Sustainable Development Goals and Science:

An Opportunity…

Flavia Schlegel,
Assistant Director-General for Natural Sciences, UNESCO
…, Beijing (xx.yy.2017)

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Sustainable Development Goals

Transition from MDGs to SDGs

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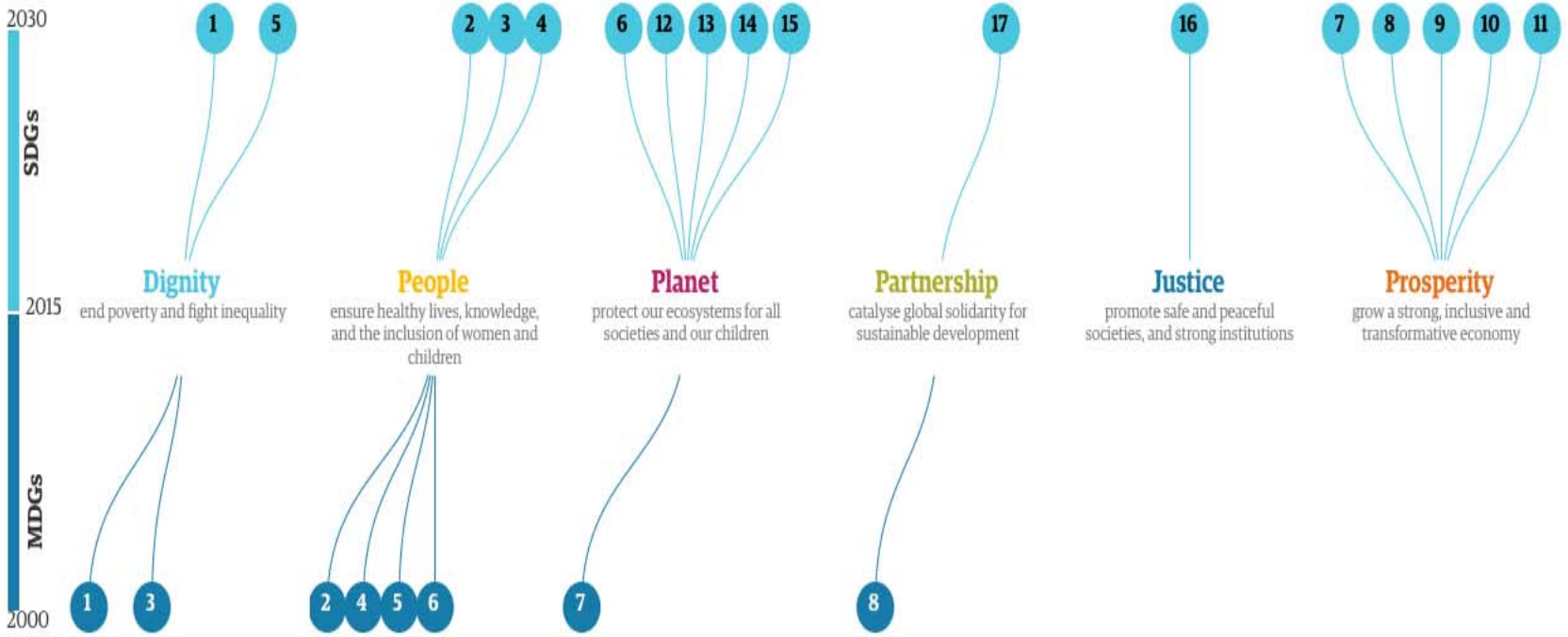

Source: Website The Guardian, 22.7.2015 http://gu.com/p/44qyn/sbl

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Sustainable Development Goals

SDGs: New Development Paradigm

- **Universal** – for all countries
- **Integrated**
  - 3 pillars of sustainable development
    economic, social, environmental
  - 3 pillars of the UN
    development, human rights, peace and security
- **Interlinked** – "all or nothing agenda"
- **National Ownership**
- **Evidence-based**

