Bridging Science, Society & Politics for Sustainable Innovation
- Better Policies for Better Lives -

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2014; Japan’ 50th Anniversary as a Member of OECD
Past, Present and Future

Environmental Pollutions Overcome by Technological Innovation & Social Innovation

Photos provided by Prof. Komiyama
Since 1989

- End of the Cold-War
- ICT revolution

“Globalization, Complexity & Uncertainty”

- Sustainable development
- Climate change, Energy & Natural resources
- Water, Health, Food, Biodiversity
- Natural/Artificial Disasters
- Knowledge & Aging society

Now 2014

- Disasters
- Climate Change
- New World Order
- University Reform
- Economic Crises
The Rules of games are rapidly changing!!
Politics, Economy, Life style, Company, University, Media, Science etc.

Shaping the new values, new models
Innovation, Inclusive, Sustainable, People

Converging natural, social science and humanities
Technological and Social Innovation

Redesigning science system
Trust, Integrity, Reproducibility, Engagement

Bridging science, society and politics
local – national – regional – global
“The Age of Transformation”

Reconceptualising science and Science System


OECD 2010: “The OECD Innovation Strategy”

WSF 2011: ”The Changing Landscape of Science - Challenges & Opportunities”

WSF 2013: "Science for Global Sustainable Development "

AAAS 2012: “Flattening the World - Building a Global Knowledge Society”

AAAS 2014: “Meeting Global Challenges-Discovery and Innovation”

Davos 2012: "The Great Transformation-Shaping New Models"

Davos 2013: “Resilient Dynamism”


EU-Japan Policy Forum 2014: “Science 2.0 – Science in Transition”
Rethinking S&T system

Global Research Council : 2012-
IAC 2012 : “Responsible Conduct in the Global Research Enterprise”
ICSU : “Future Earth” 2013-
EU, Vilnius Declaration 2013 : The Value and Benefits of Integrating Social Science and Humanities into Horizons 2020”
World Social Science Report 2013 : “Changing Global Environments“
Science, Nov 2011: ”Rethinking the Science System”

Building Science Advice System

OECD GSF 2013- : “Scientific Advice for Policy Making
-The Role and Responsibility of Scinetists”
Global meeting of Chief Science Advisers, 2014 ~
In the post-crisis world, and with a still fragile recovery, we are facing significant economic, environmental and social challenges. While no single policy instrument holds all the answers, innovation is the key ingredient of any effort to improve people’s quality of life. It is also essential for addressing some of society’s most pressing issues, such as climate change, health and poverty.

Innovation today is a pervasive phenomenon and involves a wide range of actors than ever before.

Policies to promote it should be adapted to today’s environment and equip a wide variety of actors to undertake innovative actions and benefit from its results.

The last few years have seen a burst of interest in steering research and innovation to address social challenges. This interest reflects the rise of social innovation, the use of innovation to address social problems. Many of today’s social challenges, such as those associated with ageing populations and environmental sustainability, as well as longstanding problems such as poverty, education and migration, have resisted conventional government or market solutions.

This will require changes to the way policy makers promote innovation, for example by involving stakeholders so as to link social demands with research agendas.

Given the multidisciplinary nature of many social problems, research to address them must bring together the natural and social sciences.

Effective mechanisms for international co-operation in science, Technology and innovation will also need to be put in place in order to make innovation an engine for development and growth.
‘Science 2.0’ describes the on-going evolution in the modus operandi of doing research and organising science. These changes in the dynamics of science and research are enabled by digital technologies and driven by the globalisation of the scientific community, as well as the need to address the Grand Challenges of our times. They have an impact on the entire research cycle, from the inception of research to its publication, as well as on the way in which this cycle is organised (European Commission 2014).

The historical centrality of the printed page in communication has receded with the arrival of digital technologies. Large scale data collection and analysis creates challenges for the traditional autonomy of individual researchers. The internet provides a conduit for networks of professional and amateur scientists to collaborate and communicate in new ways and may pave the way for a second open science revolution, as great as that triggered by the creation of the first scientific journals (Royal Society 2012).
March.11 2011
Earthquake,
Tsunami,
Fukushima
Should experts decide the direction of S&T?

Question: What do you think of the following opinion regarding science and technology? The direction of research and development in science and technology should be decided by experts who are well-versed in the subject.

Before: 78.8%

After: 45.0%
Even Japan’s political leaders struggle to get answers regarding the Fukushima disaster. It is just the latest example of the government’s lack of independent scientific advice.

“Politicians fumble for answers, while spokespeople tell confused stories.”
Joint Symposium
By
British Embassy Tokyo and GRIPS, 30 May 2011

“Science Advice in a Crisis : Fukushima and its Aftermath”

Prof. Sir John Beddington
“Trans-Science”

- "Bridging Science and Society"
- Science & Risk Communication
- "Bridging Science and Politics"
- evidence-based policy formation
- Scientific advice

Politics
(normative, value)

Science
(objective, value free)

Society
Local, National, Regional, Global

Problems to be solved; Economy, Environment, Energy, Resources, Health, Aging, Disaster, Food etc.

