

# Science for Poverty Eradication and Sustainable Development: Commentary

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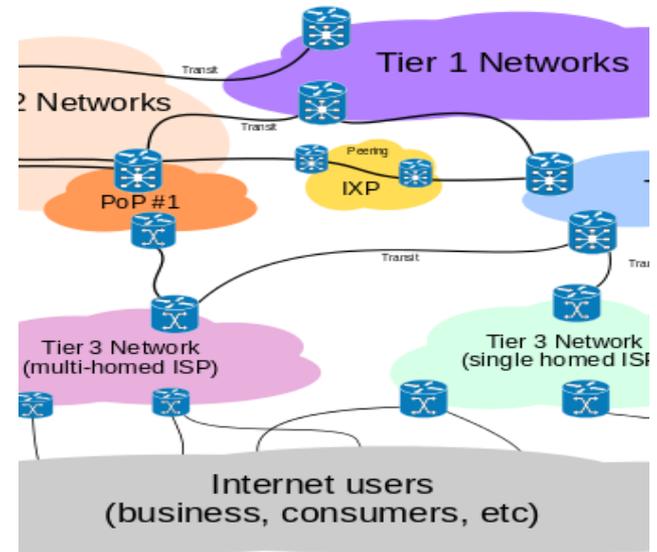
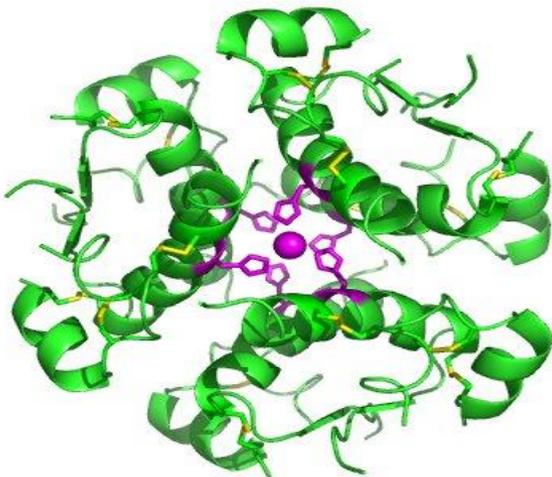
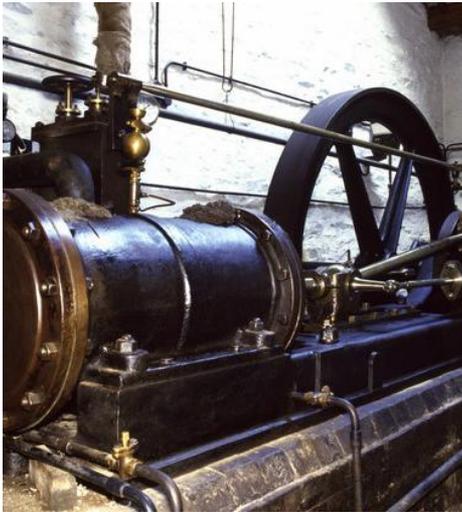
Past Foreign Secretary

US National Academy of Sciences

# Why Is Science important?

- Science is the world's most successful means of knowledge creation.
  - Deals exclusively with arguments based on evidence.
  - Results subject to independent confirmation by others.

Science = knowledge creation  
Technology = collection of tools



Based on the last 200 years and the increasing investments in scientific research in many countries there is every reason to expect a continued expansion of basic knowledge and the technological advances and innovations that flow from new discoveries.

But there is no guarantee that these new technologies and innovations will solve issues of sustainability or poverty eradication.

Policies and incentives are necessary to direct innovations towards the twin goals sustainability and poverty eradication.

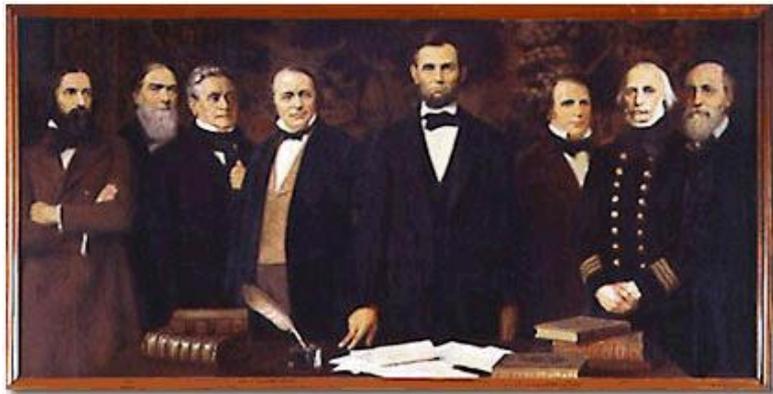
# Who speaks for science?

