Lund Conference on Earth System Governance
- Towards a Just and Legitimate Earth System Governance: Addressing Inequalities

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Book of Abstracts
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Session A1

Democratization of Environmental Expertise: Normative Promises and Empirical Evidence

Chairs: Silke Beck¹, Eva Lövbrand²
¹UFZ Leipzig, Germany, ²Linköping University, Sweden

The reliance on scientific expertise in environmental policy-making and governance is today fraught with a paradox. Considering the complexity and uncertainty of most environmental problems, policy makers are on the one hand more dependent on expert knowledge than ever before. On the other hand the scientific experts who speak in the name of nature no longer command unquestioned authority or public trust. In an age of food scares such as the BSE crisis and the GMO debate in Europe, and environmental mega-risks such as anthropogenic climate change, scientific experts are increasingly exposed to public scrutiny and demands for accountability and transparency. In this panel we discuss how this paradox plays out in theory and environmental policy practice. Although the role of expertise in democratic societies has been subject to extensive scholarly debate in recent years, it remains unclear how to best attune expertise to democratic ideals and what the implications are for our understanding (and evaluation) of scientific accountability and legitimacy. Empirically, we also need more examples from environmental policy practice that help us to understand the practical promise and/or challenges of environmental expert democratisation.

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Paradoxes of Authoritative Expertise: The case of the Intergovernmental Panel on Climate Change

Silke Beck
UFZ Leipzig, Leipzig, Germany

The paper aims to open up the discussion on the epistemic and political authority of expert bodies such as the Intergovernmental Panel on Climate Change (IPCC) in Earth System Governance. The ‘climategate’ controversy has underlined the authoritative status of scientific knowledge in policy decision-making that paradoxically lead to the intense public attention and scrutiny to which the IPCC is exposed in part by the blogosphere and by heightened media attention. The paradoxical nature of the authority ascribed to the IPCC in relation to international climate policy is insufficiently understood, in particular when it comes to their impacts and broader implications for our understanding of accountability, democratic legitimacy and representation. First, the paper reconstructs the prevailing reformist discourse and explores how the IPCC has responded to the growing public scrutiny and heightened demand for public accountability and transparency. It shows how and why the panel has made internal procedures more transparent to scientific peers and governments and reduced the question of how to inspire public trust to the technical question of efficient communication. Second, the paper explores the lessons learnt and the implications of these empirical findings for scholarly discussions. It introduces into concepts of public accountability and
legitimacy of expertise as offered by Science Studies (Jasanoff 2011) and Deliberative Theory (Hajer 2009; Bäckstrand 2011). It then compares these concepts, shows their similarities and differences and discusses what they can contribute for understanding and dealing with paradoxes of authoritative expertise in Earth System Governance.

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Boundary work without borders: A study of the co-production of the IUCN red list of threatened species

Karin Gustafsson, Rolf Lidskog
Department of Social Sciences, Örebro University, Örebro, Sweden

For many countries the IUCN red list is a central instrument in their work to counteract loss of biodiversity. Despite the list’s central role and status, there is today poor knowledge on the construction and development of it as well as how the list is employed. This paper analyses how the IUCN red list is co-produced and put into work. In particular, it explore how actors develop the list (categorize species) as well as make use of the list in their work. The paper focuses on the work in Sweden, but without leaving the international context in which the red listing is developed and discussed. A number of different actors are involved in the co-production of the red list. A central finding of the study is that this mix of actors implies many different forms of boundary work. These boundary works are central for the categorization of species as well as employing the list in policy and planning. Another central finding is that the red list functions as a link between experts and policymakers. The list serve as a means for a particular expertise to "speak truth to power" and for policymakers to make science-based decisions. However, simultaneously as being an effective means for bridging the gap between science and policy, it also makes something with both science and policy. Both policy and science become subordinated to a regulatory and standardized system of measuring and weighing, which also transform the very character of the policy for counteracting biodiversity loss.

Deliberative Democracy and Environmental Science: What lessons for user engagement?

