

Scientists, Institutions and Barriers

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UNU-IAS Celebrating Ten
Years

Scientist and Sustainable Development Governance (SDG)

- Generally less focus has been paid to science and knowledge and International Governance as there has been more of a focus on the role of power and economy.
 - BUT of SDG Science and Knowledge are critical
 - Would we know about ozone depletion, climate change, acid rain if it were not for science?
 - SDG is founded upon basic principles that are dependent on knowledge: polluter pays, common but differentiated responsibility, precautionary principle, prior informed consent.
 - Specialized, technical nature of environmental policy-making necessities scientific advice etc

Scientific Knowledge: Role in International Decision-Making

- Kant was first to consider knowledge in world politics
 - Based on past experiences— i.e. Destructive nature of war
- But SDG is heavily dependent on new knowledge that has no historical precedence
- Consensual Knowledge is Key:
 - Defined as what is widely accepted by society as being true.
 - Politicalization
 - Accuracy
 - Uncertainty

Influence and Consensual Knowledge

- Knowledge alone has no value, it must be learned.
- What are the factors that lead policymakers to use scientific knowledge?
 - According to recent studies the paramount factors are:
 - Saliency
 - Credibility
 - Legitimacy

What is the Role of Institutions?

- Institutions Encase Ideas
- Embed knowledge through legal mechanisms
- Institutional influence on Scientific Knowledge varies:
 - Informal institutions the influences are less, shared beliefs and principles
 - Formal institutions there is a direct influence, agenda-setting, methods, financial controls, quality controls, procedures etc.
- According to Mitchell Institutions shape the tradeoffs between saliency, credibility and legitimacy
- Design of institutions matters!

What are the Institutional Pathways?

- Social Networks
 - “Sets of social relations or ties among a set of actors” strong ties associated with formal structures, weak ties associated with informal structures
 - Best known social networks in sustainable development governance areas are so called “epistemic communities”
- Scientific Assessments
 - Formally organized with strong ties with an authorizing environment
 - IPCC is the best known, more recent the MA is breaking new ground.

Developing Countries Issues and Problems

- Participation, Legitimacy, and Influence
 - Not directly linked
 - Participation of scientist DC important for deciding priorities and methods.
 - DC Participation can empower scientists
 - Participation can increase issue domains
 - Importance of built-in mechanisms to neutralize bias

Developing Countries Barriers to Entry

- Barriers of DCs Recognized by Agenda 21 and JPOI
- Low Research Capacity
 - Historically low investment in Science & Technology
 - Wide gaps in number of researchers per capita
 - Few sustained programmes for science assessments and science for international policy-making; linking to existing programmes only gives piecemeal solutions

Developing Countries Barriers to Entry

- Women, Science, and Decision making
 - Improvements in enrolment but "leaky pipeline"
 - Problems of women in decision-making positions in science policy nexus
 - Not surprisingly low performance in LDCs
 - Did low participation of women in IPCC affect research priorities and results?
 - Barriers include cultural attitudes, gender stereotyping, less women receive basic education, science communities in developing countries resilient to change.

Traditional Knowledge and Science

- Traditional Knowledge viewed as non-exploitative and sustainable
- How TK can benefit science for sustainable development
 - Grounding results
 - Overcoming scales and time factors
 - Tried and Tested practices with applicability
- Legitimacy and acceptance of TK holders are closer to ecosystem management and are important users of assessments
- Challenge is to build trust and to overcome scales and epistemologies

Conclusions

- Graduate level curriculum development on assessments in developing country universities is badly required
- Less-add-ons and more dedicated capacity programmes on science assessments
- Capacity development programmes for policymakers on how to use science, understand risk and uncertainty and ultimately how to use assessments in their work
- Positive programmes to increase participation of women (participation grants, gender composition information)
- Greater formalization and integration of institutional mechanisms for bridging international decision-making and science (international science panel)
- Better policy training for scientists
- Formal institutionalization of traditional and scientific knowledge