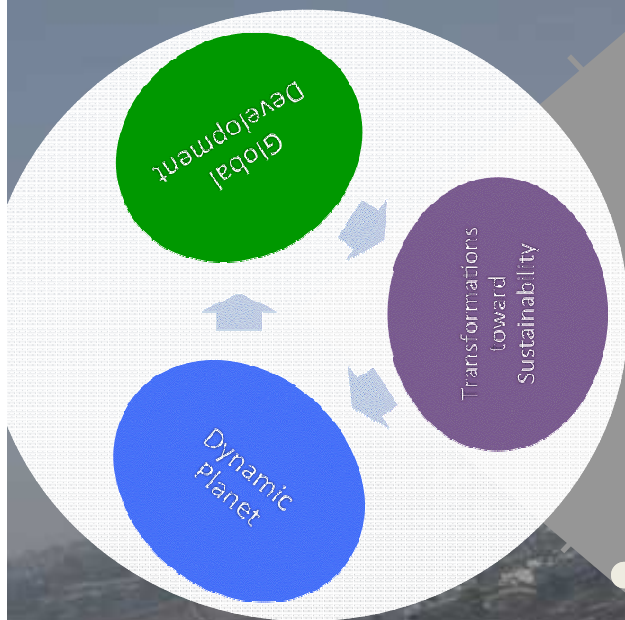
- **Equitable access**

food security

water availability

healthy environment

Transformations towards Sustainability



- **Transformation process**

economy

mega-cities

development options

- **Innovation and ideas**

trade-offs

emerging technology

assessment of policies

- **Global and regional governance**

incentives

international law

regional enforcement

**The Science and Technology Alliance
for Global Sustainability**



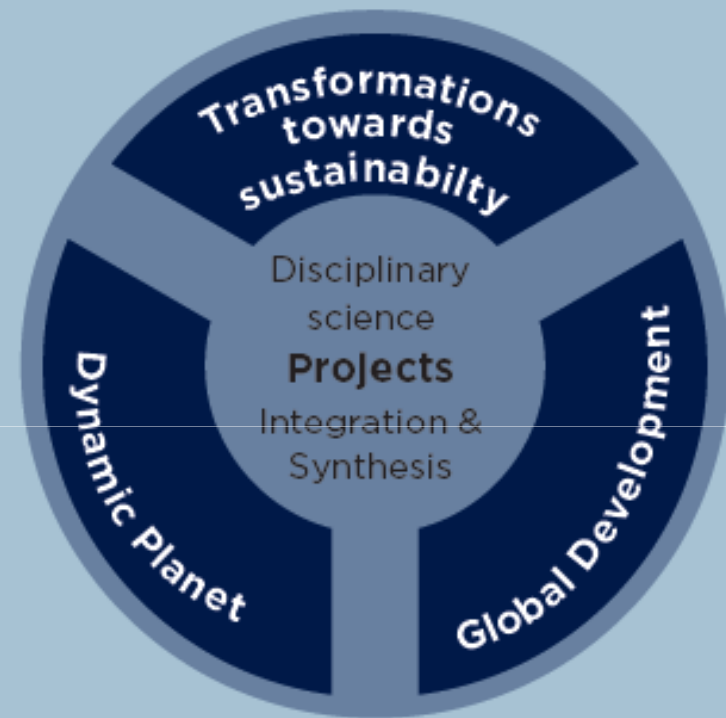
