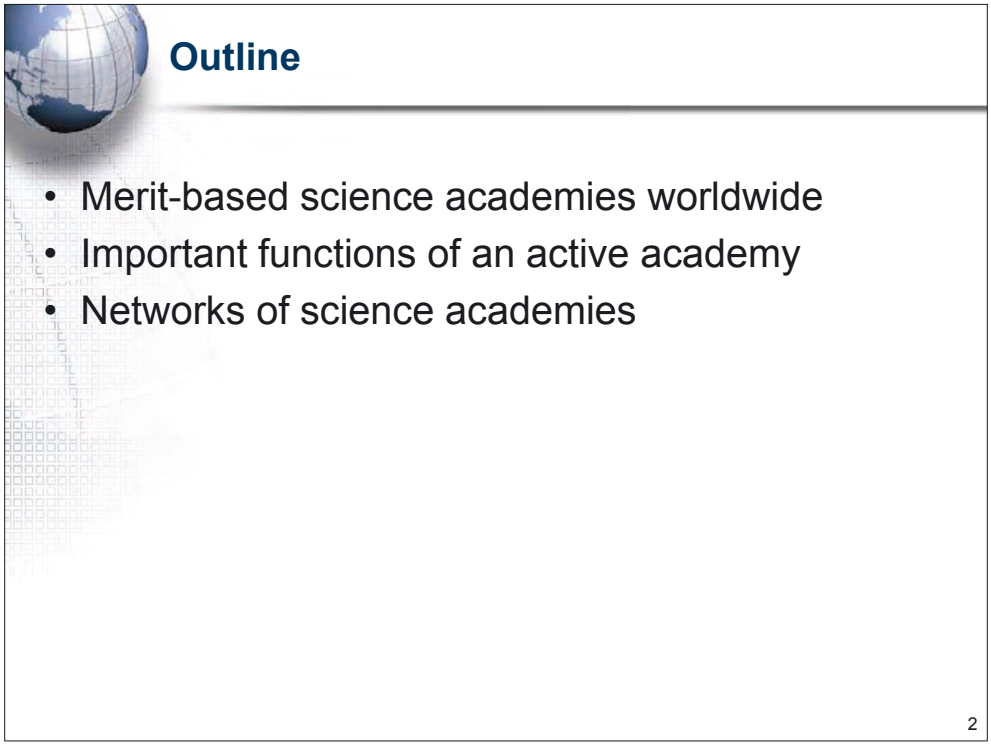
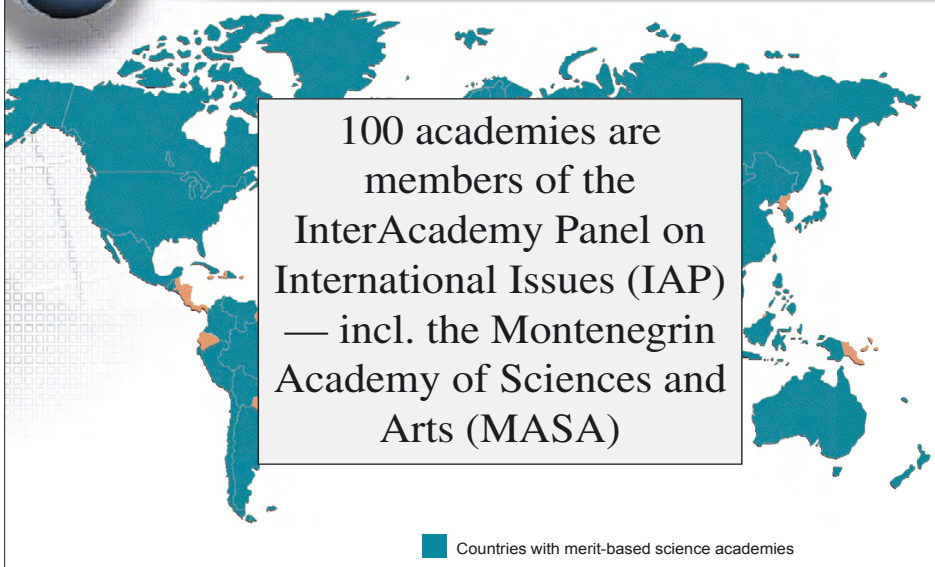
Prof. Mohamed H. A. HASSAN
Executive Director, TWAS and IAP
President, AAS and NASAC

Promoting the Role of Merit-Based Science Academies[*]



[*] The paper is a Power point presentation delivered at the Conference.