Science - Policy Continuum

Code of conduct
"Scientific advisers should respect the democratic mandate of the Government to take decisions based on a wide range of factors and recognize that science is only part of the evidence that Government must consider in developing policy."
I Responsibilities of Scientists
II Research Integrity
III Science in Society

(Dialogue with Society)
11. Scientists shall participate actively in dialogue and exchange with citizens, for better mutual understanding between society and the scientific community. As well, in order to resolve various issues and realize welfare in society, they shall also work to provide scientific advice effective for policy making to persons involved in the planning and determination of policies. On such occasions, scientists shall aim to give advice based on consensus among scientists, and, when differences of opinion exist, shall offer explanations that are easy to understand.
(Scientific Advice)
12. Scientists shall conduct research activities with the objective of contributing to public welfare, and offer fair advice based on objective and scientific evidence. At that time, they shall be aware of the gravity of the impact and of their responsibility that their statements may make on public opinion building and policy making, and shall not abuse their authority. As well, scientists shall make maximum efforts to ensure quality in their scientific advice, and at the same time clearly explain the uncertainty associated with scientific knowledge as well as the diversity of opinions.

(Scientific Advice to Policy Planners and Decision Makers)
13. When scientists offer scientific advice to persons who plan or decide on policy, they shall recognize that while scientific knowledge is something to be duly respected in the process of creating policy, it is not the only basis on which policy decisions are made. In the event that a policy decision is made that diverges from the advice of the scientific community, scientists shall request, as necessary, accountability to society from the policy planner and/or decision maker.
Until recently, there was little recognition within Japan's science policy circle of the need to discuss the role of science in government policy-making. A rather innocent notion that the established knowledge and wisdom of scientists would ensure proper decision-making was prevalent. The great earthquake, tsunami, and nuclear accident that occurred in March 2011 induced a radical alteration of such a simple, optimistic view on science in policy-making. In the nation's bitter struggle for recovery, scientists sometimes created confusion by supplying divergent recommendations on evacuation, food safety, and cleanup. Public confidence in the impartiality of scientists faltered when people suspected that some of them were too easily endorsing government views. Scientific societies did not have access to critical information and failed to be systematically involved in the national effort. Polls have shown that public trust in science in Japan was damaged.
The International Landscape of Science Policy

**International Organizations**
- **UN** and related bodies
  - UN Scientific Advisory Board (UNESCO is the secretariat)

**High Level Groups**
- G8
- Carnegie Group (G8+5)

**Regional bodies**
- EU
- APEC
- ASEAN
- ESFRI
- JRC
- Euro Science
- Others

**Institutions for Policy Research**
- IGFA, Belmont Forum
- Future Earth
- G-tech, MIT, AZ State
- NISTE, CRDS, GRIPS

**Research and Funding agencies**
- Global Research Council
  - Future Earth
  - IGFA, Belmont Forum

**International Forums**
- Global meeting of Chief Science Adv's
- Ministry meeting
- GSF
- TIP
- NESTI
- Others

**International Societies/Academies**
- IAP
- IAC
- ICSU
- ISSC
- Social Science

**National Academies**
- NAS (USA)
- Royal Society (UK)
- Global Young Academy (GYA)
- Others

**Regional bodies**
- Euro Science
- TWAS

**Developing network and system of systems**

**OECD**
- Ministerial meeting
  - CSTP
- GSF
- TIP
- NESTI
- Others

**World Bank, Asian & African Development Bank**
The Auckland Meeting

• The first global conference of scientific advisers (http://www.globalscienceadvice.org/)
• August 28/29, 2014, Auckland, NZ
• Participants: 200 practitioners, policymakers, and experts from 40 countries
• Five sessions
  – Panel 1: The process and systems of science advice
  – Panel 2: Science advice in situations of crisis
  – Panel 3: Science advice in the context of opposing political/ideological positions
  – Panel 4: Developing an approach to international science advice
  – Panel 5: The modalities of science advice: operationalizing in context
Strategy and Decision-making for S-T Policy
—Advises from National Academy and Public Think Tank —

Private Think-tanks

Science advisers

Government

Council of Science, Technology and Innovation

Petition for funds

Science - Technology Policy

Scientists

By Prof. Yoshikawa, Director, CRDS

National Academy
(Science Council of Japan)

Diversified opinions from various disciplines

Disciplinary academic societies

Public Think Tank (CRDS etc.)

Proposal of Strategy

Independent Voice (advice) of Scientists

Universities, Research Institutes

Science advisers

By Prof. Yoshikawa, Director, CRDS
Thank you very much for your attention!!

Questions:
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