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# Science Diplomacy: for International Co-operation



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# *Science Diplomacy*

## ***Diplomacy for science.***

Diplomacy is a mechanism for advancing a scientific goal, particularly extensive and expensive research programs that need to leverage the participation of multiple countries.

Examples include:

- International Thermonuclear Experimental Reactor
- European Organization for Nuclear Research (CERN)
- FutureGen



# *Science Diplomacy*

## ***Science for Diplomacy.***

Science is used for enhancing or building bridges between countries. Science diplomacy is especially relevant in helping develop positive engagement between countries that have strained, limited, or non-existent relationships. .

Examples include:

- Cooperation between American and Soviet atomic scientists during the Cold War
- U.S.-China umbrella S&T agreement signed by President Carter and Vice Premier Deng in 1979 following establishment of formal diplomatic relations
- CERN exemplifies a case where the physics brought together former World War II antagonists in a process of European integration.



# ***Science Diplomacy***

## ***Science in Diplomacy.***

Science is necessary for the conduct of diplomacy on bilateral and multilateral issues such as cross-border public health and food safety, and on the scientific collaboration among nations to address the common problems facing 21<sup>st</sup> century humanity and to build constructive international partnerships.

Examples include:

- International environmental agreements (Montreal Protocol on Substances That Deplete the Ozone Layer, Framework Convention on Climate Change)
- Capacity building within the Ministry of Foreign Affairs through the creation of the Science Ambassador



# UN-MDG and Global Challenges

- **UN-MDG & SDG:**
  - **to bridge socio-economic gaps in** continents, regions, and countries: poverty, inequity..
  - **to solve global issues:** environmental disaster, CC...
- \* **By global partnership for sustainable development**







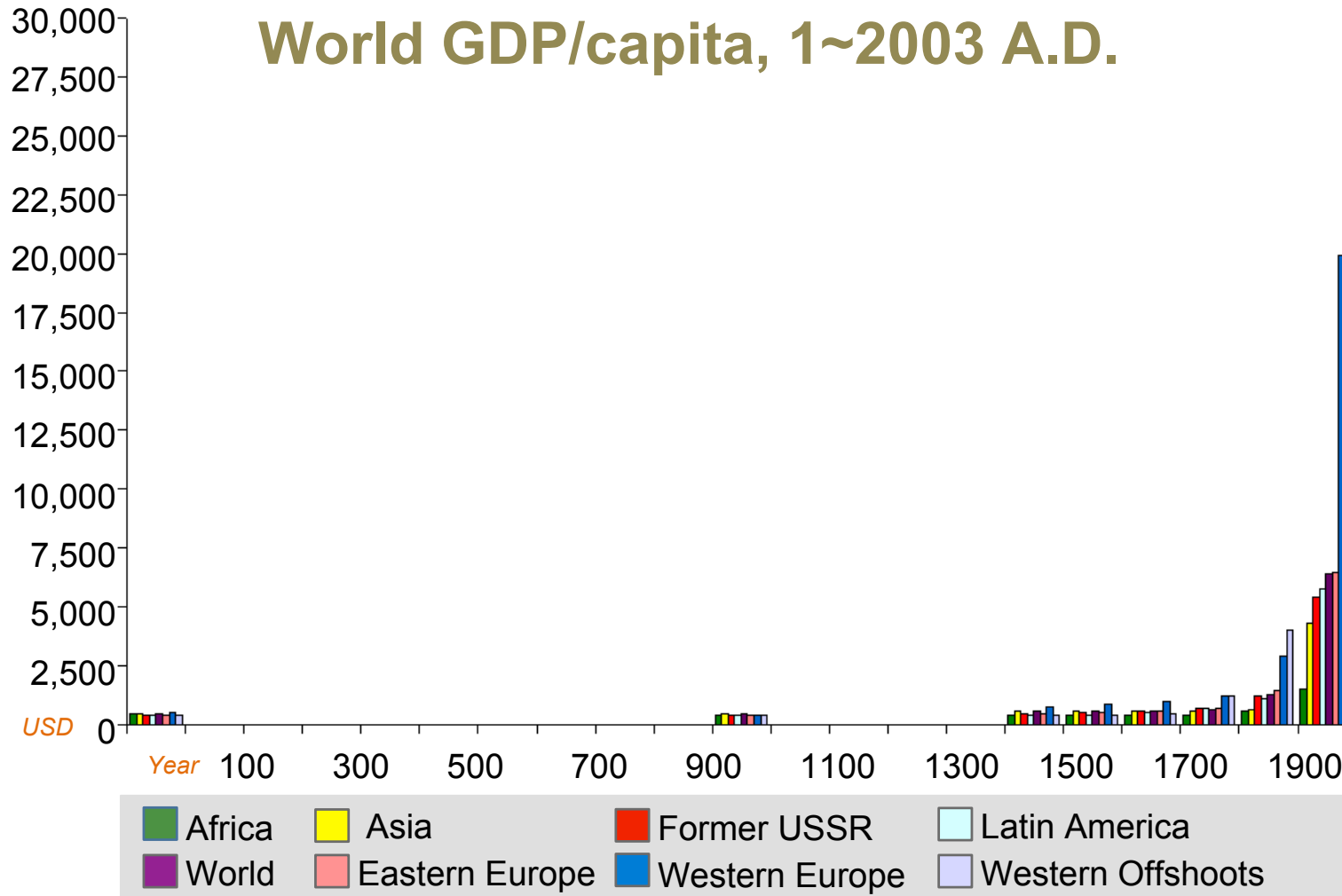
## Brookings Report (2012.5.)