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Sustainable Development Goals

Science in the 2030 Agenda

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- SDG 6: **Water**
- SDG 7: **Energy**
- SDG 9: **Innovation**
- SDG 13: **Climate Change**
- SDG 14: **Oceans**
- SDG 15: **Biodiversity**
- SDG 17: **MOI & Partnerships**

- 35: **ST for responding to SD challenges**
- 35: **Science-policy interface**

- Goal 17: **Section on Technology**
- Addis Ababa Action Agenda: **Section on STI and Technology Facilitation Mechanism**
- SAMOA Pathway: **Section on Means of Implementation (STI)**

- **Science indicators**
- **HLPF** – science policy interface
- Existing monitoring mechanisms

Declaration, para 35

35. We recognize the **central role** that **science, technology and innovation** play in **enabling** the international community to respond to sustainable development challenges. We recognize the power of communications technologies, technical cooperation and **capacity-building** for sustainable development. We commit to strengthen the role of the **science-policy interface** in **environmental governance**.

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Sustainable Development Goals

Goals and Targets are Interconnected

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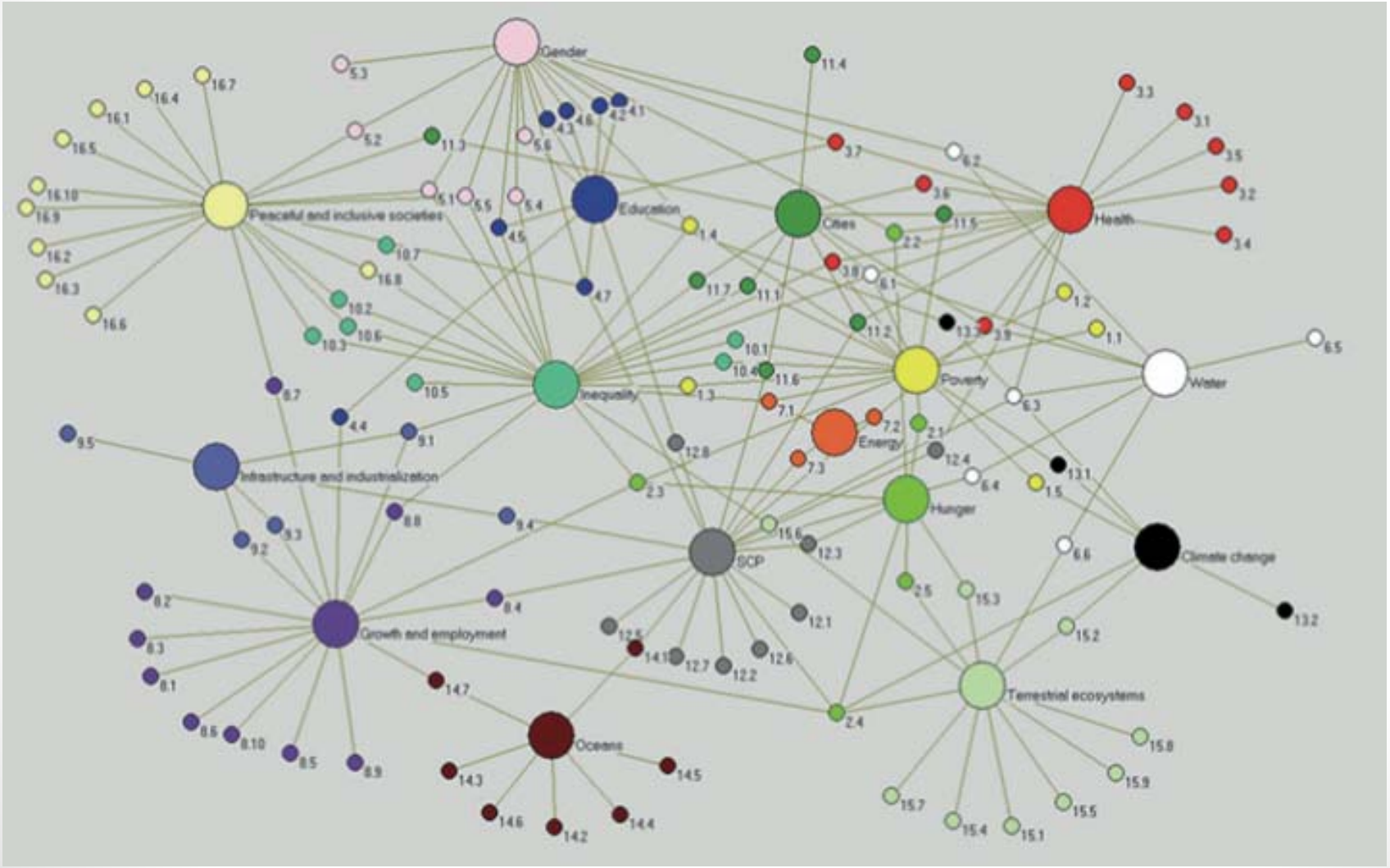