- Informal advice from respected experts – e.g. Einstein to Roosevelt on A bomb project.
- Inside advice from Government scientists e.g. Geological Survey or Department of Agriculture in US.
- Think tanks – e.g. Rand or Brookings Institution.

# US National Academy of Sciences: Dominant Purpose is Service

“Sc. 3.....the Academy shall, whenever called upon by any department of the government, investigate, examine, experiment, and report upon any subject of science or art.....the actual expense of such investigations, examinations, experiments, and reports to be paid from appropriations which may be made for the purpose, but the Academy shall receive no compensation whatever for any services to the Government of the United States.

Approved, March 3, 1863.  
*Abraham Lincoln, President*



# Why are Academies Important?

- Academies are **merit based** and include the scientific leadership within a country
- Academies are **self renewing** institutions, free from political interference.
- Academies have the **credibility** to inform the public and policy makers about looming problems and potential solutions

# What can science communities do to promote a better future?

- Science academies can be effective in arguing for the use of S&T knowledge in policy development
- Academy leaders often have access to high level decision makers
- Most nations regard their S&T assets as essential for a better future

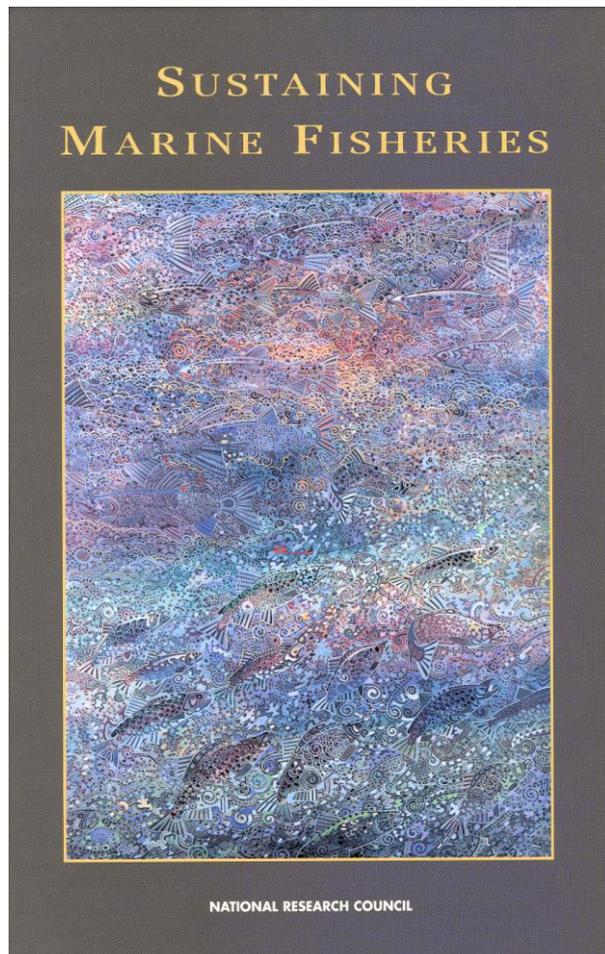
# **World Commission on Environment and Development (1983)**

**also known as the Brundtland Commission for  
the Chair and first woman Prime Minister of  
Norway**

- Brundtland Commission definition:  
Sustainable development is “*Development  
that meets the needs of the present without  
compromising the ability of future  
generations to meet their own needs*”

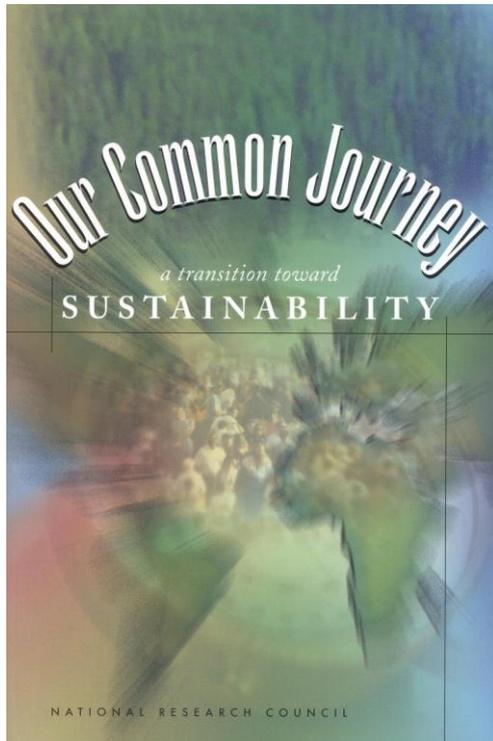
In the 30 years since the Brundtland Commission world population has grown from about 4.5 billion to about 7.2 or by about 62%.

