BUILDING SCIENCE IN THE DEVELOPING WORLD:

A GLOBAL SCIENCE CORPS

Global Forum, World Bank

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WHY BUILDING SCIENTIFIC CAPACITY IS IMPORTANT EVERYWHERE IN THE WORLD

- Science and technology solve problems, both locally and globally
- Science and technology can drive economic growth
- Science crosses borders and promotes international cooperation
- Development of STI allows talent to flourish and nations to prosper

INSPIRATION

"…science can help to feed the hungry, heal the sick, protect the environment, provide dignity in work and create space for the joy of self-expression. Yet…lack of opportunity to master science and the new technologies will accentuate the divide between rich and poor."

--Ismail Serageldin, Library at Alexandria

WHAT NEEDS TO BE DONE TO PROMOTE SUSTAINABLE SCIENCE AND TECHNOLOGY IN DEVELOPING COUNTRIES?

- Education and training
- Access to knowledge
- Physical infrastructure
- Operating funds
- Collaborations

BUILDING GLOBAL SCIENCE: A PERSONAL ACCOUNT

--Making knowledge available:
public digital libraries and open access journals

--Promoting collaborations:
Gates Foundation: Grand Challenges in Global Health

--Supporting centers of scientific quality:
Millennium Science Initiative, SIG, and the World Bank

--Training scientists:
Cyprus Institute, Malaria Research and Training Center

The Cyprus Institute A European institution, for the Eastern Mediterranean, based in Cyprus.

The Cyprus Institute

Operated under the stewardship of the Cyprus Research and Educational Foundation (non-governmental)

Academic and Research Units:

- The Research Centers (Energy & Environment, Computational Sciences, Biology & Human Health, Archeology, Economics, etc), in collaboration with university partners (MIT, U. Illinois, etc)
- The Graduate College
- The Undergraduate College (future)

Malaria Research and Training Center

MALARIA RESEARCH & TRAINING CENTER

FMPOS · NIH · TULANE

USAID · NIAID · WHO

BAMAKO, MALI

Malian entomologists at the MRTC in Bamako

Malian graduate students use advanced technology

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--Bringing trained scientists to developing countries:
Global Science Corps (a proposal)

An International Corps for Global Science?

Proposed in December 2001 at the Nobel Centennial

Staffed with trained scientists of varied ages,
from technically advanced countries
(could originate there or belong to a diaspora),
to serve for one to two years or more
as laboratory partners and teachers

Focused in poor and lower middle income countries
with potential for building science and technology

An International Corps for Global Science?

Linked to other initiatives to provide local facilities and local talent…

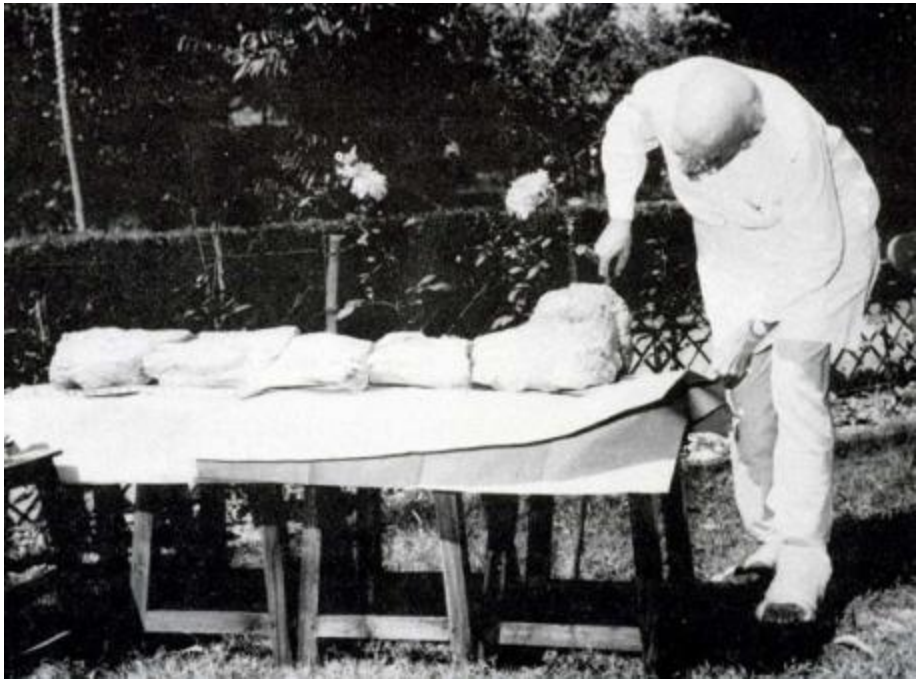
e.g. through Millennium Science Initiative, universities, etc.

Administered by the Science Initiative Group

Funded by multinational groups, other partners in developmental programs

J.B.S. HALDANE
Model Corpsman, 1957

JBS in India



Establishing a global culture of science

- Advocate support for science to address local problems
- Finance electronic connectivity
- Support free access to scientific literature
- Target low middle income countries,
  as well as the poorest
- Focus on training the young
- Build missionary zeal in advanced economies
- Recognize political will to create productive partnerships

PRESIDENT OBAMA'S SPEECH IN CAIRO, JUNE 4, 2009

…On science and technology, we will launch a new fund to support technological development in Muslim-majority countries, and to help transfer ideas to the marketplace…We'll open centers of scientific excellence in Africa, the Middle East, and Southeast Asia, and appoint new science envoys to collaborate on programs that develop new sources of energy, create green jobs, digitize records, clean water, grow new crops…And we will also expand partnerships with Muslim communities to promote child and maternal health."

PROMOTING SCIENCE GLOBALLY

- CREATING HIGH QUALITY CENTERS
  MILLENNIUM SCIENCE INITIATIVE (MSI)
  (www.ias.edu/sig)

- FOSTERING MEANINGFUL EXCHANGES
  GLOBAL SCIENCE CORPS (www.ias.edu/sig)

- FOCUSING ATTENTION ON CRUCIAL TOPICS
  GRAND CHALLENGES IN GLOBAL HEALTH
  (www.gcglobalhealth.org)

- MAKING INFORMATION ACCESSIBLE
  PUBLIC LIBRARY OF SCIENCE (www.plos.org)

The Millenium Science Initiative (MSI)

- **Origins**: collaboration began in 1999 between Science Initiative Group (SIG) in Princeton and World Bank, focused initially on South America

- **Goal**: select, establish, and support centers of scientific excellence in various disciplines in middle and low income countries

- **Locations**: Chile, Brazil, Uganda, Mexico; now planning programs in Vietnam, Bangladesh, and several other African countries

http://www.ias.edu/sig

THE PROBLEM OF RESOURCES

- THE WORLD'S ECONOMIC PLIGHT
- CURRENT SPENDING ON FOREIGN ASSISTANCE
- THE SPECIAL NEEDS OF S AND T
- THE NEED TO MAKE CHOICES: COUNTRIES, DISCIPLINES, PROJECTS, ETC

WHAT NEEDS TO BE DONE TO PROMOTE SUSTAINABLE SCIENCE, TECHNOLOGY, HEALTH IN DEVELOPING COUNTRIES?

• Education and training	RISE,EJUST, CYI
• Access to knowledge	Digital libraries, OA publications, Data bases
• Physical infrastructure	???
• Operating funds	
• Collaborations	MSI, … GCGH, NIH, UNIVERSITIES