

**Collaborations
of the
Science, Environment and
Development Group**

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Questions for discussion

1. Why an SED Group?
 - Beyond a room (well, desk) of one's own...
2. What activities are underway?
 - Projects to join, inform, critique... avoid
3. Who (else) is involved in those activities?
 - Networks to know, nurture, exploit
4. How the Group become more useful?

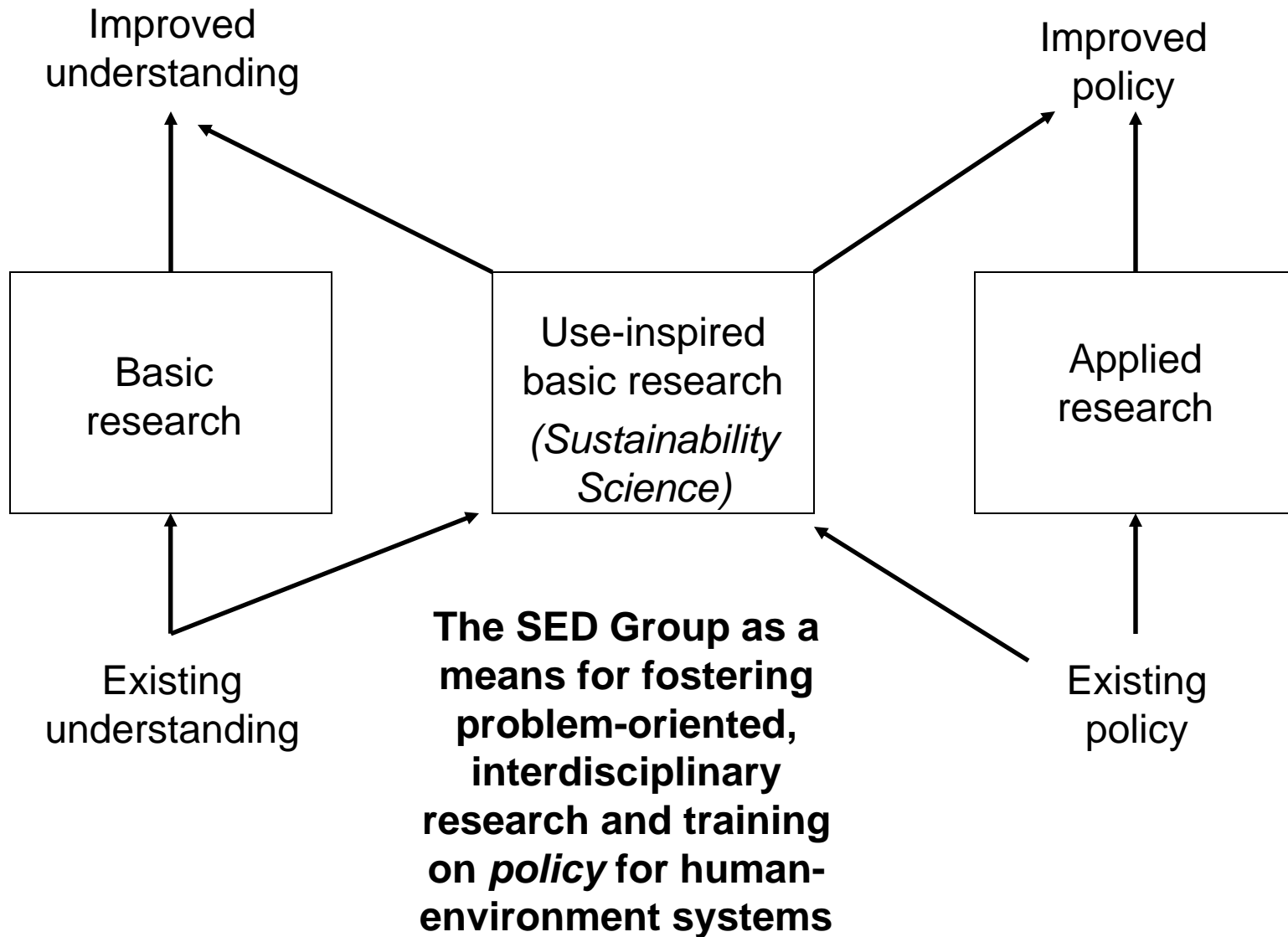
Why an SED Group?

- The interactions between environment and development (nature and society) are complex, and are raising increasingly urgent challenges for policy & governance
- Science, technology and knowledge more generally have an especially central role to play in understanding and guiding those interactions...
- But the research agenda on environment-society interactions, and training to contribute to that agenda, remain underdeveloped...