- Hundreds of international initiatives. However, ***not occurring at the pace that natural environment requires.***
- A new architecture is necessary to ***stimulate international venture capital markets, and broaden internal cooperation across public and private partnerships (PPP) for R&D, demonstration, and deployment/implementation.***
- Such an architecture would build on the great further efforts of existing institutions and it would be supported ***by a network of regional science institution, national business incubators, and investment de-risking funds.***





# Economic History

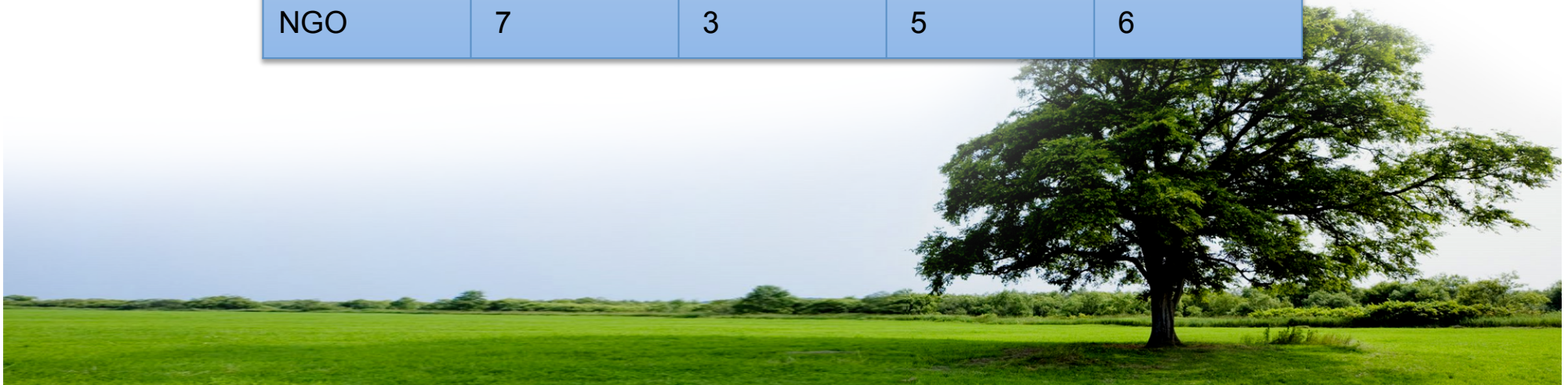




# UN-MDG and Global Challenges

- UN emphasizes *expansion & effective* implementation of ODA:
  - “aid” → “**cooperation**” for effective development
- ( Investment Composition ): **coordination**

(%)	1990	1996	2000	2009
ODA	80	31	37	34
Private	13	66	58	60
NGO	7	3	5	6







# WORLD EFFORTS

Name / Country	Subjects of major concerns
NORAD /Norway	CC and Environment, Energy
SNV /Netherlands	PE, Agri, Renewable Energy, Water, Health
GIZ /Germany	Sustainable Development: Energy
TAS /Denmark	Technical assistance
Nat'l Centre for Appropriate Technology /USA	Appropriate Technology for the poor
USAID /USA	Environmental technology
Centre for Alternative Technology /U.K	Global sustainability, environmental tech.
UKAID /U.K	Economical development, PE
JICA /Japan	Tech. assistance for CC
CIDA /Canada	Food, children, youth
Center for Appropriate Technology /Australia	Indigenous people of Australia
SODIS /Switzerland	Water
CIRAD /France	Agricultural, participation of local people
KOICA /Korea	I.Tech. assistance & immediate needs



# ODA for Korea

- ***Korea received 13 billion USD so far. (1945~1995):***  
( 7 billion USD as grants, 6 billion USD as loans. )
- No more concessional loan from IBRD from 1995.
- ***1991: KOICA*** (Korea International Cooperation Agency) ***established***
- ***2009.11.25. Korea becomes new member of OECD/DAC.***  
( 0,1% of GNI in 2009, 0.12% in 2011: expect 0.25% in 2015)





## *Why Int'l Cooperation(IC)?*

*For World SD, we need*

- International strategy to reduce technology imbalance
- Sustainable Development plan fit to social/economic structures; cultures, histories, education, environment ...
- Encouraging participation of local people; Human Resource Development

**IC = World Citizenship**

**“One for All, All for One“**



## How IC?

- **Work with partners to define issues, refine analysis.**
- **Maintain, intensify and coordinate** the existing efforts on **food, water, energy and achieve the balance between imperatives of research and development priorities.**
- **Maintain to enhance the knowledge** and technology exchanges and to find appropriate development strategies.
- **Organize events to educate and inform** the other community about the root causes of the food and energy crisis and possible development solutions.
- **Emphasize the holistic nature of development policy** and the need to address many issues in a coordinated manner.