Merit-based science academies



3

IAP membership by region

North America	2
Latin America and Caribbean	11
Middle East and North Africa	7
Sub-Saharan Africa	12
Europe and Central Asia	46
East Asia and Pacific	10
South Asia	7
Regional / Global	5
Total	**100**

4

Important functions of an active academy

- **Services to scientific communities**
  - Recognize scientific achievements and encourage the pursuit of scientific excellence (election to membership, awards, medals)
  - Foster a new generation of talented scientists (schemes to spot and nurture scientific talent: prizes for young scientists, conferences for young scientists, mentoring)
  - Facilitate linkages with scientific communities abroad (exchange programmes, representations in international programmes)
  - Promote dissemination and exchange of scientific knowledge (publications, conferences and lectures)
  - Support scientific research and its applications (research institutes, centres of excellence)

5

Important functions of an active academy

- **Services to general public**
  - Promoting public understanding of science (discussion meetings, public lectures, media and science centres connections)
  - Promoting science education (national science education policy and standards, quality of curriculum and teachers)

6

Important functions of an active academy

- **Services to government**
  - Independent, credible, expert advice on issues of national importance (R&D policy and funding, management and exploitation of scientific research and new technologies)
  - Advice on critical issues of national / regional / global concern (energy, health, water, climate change, global environment)

7

Networks of Science Academies

- Academies of science, medicine and engineering worldwide joined forces and formed networks
  - Global: IAP, IAMP, CAETS, IAC
  - Regional: NASAC, NASIC, IANAS, FASAS, AASA, SCA, CSU, EASAC, ALLEA, CEEN

8

Networks of Science Academies

Location of Headquarters

9

Action by Science Academy Networks

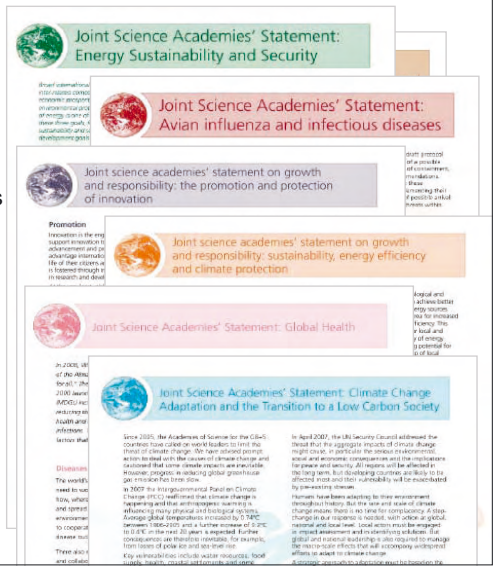
- Issue statements on topics of global significance
  - **IAP**: Transition to Sustainability, Cloning, Biosecurity, Teaching of Evolution, ...
  - **G8+5 academies**: Climate change, energy security, global health, infectious diseases, innovation, ... *(G8 Summits in UK, Russia, Germany, Japan, 2005-2008)*
  - **NASAC + G8**: Science and technology for African development *(G8 Summit, UK, June 2005)*
  - **NASAC**: Sustainability, energy efficiency and climate change *(G8 Summit, Germany, June 2007)*
  - **NASAC + IANAS + SCA**: Role of science, technology and innovation in promoting global development *(G8 Summit, Japan, June 2008)*