Source: WHO/CCU/16.02

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Sustainable Development Goals

International Agendas

COP21 · CMP11
PARIS 2015
UN CLIMATE CHANGE CONFERENCE

Samoa Pathway: SIDS
Sendai Framework: DRR
Istanbul Programme of Action: LDCs
Addis Ababa Action Agenda: FfD

Means of Implementation

SDG 17.6 – 8
Addis Ababa Action Area G (STI and CB)

- Adopting **STI strategies** as part of national sustainable development strategies
- Promoting **Science Collaboration**
- Enhancing **STEM Education**
- Recognizing **LINKS** and their contribution to sustainable development
- **Technology Facilitation Mechanism** and **Technology Bank**

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Follow up & Monitoring

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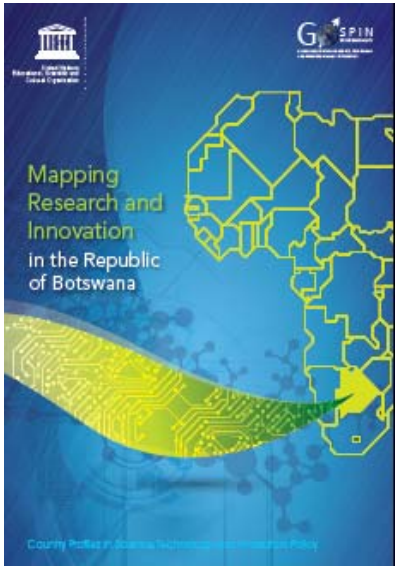
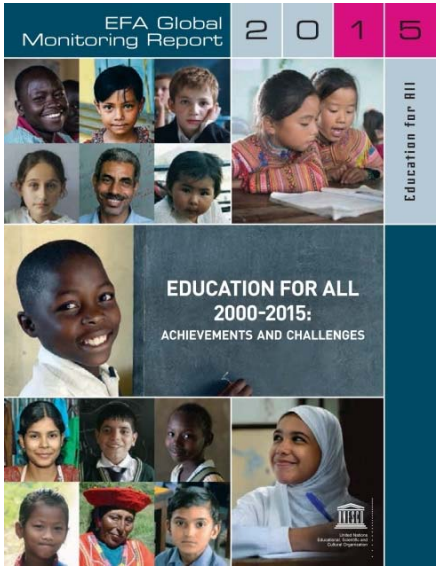
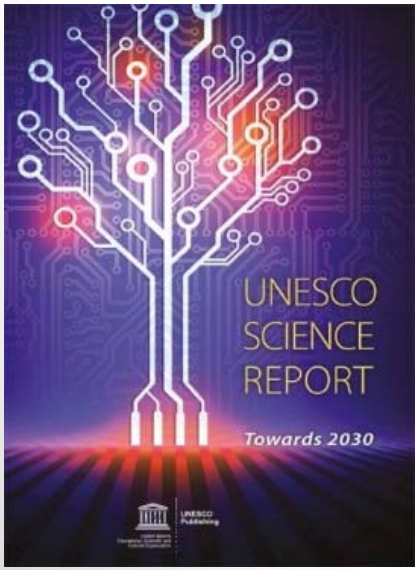
Follow up