Quadrant Model of Scientific Research

		Considerations of use?	
		No	Yes
Quest for fundamental understanding?	No	Poking and probing	Pure applied research (Edison)
	Yes	Pure basic research (Bohr)	<i>Use-inspired basic research (Pasteur)</i>

(redrawn from Stokes, 1997)



Questions for discussion

1. Why an SED Group?
2. What activities are underway?
 - A. Substantive
 - * Sustainability science
 - * Knowledge systems for sustainability
 - * Incentive systems for sustainability
 - B. Methodological
 - * Evaluation (effectiveness *and* equity)
 - * GIS and spatial data
 - * Scholar-practitioner dialogues
 - C. Teaching and training

Activities? Sustainability Science

- Fostering a field, Setting the agenda...
 - NRC “Our common journey” (1999)
 - Initiative on S&T for Sustainability (ISTS)
 - Regional perspectives on S&T needs for WSSD
 - Friberg (2000), San Servolo (2006)
 - Workshops of research leaders from N,S
 - AAAS (2007) session on “Grand challenges of sustainability science”
 - Publications
 - PNAS section on “Sustainability Science,” special features
 - Article for *Annual Review Environment & Resources*

Activities: Knowledge Systems

- KS conceived as expansion of existing literature on R&D or innovation systems, encompassing whole Stokes spectrum of use-inspired, to basic, to applied research
 - Positive analysis of functioning, “know-do” gaps between what researchers want to give, and what decision makers want to get
 - Normative studies to make KS work better

Activities: Knowledge Systems

- Global Environmental Assessments
 - “Information and influence” book just out
- KSSD Project finishing this year
 - Review paper on KS by van Kerkoff, Lebel
 - Comparative mapping and analysis of KS for ag, forest, water... and health.
- Innovation-focused studies underway on
 - Health (AIT), Chemistry (GCI), Energy (STPP)
- New work focusing on deeper theorization re
 - Boundary organizations (PES)
 - Public-private partnerships

Activities: Incentive systems

- Broadly focused on nexus of land-use, conservation, poverty
 - Payment for environmental services work
 - New review paper on “Lessons from incentive based systems”
- How to think about democratization, decentralization, collaboration tendencies in governance of NR systems?

Activities: Methodological

- Evaluation (effectiveness *and* equity)
 - Conservation set-asides, water innovations, other...
- GIS and spatial data
- Scholar-practitioner dialogues
 - Sustainability science research (vulnerability, production-consumption systems)
 - Green chemistry project
 - Public health (AIT project)
 - Indicators (Heinz Center project)
 - NAS Roundtable on S&T for Sustainability

Activities? Teaching...

- Undergraduate:
 - Intro to Environment & Public Policy (ESPP-10)
- For the professions (masters and Exec):
 - “Sustainable Development” (ENR-410)
 - Video experiment in engaging the victims...
 - New “Core” Course on Environment and International Affairs
 - Executive programs for China, S&T...
- Doctoral and beyond
 - Sustainability Science Seminar (SED work in progress)
 - Frontiers in Sustainable Development (speakers / events)
 - Globalization and sustainable development?
 - What else? (eg. Earlier credit seminar on Innovation)

Activities: Training

- Curriculum development
 - Opportunity to develop teaching cases in SED
 - “Reader in Sustainability Science”
- Fellows Programs
 - PhD programs at KSG ... recruiting?
 - SED Group: Resident and non-resident
 - Sustainability Science graduate fellows
 - Visiting scholars, practitioners

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Who is involved? Cambridge

- At the KSG, close linkages with
 - Sustainability Science Program at CID
 - Kremer, Grindle, Hausmann
 - S&T and Environment Programs at CSIA
 - Holdren, Gallagher, Juma, Lee
- Elsewhere at Harvard, collaborate with
 - Harvard Center for the Environment (Schrag)
 - Rockefeller Ctr for Latin American Studies (Grindle)
 - Weatherhead Center for International Affairs
 - Schools of Public Health (Bloom), Engineering (Venky), Design (Steinitz)
- BU School of Public Health (Keusch)

Who: The USA

- The National Academies of Science, Engineering and Medicine
 - Roundtable on S&T for Sustainability
 - PNAS Sustainability Science
 - NRC Committee to Evaluate NASA applications programs
- American Association for the Advancement of Science (AAAS)
 - Forum on Science and Innovation for Sustainability
 - Sustainability Program
 - 2007 Annual Meeting on Science and Innovation for Sustainable Prosperity
- Heinz Center for Science, Economics and the Environment
 - State of the Nation's Ecosystems
- Green Chemistry Institute, American Chemical Society (Anastas)
- Universities
 - Stanford (Matson), Clark University (Turner, Kasperson), Arizona State (Buizer/Crow) and Univ. Arizona (Jacobs), Univ. Michigan (Agrawal)

Who: Rest of World

- Academies of Science of the Developing World (TWAS)
 - ISTS, “Reader” and Lecture Series
- Consultative Group on International Agricultural Research (CGIAR)
 - ASB, ICRAF, ILRI
- USER Group, Chiang Mai University
- Economic Commission For Latin America and the Caribbean (ECLAC; Gallopin)
- Italian Ministry for the Environment & Territory

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