10

Action by Science Academy Networks

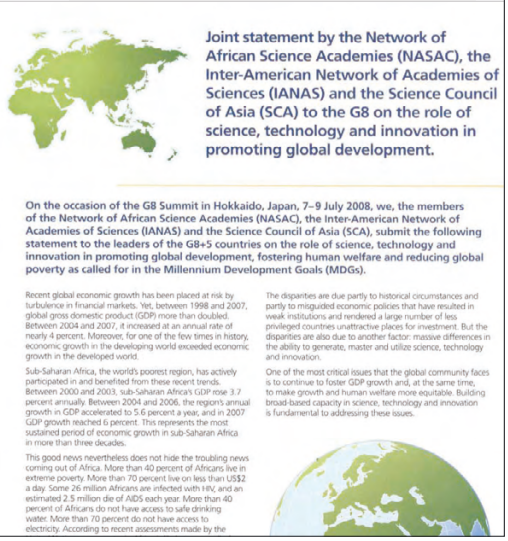
Joint Statements by G8+5 Academies

- June 2005 (Gleneagles)
  - Global response to climate change
- June 2006 (St. Petersburg)
  - Avian influenza and infectious diseases
  - Energy Sustainability and security
- May 2007 (Heiligendamm)
  - Promotion and protection of innovation
  - Growth and responsibility: sustainability, energy efficiency and climate protection
- June 2008 (Hokkaido Toyako)
  - Global Health
  - Climate Change Adaptation and the Transition to a Low Carbon Society



Action by Science Academy Networks

- Joint statement by academies of G8 countries and NASAC to **G8 summit in Scotland** in June 2005
- NASAC statement to **AU summit in Addis Ababa**, Ethiopia, in January 2007
- NASAC statement to **G8 summit in Germany** in June 2007
- NASAC statement to **TICAD** and **G8 summit in Japan** in May and June 2008



Joint statement by the Network of African Science Academies (NASAC), the Inter-American Network of Academies of Sciences (IANAS) and the Science Council of Asia (SCA) to the G8 on the role of science, technology and innovation in promoting global development.

On the occasion of the G8 Summit in Hokkaido, Japan, 7–9 July 2008, we, the members of the Network of African Science Academies (NASAC), the Inter-American Network of Academies of Sciences (IANAS) and the Science Council of Asia (SCA), submit the following statement to the leaders of the G8+5 countries on the role of science, technology and innovation in promoting global development, fostering human welfare and reducing global poverty as called for in the Millennium Development Goals (MDGs).

Recent global economic growth has been placed at risk by turbulence in financial markets. Yet, between 1998 and 2007, global gross domestic product (GDP) more than doubled. Between 2004 and 2007, it increased at an annual rate of nearly 4 percent. Moreover, for one of the few times in history, economic growth in the developing world exceeded economic growth in the developed world.

Sub-Saharan Africa, the world's poorest region, has actively participated in and benefited from these recent trends. Between 2000 and 2003, sub-Saharan Africa's GDP rose 3.7 percent annually. Between 2004 and 2006, the region's annual growth in GDP accelerated to 5.6 percent a year, and in 2007 GDP growth reached 6 percent. This represents the most sustained period of economic growth in sub-Saharan Africa in more than three decades.

This good news nevertheless does not hide the troubling news coming out of Africa. More than 40 percent of Africans live in extreme poverty. More than 70 percent live on less than US$2 a day. Some 26 million Africans are infected with HIV, and an estimated 2.5 million die of AIDS each year. More than 40 percent of Africans do not have access to safe drinking water. More than 70 percent do not have access to electricity. According to recent assessments made by the

The disparities are due partly to historical circumstances and partly to misguided economic policies that have resulted in weak institutions and rendered a large number of less privileged countries unattractive places for investment. But the disparities are also due to another factor: massive differences in the ability to generate, master and utilize science, technology and innovation.

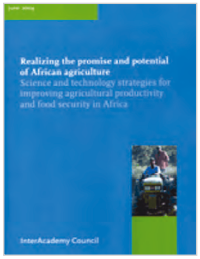
One of the most critical issues that the global community faces is to continue to foster GDP growth and, at the same time, to make growth and human welfare more equitable. Building broad-based capacity in science, technology and innovation is fundamental to addressing these issues.