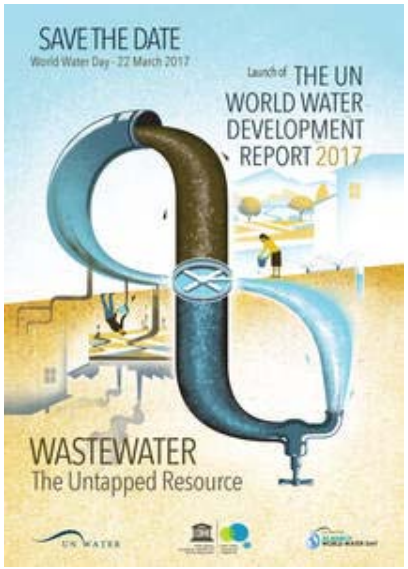
Monitoring and review

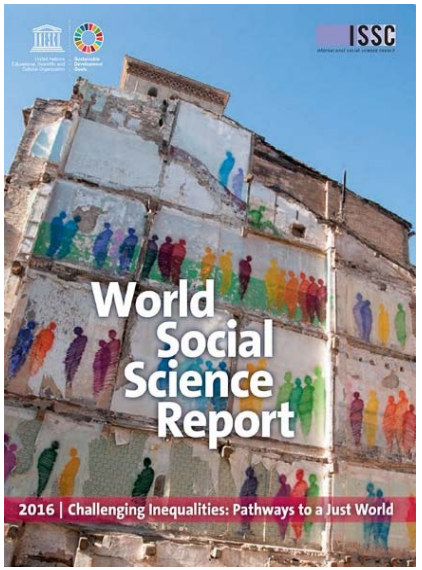
- **Science indicators**
- **HLPF** – science policy interface
- Existing monitoring mechanisms











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Sustainable Development Goals

Building Peace in the Minds of Men and Women

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Over 70 years'
Experience
in promoting international cooperation in science

Multi Sectoral Mandate
Education, Science, Culture, Communication

Norm-Standard-Setting
Governance-Diplomacy-Capacity Development

Origin of **Copy Right, CERN, SESAME…**

195 Member States

Convening Power

Secretariat of **Intergovernmental Science Programs**

Neutral broker
Legitimacy

Credibility

Networks
Chairs, Centers, Sites

International Science Cooperation

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International Hydrological Programme

United Nations Educational, Scientific and Cultural Organization

International Geoscience Programme

United Nations Educational, Scientific and Cultural Organization

Man and the Biosphere Programme

United Nations Educational, Scientific and Cultural Organization

Intergovernmental Oceanographic Commission

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Management of Social Transformations Programme

IBSP

International Basic Sciences Programme

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LINKS

Local and Indigenous Knowledge Systems

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Natural Sciences for the 2030 Agenda

Harnessing STI and knowledge for sustainable development

- Develop and monitor inclusive STI policy and knowledge systems
- Increase capacity to produce, disseminate and apply STI
- Increase capacity of LINKS and SIDS

Advancing science for sustainable management of natural resources, disaster risk reduction and climate change action

- IHP - water security challenges
- IGGP & DRR - natural resources
- MAB - natural resources, biodiversity, climate change resilience
- UNESCO-designated sites as learning sites for sustainable development

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Natural Sciences for the 2030 Agenda

- Gender Equality, Africa, SIDS, Youth
- Local and Indigenous Knowledge Systems
- Transboundary Resources
- Data Sharing
- Science Governance, Advice, Diplomacy
- Science-Policy-Society Interface

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Inclusive Science Technology and Innovation (STI) for sustainable development

