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The Social
Challenges of
Global Change

IHDP Secretariat | Hermann-Ehlers-Str. 10 | D-53113 Bonn | P +49 (0)228 815 0600 | F +49 (0)228 815 0620
www.openmeeting2009.org | openmeeting@ihdp.unu.edu

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Insights from and Challenges of Participatory Research Approaches

Location: World Conference Center Bonn, Plenarsaal

Convenor: Ilan Chabay, Goetoborg Center for Plus at Chalmers University of Technology and Member of IHDP Scientific Committee

This session deals with experiences made from participatory research or action research that has become a significant methodology for interventions and changes in communities over the last 15-20 years. However, even though "integration" is being frequently used in visionary approaches towards environmental problems, there seems to be a need to go from fine words to action and to move beyond the recognition of the central role of learning and interdisciplinarity.

This is shown from two different angles, both dealing with coastal zone management; one in Europe, the other in Indonesia, where high tide affects more than half the population of the Javanese Semarang region.

Two Dutch studies argue that pilot projects might be particularly useful for public participation. Pilot projects are confined in scale, they are expected to contribute to behaviour changes as such projects are considered to be cutting-edge and innovative and, finally, a possible failure is not so problematic. One conclusion is that pilot projects are not only interventions in an environmental system: they are also socially important processes.

However, little is still known about what effects participatory research can bring – and how they should be measured. A study from Canada allows some conclusions on how to support participatory research with sustainable effects on the human dimensions. The session finally also includes another Canadian paper reviewing results from "Local Visioning Processes" held in two British Columbia communities.



Fine words - now we need action: problem-solving for Integrated Coastal Zone Management

Presenter: Loraine McFadden, Flood Hazard Research Centre, Middlesex University, United Kingdom

Authors: Loraine McFadden (1), Paul Tett (2), Colin Green (1)

Flood Hazard Research Centre, Middlesex University, London, United Kingdom (1), Napier University, Edinburgh, United Kingdom (2)

A vision of 'integration' is emerging from conversations across environmental management, including for example, physical, societal and political perspectives about moving towards a comprehensive, total-system approach to environmental problems. The essence of the integrative vision is characterised by learning, interdisciplinarity and enabling management processes to embrace uncertainty and change. Within this broad dialogue, Integrated Coastal Zone Management (ICZM) focuses on enabling integration across a range of highly dynamic and contested systems, faced with significant challenges in balancing social, economic and physical sustainability.

This paper specifically reflects on attempts within the EU-SPICOSA Project (<http://www.spicosa.eu>) at translating the vision of an integrated systems-based approach, to real-problem solving in a series of contested coastal regions. It focuses on the challenges of promoting a change in cultural attitudes to the relationships defining coastal space and the risk and rewards anticipated from coastal environments. The paper discusses current progress towards enabling a collaborative approach to understanding coastal problems: highlighting the challenge of moving beyond recognising the centrality of learning and interdisciplinarity, to redefining deeply-held beliefs about the nature of coastal problems and preferred solutions. This challenge exists within the scientific community participating in the research project, as well as within the coastal communities in which science-stakeholder engagement occurs. Drawing from initial experiences, the paper will highlight a series of 'sign-posts' towards increasing the effectiveness of the integrative basis of managing coastal environments.

Empowering People in Coping a Severed Sea High-Tide as a Partial of Global Environmental Change in Semarang City - INDONESIA

Presenter: Indah Susilowati, Diponegoro University (UNDIP), Indonesia

Authors: INDAH SUSILOWATI (1), WARIDIN WARIDIN (1)

Research Institute, Diponeg, Oro University, Indonesia (1)

Semarang is a capital city of Central Java Province covers about 373.7 Km². It lies in the Northern part of Central Java with about 1.5 million persons (2007). Land-used in the upper- and lower-part of Semarang region are dramatically changing. Choice for ecology or economic is hardly decided in society with multi-dimensional crisis. One of the significant problem faced by Semarang relating to global environmental change, e.g. sea high tide. About 60% of Semarang's community (and other stakeholders) are suffering from high tide everyday. The costs incurred due to high tide is really not valuable to Semarang. Loss of ecological, economic, social and cultural heritage might not be recovered.

The study aimed to formulate a strategy in empowering the competence stakeholders of Semarang to let a social learning process for ecosystem services. Then, finally social change will be achieved. One of the strategy to attain



the such situation perhaps by introducing co-management approach (Pomeroy and William, 1994; Kuperan et al., 2003; Susilowati, 1998; 2002; 2004; 2006; 2007; 2008).