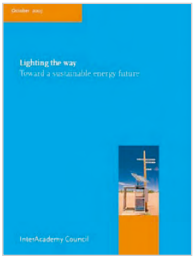
Action by Science Academy Networks

13

Action by Science Academy Networks

- Publish reports on issues of critical importance to sustainability
  - IAC reports: Towards a Sustainable Energy Future, Women for Science, Inventing a Better Future, Realizing the Promise and Potential of African Agriculture





14

Action by Science Academy Networks

- Assist academies in developing countries to build their capacity to provide independent and authoritative advice to government

15

Action by Science Academy Networks

- Reform science education worldwide by promoting Inquiry-Based Science Education (IBSE)
  - Engage students in active investigations to enhance their problem-solving skills

16

Action by Science Academy Networks

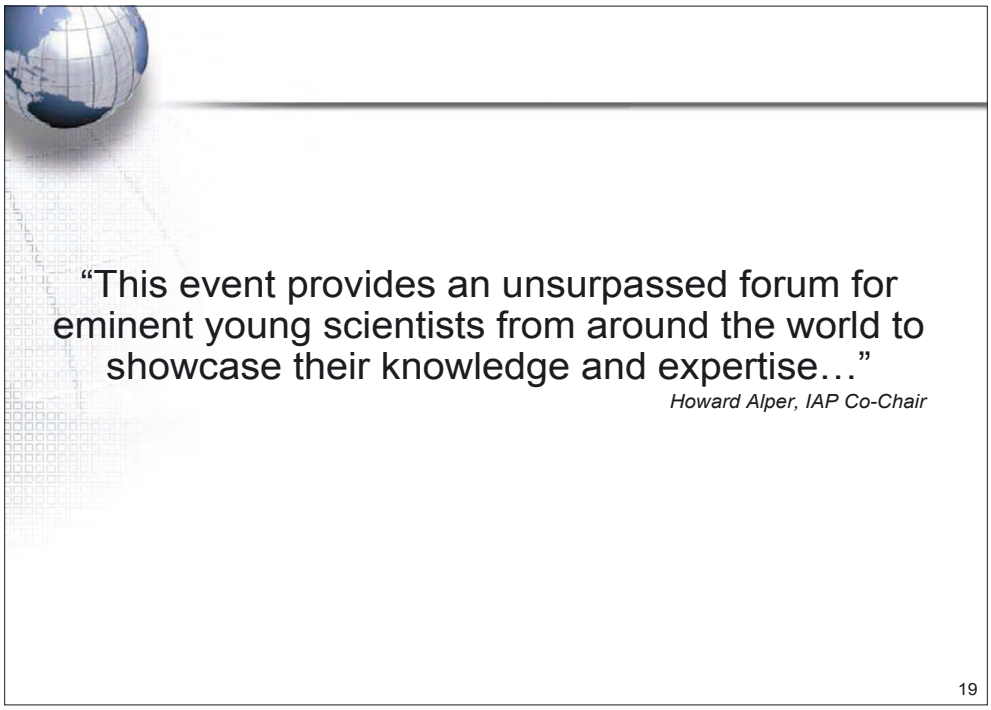
- Linking young scientists to new champions in business, finance and industry
  - World economics forum second annual meeting of the new champions: 25-29 September 2008, Tianjin, China
  - Themes: Going Global, Managing Risks, Drivers of Future Growth, Next Wave of Technology and Innovation
  - First time: 50 eminent young scientists from 40 countries selected by science academies to participate and develop partnerships with other young champions