- Inclusive STI for poverty eradication and sustainable development
- Assisting developing countries and countries with economies in transition to integrate STI policies
- Reforming and modernizing the national STI systems and governance
- Providing technical support for strengthening STI ecosystems and the science-policy-society interface

Inclusive Science Technology and Innovation (STI) for sustainable development

- Pillars for effective STI Ecosystems:
  1. Solid STI policies as holistic frameworks
  2. Institutional & human capacities adapted to science, research & innovation
  3. Public participation in science
- Development of innovation capabilities to generate green growth transformation
- Special focus on women and girls in science
- Triangular and South-South cooperation to support policies and activities of STI of developing countries
- Local and indigenous knowledge

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UN SG Scientific Advisory Board

The process

- 26 independent experts
- Multidisciplinary
- Multiple-knowledge oriented
- Timely and salient on any issue of relevance to the Secretary-General and the UN
- Science-policy interface and science diplomacy in action

5th meeting, Trieste, Italy, May 2016

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UN SG Scientific Advisory Board

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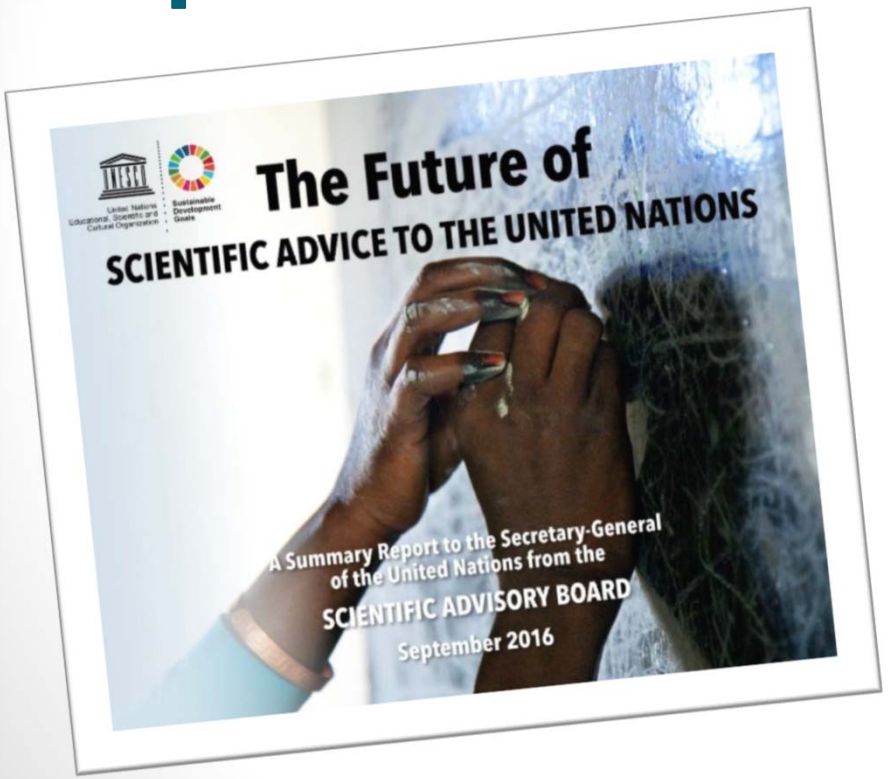
The Summary Report



- The Role of Science for SD
- The Data Revolution
- The Interface of Science, Policy, Society
- Efforts to Reduce Inequalities
- Grand Challenges
- LINKS
- Recommendations for Science Advice on the highest level of UN

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Science Diplomacy

- SESAME
- CERN
- The Abdus Salam International Centre for Theoretical Physics (ICTP)
- TWAS (hosting IAP and OWSD)
- Water Diplomacy
- Transboundary Resource Management
- Post Conflict - Conflict Prevention

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Transboundary Aquifers in Asia and the Pacific