Managing ecosystem which is mostly in form of common property resources is not an easy task. This is deal with handling the stakeholders that have multi-dimensional perception and motives. Many research have been done, but seems remain in their own interest and/ or dimension and few are able to set the social change. Therefore, it is timely to empower the responsible stakeholders in order to materialise the social change for human well-being betterment.

Pilot Projects as a Platform for Public Participation in Integrated Water Management

Presenter: Heleen Vreugdenhil, Delft University of Technology, Netherlands

Authors: Philippe Ker Rault (1), Heleen Vreugdenhil (1), Jill Slinger (1)

Delft University of Technology, Delft, Netherlands (1)

Public participation (PP) offers the potential to enable open communication across different stakeholders in Integrated Water Management, social learning, creativity, and democratising policy making processes. Central barriers to implement participation are that it is value laden, subject to different interpretations and it is problematic at large scales. Pilot projects are considered as useful platforms to conduct PP due to their confined scale. In pilot projects the challenge of scale of PP (unmanageable issues of representativeness and legitimacy) can be dealt with. Additionally, pilot projects are anticipated to stimulate behavioural changes towards adaptive processes because they are considered at the forefront of innovation and failure is little problematic.

Combining PP with pilot projects provides new insights for adaptive water governance. The paper discusses how pilots can contribute to investigate participatory strategies, policy development and transitions by discussing patterns and mechanisms of scaling up. We draw upon literature study and grounded social enquiries conducted at river basins in the Levant and Europe.

We discuss nine situations of PP in pilot projects by combining three main pilot types (issue pilot, knowledge and learning pilot, policy-entrepreneurial pilot) with three main public participation types (informative, consultative, decisional). We investigate hurdles for initiating, reproducing and scaling up in time and space. We conclude that scaling up (for both pilots and participation activities) is only very limited possible because of the contextual dependencies of individual projects and the changing nature of problems. This has essential consequences on the nature of guidelines, knowledge transfer and research agenda.



Societal Effects of Participatory Research on Global Change and Sustainability

Presenter: Arnim Wiek, Arizona State University, United States

Authors: Arnim Wiek (1), Sonia Talwar (2), Meg O'Shea (3), John Robinson (3)

Arizona State University (1), Natural Resources Canada, Vancouver, BC, Canada (2), University of British Columbia, Vancouver, BC, Canada (3)

The turn to participatory and interactive research is perceived as a major achievement in transforming academic and societal institutions in order to build stronger links between knowledge and action for sustainability. Integrating knowledge and values from science and society, participatory research transcends the traditional boundaries between scientific inquiry and decision-making. This requires additional resources and capacities, yet, promises in return additional societal effects that outmatch purely academic research. There is still little knowledge available on the range of societal effects that can be attributed to participatory research and how to measure them. We present a comparative study from Canada that captures the societal effects of selected participatory sustainability and climate change research projects. We draw conclusions on how to transform institutional structures to enable and support participatory research on sustainability with lasting effects on human dimensions of global change.

The Effectiveness of Local Climate Change Visioning in Communicating Response Options and Shifting Attitudes

Presenter: Stephen Sheppard, University of British Columbia, Canada

Authors: Stephen Sheppard (1), Alison Shaw (1), David Flanders (1), Sarah Burch (1), Stewart Cohen (2)

CALP, University of British Columbia, Vancouver, BC, Canada (1), Environment Canada, Vancouver, BC, Canada (2)

The urgent need to act on climate change is now widely understood in scientific and some policy circles, but public engagement, policy change, and decision-making are lagging dangerously behind. To improve communication with multiple stakeholders and promote shifts in cultural and social attitudes to the environment, we need to develop more effective methods of "anticipatory governance" (Guston, 2008), using scenarios and storylines to enable stakeholders to envision future innovative & sustainable lifestyles. This paper reviews empirical results from a Local Climate Change Visioning process held with two case study communities in British Columbia.

A participatory process to localize, spatialize, and visualize climate change implications was run, showing climate change effects, possible responses, and policy consequences at a neighbourhood or community level. The process integrated regional climate modelling, GIS mapping, land-use or environmental modelling, scientific advice, planning assumptions, and local stakeholder involvement. It led to four holistic scenarios with realistic 3D visualisations illustrating local conditions out to 2100. A sample of local residents and professionals participated in workshop sessions to review the visioning material and record cognitive and affective responses, before and after the presentation. The process raised community awareness of local impacts, increased their sense of urgency, and articulated community options in mitigating and adapting to climate change. Such novel methods reveal perceptual or cultural barriers to certain climate change responses, and could potentially accelerate policy change and capacity-building. However, ethical dilemmas raised by engaging peoples' emotions through visual imagery, supported by limited scientific data, need to be carefully considered.