## **Who: IC Partners**

- 1. *Shareholders*** : donors and recipients; governments, NGOs, individuals; private sectors and public sectors...
- 2. *Research institutes, universities, and related organizations:***  
national and international.
- 3. *Related experts*** (scientists, engineers, social scientists, designers, artists...)
- 4. *Information archives and networks;***  
infrastructure for int'l cooperation



# What to Overcome



- 1. Mistrust between Shareholders***
- 2. Absence & Overflow of Information***
- 3. Unbound to Politics of Each Country***



**Establish the *Network and Governance*  
for International Cooperation**



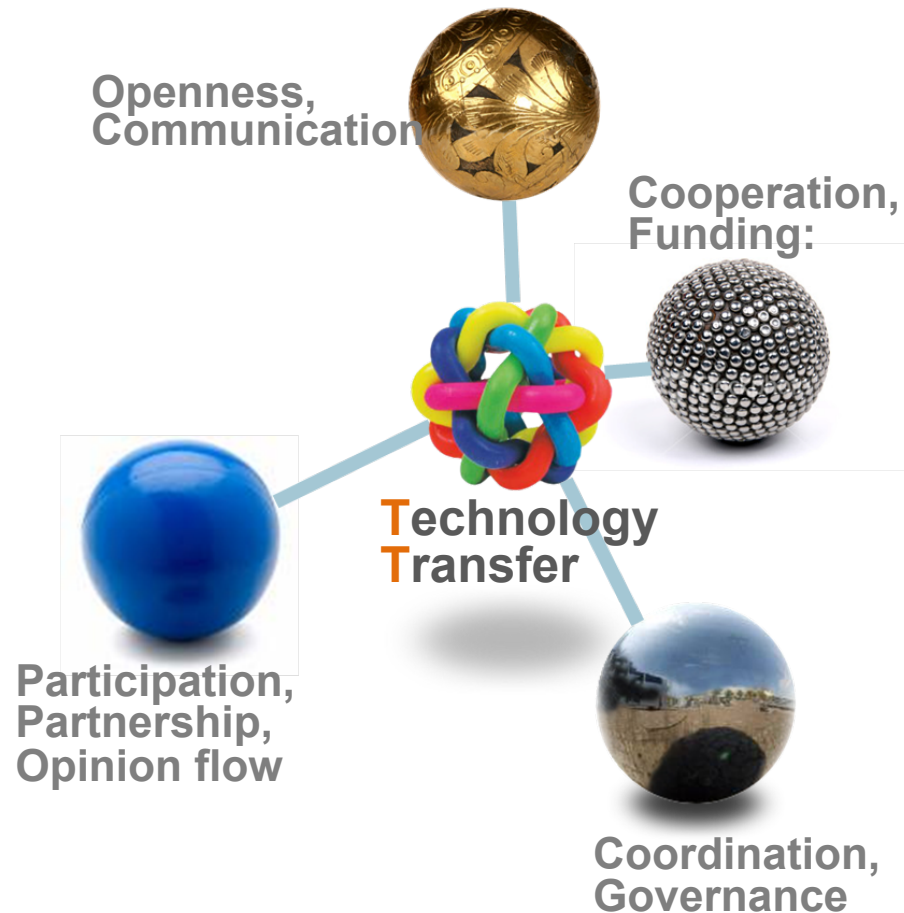
## What to Realize

- 1. Openness and Communication***
- 2. Participation and Cooperation***
- 3. Knowledge Share and Coordination***



**Establish the *Platform***  
***for Sustainable Development***

# Open Knowledge Network



- **Trust Building of Private-Public-Partnership**
- **World citizenship & 'b&t-Pyramid' Innovation**
- **Response to Grobal Challenges**  
(Food, Water, Health, Environment, Energy...)



# Conclusion

## ***'World Citizenship'*** ***For*** **Global Challenges**

- Allow to bring the benefits of scientific knowledge by 'smart-ful' participation to people who need the most
- Collaborate with existing organizations: GGGI, GTC-K, and GCF...

### ***Knowledge Sharing by Open Network for SD***







## *What to propose*

### **OKN for Sustainable Development**

- Geo-Knowledge Map = S. Green Growth Tech. Map
- Formation of ecosystem of knowledge
- Formation of technology transfer platform

**Creative Capitalism  
for other '90%'**

**Thank  
You**