# *Sustaining Marine Fisheries*



- Documents the condition of marine fisheries, highlighting species and geographic areas under particular stress
- Calls on fisheries management to adopt a broader ecosystem perspective
- Offers new approaches to build workable fisheries management institutions, improve scientific data, and develop management tools

# ***A Transition toward Sustainability***



***Our Common Journey: A Transition toward Sustainability*** (US NAS, 1999) examined strategic connections between scientific research, technological development, and societies' efforts to achieve environmentally sustainable improvements in human well being

**Recommended that societies approach sustainable development not as a destination but as an ongoing, adaptive learning process.**

# Why is the assimilation of science into policy slow?

- The processes of repeatability and confirmation in the scientific community take time.
- The channels between science and policy are noisy.
- Policy makers need broad syntheses while most scientists work on narrowly defined problems.

It is essential for the science community to become more effective in communicating appropriate evidence based policy options to governments and decision makers.

National governments make critical  
policy that influences sustainability  
and poverty

It follows that there must be a  
concerted effort to address National  
Governments

# The Power of Networks

- Academies are in most countries
- Academies include the science leadership of countries and can reach high-level decision makers.
- Working together Academies can influence policy on key issues

# IANAS Academies of Sciences

 <p>ANCEFN</p>	 <p>ACADEMIA BRASILEIRA DE CIÊNCIAS</p>	<p>National Academy of Sciences of Honduras</p>		 <p>THE INTER-AMERICAN NETWORK OF ACADEMIES OF SCIENCES</p>
				
<p>ACE</p> <p>ACADEMIA DE CIENCIAS DEL ECUADOR</p>		 <p>FUNDADA: XX-XII-MCMXXIV ACADEMIA DE CIENCIAS DE LA REPÚBLICA DOMINICANA</p>		
		 <p>ACADEMIA NACIONAL DE CIENCIAS LIMA - 1938</p>		 <p>Academia de Ciencias Físicas, Matemáticas y Naturales Venezuela</p>
			<p>Caribbean Scientific Union</p>	

# • IANAS Water Program



Lake Titikaka, Bolivia 2011



Sao Paolo, 2012



Nicaragua 2011



Book available in different sites

## *As result...*

- The book “Diagnostico del Agua de las Americas” was presented in the region
- A symposium “Enhancing Water Management Capacity in a Changing World”
- The water network organized in Nicaragua and Guatemala two regional workshops for the management of water

*BBC, two weeks ago ...*



**And they say...**

*"During the polio epidemic I set an example in Argentina by vaccinating myself and my offspring, after which I set about vaccinating others..."* **Eugenia Sacerdote Lusting, Argentina**

*"My parents made me feel I could achieve whatever I wanted; the sky was the limit."* **Marla Sokolowski, Canada**

*"Science is about data, perseverance, discipline and often about love, and women know a lot about all this"* **Idelissa Bonelly, Dominican Republic**

*"Being a scientist does not conflict with feminine values; you can be a mother, a housewife and glamorous "* **Grace Sirju Charran, Trinidad and Tobago**

*"Science is not to be kept but rather to be spread"* **Deana Marciano, Venezuela**

*"The most important thing is to devote yourself to what you like best, regardless of the pay or recognition, because this will come if you do your work with passion."* **Eugenia Kalnai, US**

[www.indagala.edu](http://www.indagala.edu)

## The IANAS Science Education Portal



**Indágala**  
A SPACE TO LEARN AND SHARE SCIENCE

An international website that promotes Inquiry Based Science Education (IBSE)  
A website for Latin America, for each country and language.

An agreement between the Academies of Sciences of Latin America to improve the education and learning of sciences and mathematics in the schools.

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IANAS and France Academies through IBSE programs

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The Science Education Program, with the support from the Mexican Academy of Sciences, launched on February 14, 2012 a revitalized and renewed Indagala web portal that aims to provide support for primary and high school science teachers. [www.indagala.org](http://www.indagala.org).

Thank-You