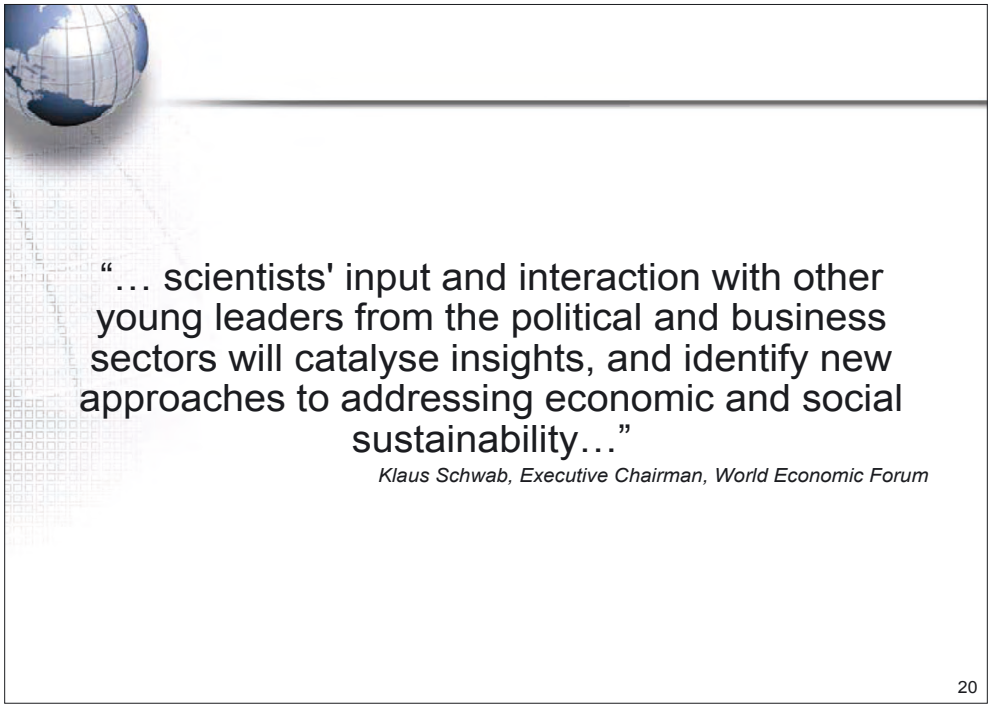
17

IAP Young Scientists

More than 50 outstanding young scientists, selected through a competitive, merit-based process are participating in the World Economic Forums' "Summer Davos", Tianjin, China, 26-28 September 2008

18


"This event provides an unsurpassed forum for eminent young scientists from around the world to showcase their knowledge and expertise…"
Howard Alper, IAP Co-Chair
19


"… scientists' input and interaction with other young leaders from the political and business sectors will catalyse insights, and identify new approaches to addressing economic and social sustainability…"
Klaus Schwab, Executive Chairman, World Economic Forum
20

CEEN academies' involvement in IAP

IAP Member Academy	GA Mexico (2003)	GA Egypt (2006)	Cloning (2003)	Biosecurity (2005)	Evolution (2006)
Academy of Sciences of Albania	+	+	+	+	+
Academy of Sciences and Arts of Bosnia and Herzegovina		+		+	+
Bulgarian Academy of Sciences			+	+	+
Croatian Academy of Sciences		+	+	+	+
Academy of Sciences of the Czech Republic	+	+	+	+	+
Estonian Academy of Sciences			+	+	
Hungarian Academy of Sciences	+		+	+	+
Macedonian Academy of Sciences and Arts		+	+	+	+
Academy of Sciences of Moldova		+	+		
Montenegrin Academy of Sciences and Arts				+	
Polish Academy of Sciences	+	+		+	+
Romanian Academy		+	+		
Serbian Academy of Sciences and Arts		+		+	+
Slovak Academy of Sciences and Arts		+		+	+
Slovenian Academy of Sciences and Arts		+		+	+

21

CEEN – IAP Future Collaboration

- Participation of CEEN Members in 2009 call for proposals
- Participation of CEEN in IAP - IBSE programme
- Organization of conference for young scientists in conjuction with CEEN general meeting
- Participation of all CEEN Members in IAP general conferance t be hosted by RS in London

  in Jan 201o

22