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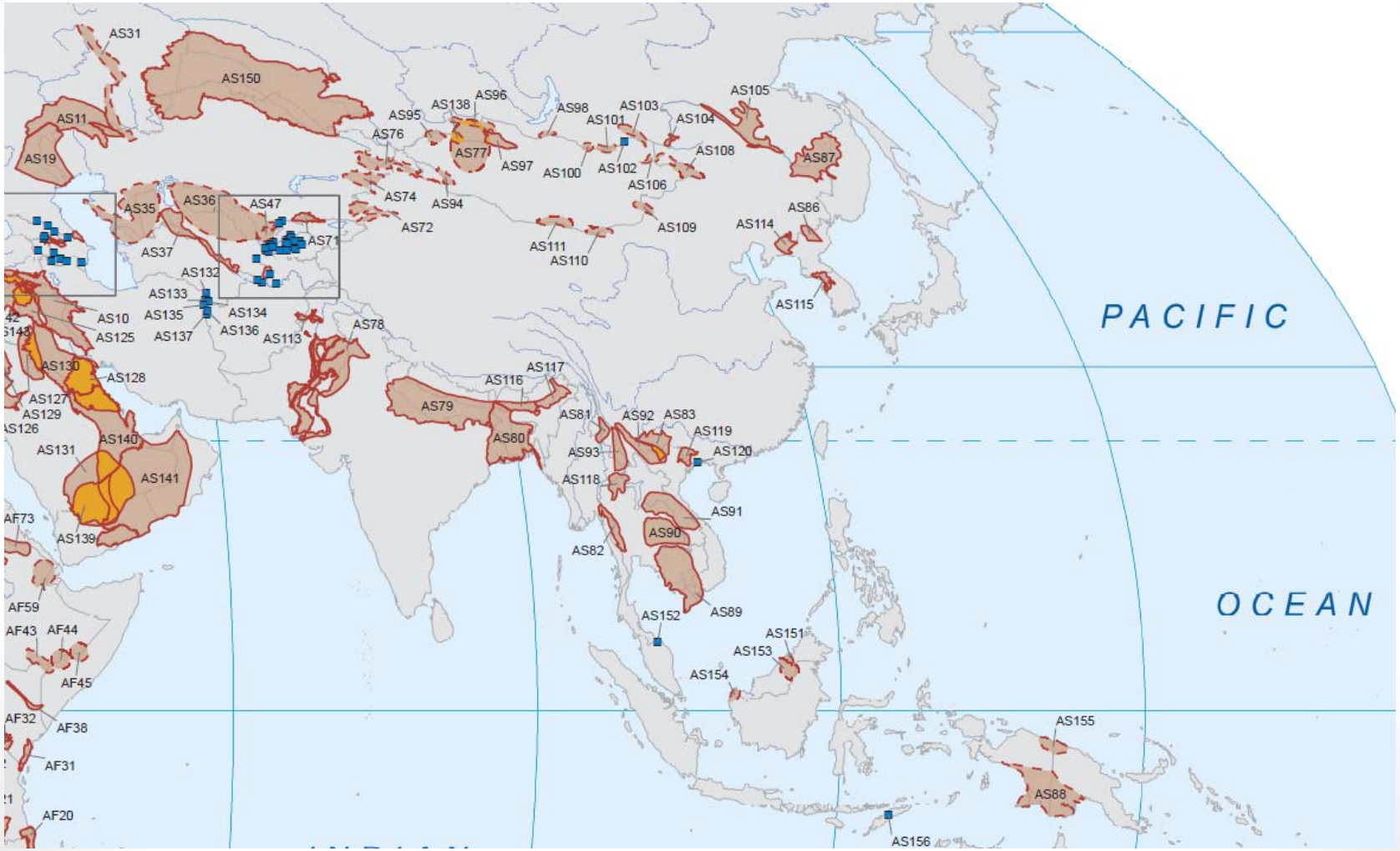
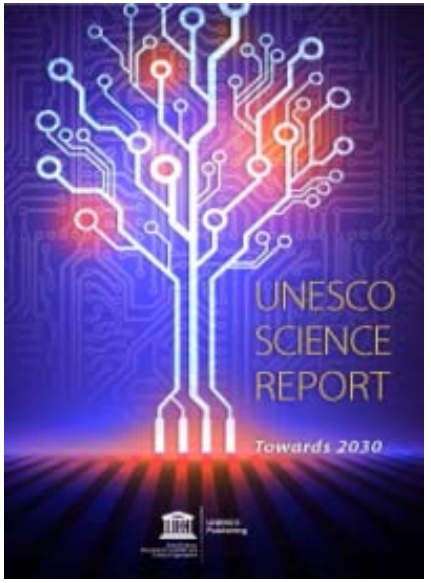