Governing Council

**Engagement
Committee**



**Science
Committee**

Executive Secretariat



Fostering co-design and co-production of knowledge under Future Earth

futureearth
research for global sustainability

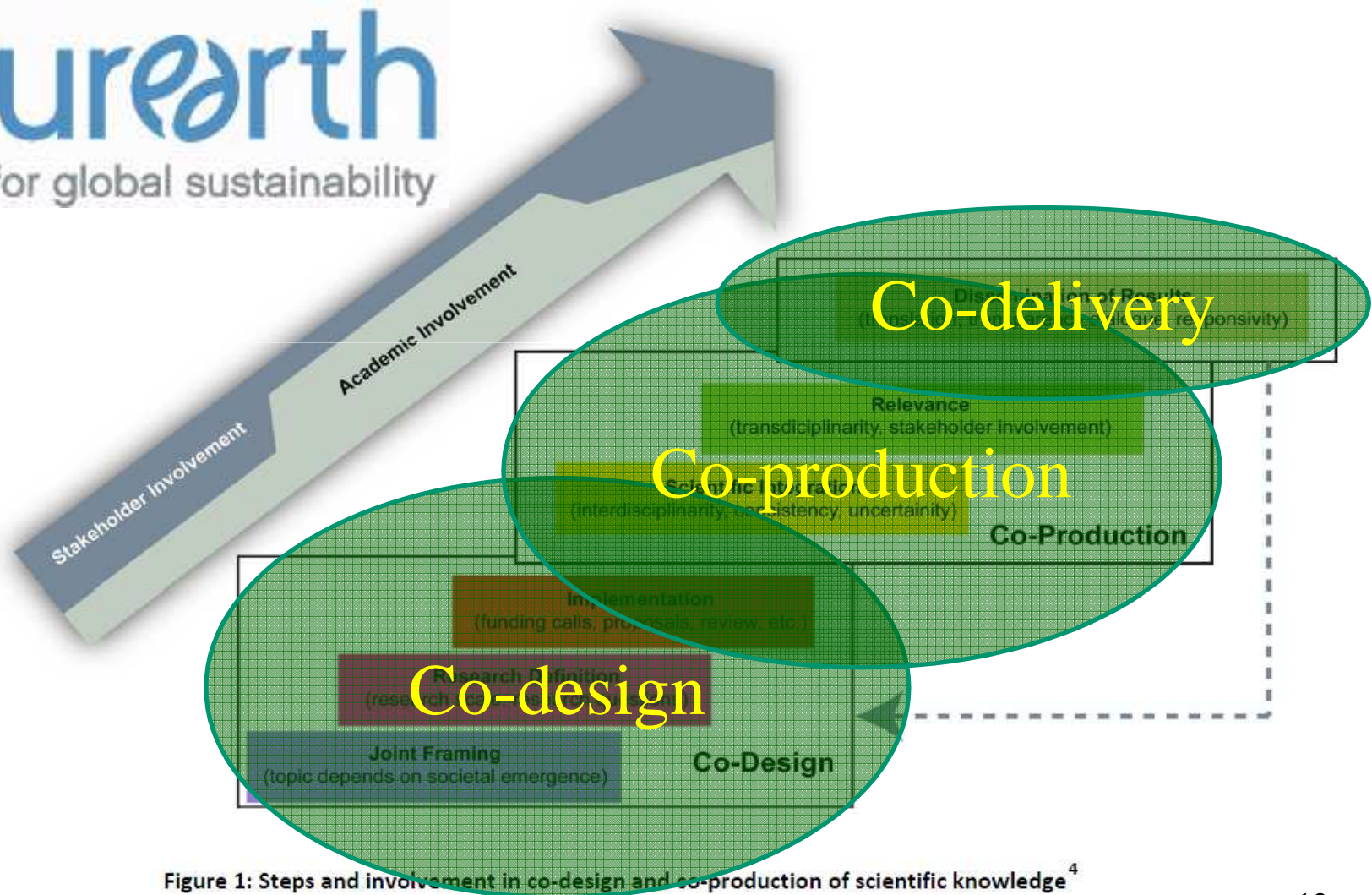


Figure 1: Steps and involvement in co-design and co-production of scientific knowledge⁴

Speakers

- **Cheryl de la Rey**
- **Carlos Nobre**
- **Thomas Rosswall**
- **Discussion**



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