Role of Academies of Science in addressing Global Sustainability Challenges

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Outline

- Global Challenges
- Role of Academies of Science
Global Challenges
Global Sustainability Problems

Rio+10 (2002)
- Water
- Energy
- Health
- Agriculture
- Biodiversity

Rio+20 (2012)
- Cities
- Disasters
- Peace
- Inequalities
- Education
- Jobs

Most critical crosscutting problems
- Poverty
- Climate Change

→ SDGs
17 SDGs and 169 Targets
To transform the World

- No Poverty
- Zero Hunger
- Good Health and Well-Being
- Quality Education
- Gender Equality
- Clean Water and Sanitation
- Affordable and Clean Energy
- Decent Work and Economic Growth
- Industry, Innovation, and Infrastructure
- Reduced Inequalities
- Sustainable Cities and Communities
- Responsible Consumption and Production
- Climate Action
- Life Below Water
- Life on Land
- Peace and Justice, Strong Institutions
- Partnerships for the Goals

The Global Goals
For Sustainable Development
195 Countries adopted universal agreement to limit global warming below two degrees centigrade and provide international support to adaptation measures.
• **Sustainability challenges** are **global**, complex and interconnected

• Africa is most severely affected by sustainability Problems

• **Frontier STI** provide **integrated** solutions to sustainability challenges

• International collaboration in research and education in Sciences, based on **shared goals and capacity needs** is critical to addressing sustainability challenges

• **Merit-based Academies of Science** have a crucial and collaborative role to play in addressing sustainability problems
Role of Academies of Sciences
Definition:

Merit-Based Academies of Science are independent organizations of individuals that bring together, as members, the most eminent scientists (nationally, regionally or globally) and that elect new members only on the basis of merit and accomplishment.
Science Academies Worldwide
(111 IAP Members)

Countries with merit-based science academies:

- Africa: 20
- Asia: 34
- Americas: 17
- Europe: 40
- Total: 111
Power of academies

• **Excellence**: Members are most accomplished scientists elected by peers on merit

• **Independence**: Power to express independent, objective, unbiased and evidence-based opinion on critical issues

• **Mobilization**: Power to *mobilize* best scientific minds for the benefit of society

• **Networking**: Power to reach out to all other academies and *act jointly* to address critical Global and Regional issues
Networks of Science Academies

- Academies of science, medicine and engineering worldwide joined forces and formed networks

- Aim: Bring together merit-based academies globally and regionally
  - To strengthen advisory capacities of Member Academies
  - To discuss scientific issues of global and regional concern
  - To influence policy by producing and disseminating joint statements and reports on such issues
Networks of Science Academies

14 Networks (4 Global)

Amsterdam: **IAC**, ALLEA
Halle: **EASAC**
Brussels: **CAETS**, FEAM
Salzburg: CEEN
Trieste: **IAP**, **IAMP**
**Rome**: **EMAN**
Nairobi: **NASAC**
Gyunggi-Do: **AASSA**

Mexico City: **IANAS**
Santo Domingo: CSU
IAP Affiliated Networks
**Action by Global Networks of Academies**  
*Science for Policy*

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<th>Evidence-based advice on global issues</th>
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<td><img src="image" alt="iap" /> the global network of science academies</td>
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### Short policy statements on global issues:
- Science Education
- Teaching of evolution
- Cloning
- Biosecurity
- Forestry
- Ocean acidification
- Population (Rio + 20)
- Synthetic Biology

### Short policy statements on health issues:
- Controlling Infections
- Health / Climate change
- Health Research in DC’s

### Comprehensive reports on global issues:
- Capacity Building
- African Agriculture
- Women for Science
- Sustainable Energy
- IPCC Review
- ASADI Review
Statements by G8 Academies and NASAC on sustainability, energy efficiency and climate change
IAP/IAC/IAMP Collaboration

IAP/IAC Report: *Responsible Conduct in Global Research Enterprise*

- Report prompted by the emergence of cases of scientific fraud and irresponsible behavior in the conduct of scientific research in a number of Countries.

- Report identifies universal fundamental values that researchers around the world should adhere to and incorporate in their research activities.

- Report can be downloaded from IAP and IAC Websites
IAP & IAMP Statement on
Antimicrobial Resistance: A Call for Action

Addressing the dramatic increase in the
number and distribution worldwide of
pathogens resistant to antimicrobial drugs
IAP Executive Committee, IAC Board and IAMP Executive Committee Joint Session, May 2014
Joint Session, May 2014, hosted by the Accademia Nazionale dei Lincei, and chaired by the 6 Co-chairs

Agreement to create a single umbrella organization to permit academy networks to speak with one voice on global issues
IAP
InterAcademy Partnership

Regional Networks

Asia
Europe
Americas
Africa

Research
Science
Health

Member academies
Future Action by the new IAP

- Launch the new IAP and approve its Statutes at the GA of IAP-Science on 2 March 2016 in Hermanus, South Africa.

- Continue to strengthen the advisory capacity of Member Academies to provide better services to the scientific community, policy community and general public.

- Continue to produce joint, authoritative and policy-relevant statements and reports on critical sustainability issues to impact policy and decisions.
- Contribute to policy discussions related to the implementation of SDGs, to ensure the integration of STI in thematic clusters and targets.

- Explore possibilities of becoming independent authoritative advisor to the UN, G77, G20, ..., on critical, science-based sustainability issues.

- Develop and strengthen partnership with international and regional scientific and economic organizations (CAAST-Net plus, RECs, ...).
InterAcademy Partnership first project:

Food and Nutrition Security and Agriculture

- Project supported by Leopoldina and funded by BMBF (2016-2018)

- Aim: produce global consensus policy-relevant report with specific recommendations to policy-makers and decision-takers worldwide

- Global report will be based on four regional reports from four regional networks: AASSA, EASAC, IANAS and NASAC
Thank you

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