UNESCO Science Report: towards 2030 Chapter on China

- Written by international experts
- Information at the nation level
- Reporting recent trends in research and STI policy
- Guiding the implementation of the Agenda 2030 for SDGs



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Trends in GDP per capita and GDP growth in China (2013-2014)

Source: World Bank's World Development Indicators, March 2015

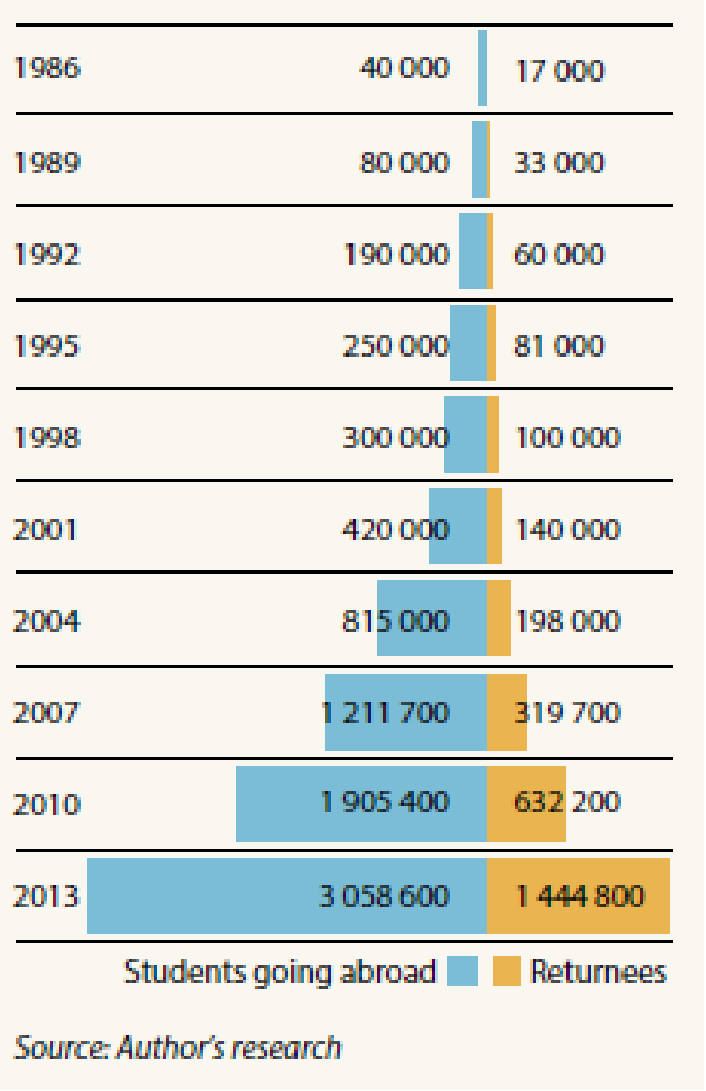
Source: UNESCO Science Report: towards 2030

National Medium and Long-term Plan for the Development of Science and Technology (2006-2020): Quantitative Goals

- Raising investment in R&D to 2.5% of the GDP
- Raising the contribution of technological advances to economic growth to more than 60%
- Limiting China's dependence on imported technology to no more than 30%
- Becoming one of the top five countries in the world for the number of patents granted to its own citizens; and
- Ensuring that Chinese-authored scientific papers figure among the world's most cited.

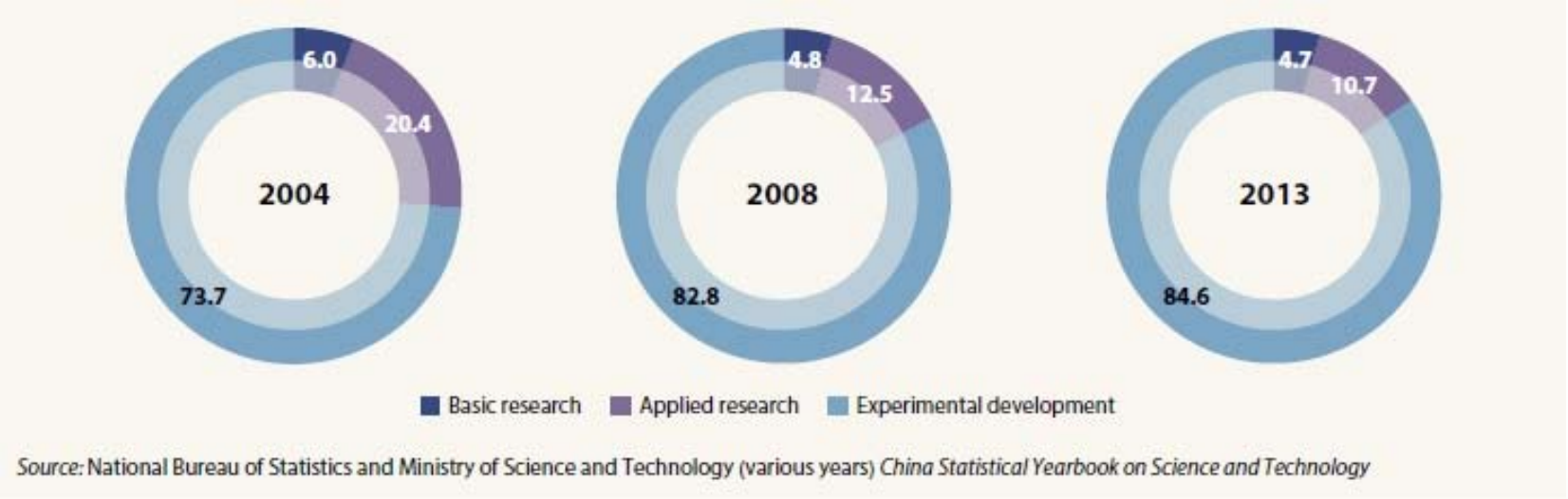
Source: UNESCO Science Report: towards 2030

Cumulative number of Chinese students going abroad and returnees (1986-2013)



Source: UNESCO Science Report: towards 2030

GERD in China by type of research, 2004, 2008, and 2013 (%)



Source: National Bureau of Statistics and Ministry of Science and Technology (various years) *China Statistical Yearbook on Science and Technology*

Source: UNESCO Science Report: towards 2030

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Scientific publication trends in China

- **0.98**% average citation rate for Chinese scientific publications (2008-2012) the OECD average is 1.08; the G20 average is 1.02
- **10.0**% share of Chinese papers among 10% most cited, (2008-2012) the OECD average is 11.1%; the G20 average is 10.2%
- **24.4**% share of Chinese papers with foreign co-authors, (2008-2014), the OECD average is 29.4%; the G20 average is 24.6%

Source: UNESCO Science Report: towards 2030

UNESCO Natural Sciences and China

37 C/5 Programme and Budget

- Running IGCP activities from Headquarters
- Promoting Global Geopark activities from Headquarters

38 C/5 Programme and Budget

- UNESCO Engineering Report II
- Activities of the International Geoscience and Geoparks Programme from Headquarters (IGGP)