Tim Forsyth
London School of Economics and Political Science, UK

This paper contributes to ongoing debates that seek to apply science and technology studies (STS) within environmental science and policy. Much environmental science and policy seeks to increase user-engagement as a way to understand the nature of problems, and to communicate scientific findings to vulnerable groups. This paper, however, argues that the recent trend to 'problem-oriented' sciences in environmental research such as sustainability science and adaptation science still do not engage sufficiently with the politics of how problems are defined, nor with the epistemological impact of using 'science' to address socially-defined 'problems.' There is a need for a deeper form of user engagement, which considers the politics of how 'users' and 'problems' are coproduced, alongside scientific explanations. Yet, drawing lessons for user engagement also requires rethinking deliberative politics from the widely used Habermasian vision based on inclusive procedures, towards deliberation that also includes the mutual legitimization of facts, norms, and expertise. The paper draws lessons for the concept of 'boundary work' in environmental science and policy, and about the wider meaning of deliberative democracy in environmental politics.
In recent years, the global governance architectures on climate change and forestry have become increasingly complex, due to a growing number of institutions that touch upon these two subject matters. This complexity entails a significant increase in institutional interplay, i.e. in the material and functional overlaps among institutions – both horizontal, i.e. at the same level of interaction, and vertical, i.e. across levels (Young 2002). These overlaps, in turn, have implications for the generation, development and effectiveness of the affected institutions – including their accountability and fairness. The panel scrutinizes these implications for the new mechanism of REDD (reducing emissions from deforestation and forest degradation) and the respective institutional architecture that has been emerging since 2005. The papers provide innovative and vital insights for the study of REDD in particular and institutional interplay in general, by: systematically mapping the various institutional arrangements making up the REDD governance architecture; explaining how this institutional complexity has evolved over time; analyzing the dynamics among actors at the early stages of the REDD architecture; identifying the different discourses coming together at this crossroads of climate and forest governance; analyzing the implications for policy diffusion, e.g. for the coordination of top-down and bottom-up initiatives in REDD-implementing countries.

A clash of ideas: Identifying discourses at the crossroad of climate change and forest governance

Tobias Nielsen
Lund University, Lund, Sweden

The emergence of REDD+ (Reducing Emissions from Deforestation and forest Degradation) on to the international scene has witness the interlinking of forest and climate change governance. This paper identifies three key discourse coalitions present in the climate change regime, namely: ‘green governmentality’, ‘ecological modernization’ and ‘civic environmentalism’. It uses them to categorize the key story lines of REDD+, including those that deal with forest governance. Each category will have its own understanding and opinion on the aims and objectives of REDD+. Hence, should it emphasize on creating cost-effective mitigation, on setting up expert driven organizations or on the social and ecological dimensions. The argument is that understanding the formation and struggle of discourses within REDD+ is key to understanding the dynamics of the development of REDD+ as a governance mechanism. As such, policies on REDD+ will not be neutral tools, but rather a product of discursive struggle, where the institutionalization of different discourses will seek to validate and legitimize specific tools, actors and solutions while marginalizing others.
Untangling the web of global forest governance: a first step for analyzing regime complexity

Constanze Haug¹, Harro van Asselt²,³, Joyeeta Gupta¹
¹VU University Amsterdam, Amsterdam, The Netherlands, ²University of Oxford, Oxford, UK, ³Stockholm Environment Institute, Stockholm, Sweden

After the failure to establish a forest convention at the 1992 Rio Summit, the evolution of global forest governance has been characterized by "creeping ad hoc incrementalism" (Humphreys 2005). Global forest governance nowadays can be described as a "regime complex" (Keohane and Victor 2011) comprising loosely coupled institutions. At the same time, the advent of the issue of reducing emissions from deforestation and forest degradation (REDD) has brought the climate change and forest domains closer together, with attendant implications for global forest governance. This paper aims to systematically map the arrangements making up the global forest governance architecture, with a view to identifying gaps, overlaps and potential synergies. We explain how this complex web has evolved over time, what types of actors are involved, what forest functions are covered and to what extent. In particular, we examine the impact of REDD, and the shifts it has prompted in terms of institutional structures. We conclude that our mapping exercise provides a solid basis for further analyses into causes and consequences of regime complexity, and could inform responses to such complexity. The paper ends with an exploration of the near-term prospects for a more comprehensive, internally consistent process of global forest governance.

Comparing early stages of the REDD architecture and forest carbon value chain developments

Marc Ventresca¹, Frank Hajek¹, Heike Schröder², Fariborz Zelli³
¹University of Oxford, Oxford, UK, ²University of East Anglia, Norwich, UK, ³Lund University, Lund, Sweden

REDD has become a key element of the emerging post-2012 international climate agreement. While it is being negotiated internationally, national level institutions and local activities are emerging to gain experience, test different approaches and involve different actors. This includes initiatives that are defining elements of a forestry carbon value chain. This value constellation is a network of activity that incorporates diverse levels and institutional actors, converting social movement activity and commercial projects into the basis of a new value-creating activity. In this study, we argue that regime theory and value chain approaches can mutually benefit from each others’ insights, in particular regarding the formation of new institutional arrangements. To this end, we compare the institutional origins of the international REDD regime and the forestry carbon value chain, and examine the dynamics between both. Empirically, we focus on initial actors, key logics and rhetorics, and the range of initial network linkages as well as the increasing density and variety of those linkages. In theoretical terms, we explore complementary arguments and approaches from international relations and innovation strategy literatures - using the ‘critical case’ of early stages to examine the dynamics between two processes configured by different rules, norms, discourses and behaviors.
Climate Change Mitigation Policies

Chair: Simon Niemeyer
Australian National University, Australia

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Governance and equity in the development and deployment of negative emissions technologies

Duncan McLaren
McLaren Environmental, Västerås, Sweden

This paper will draw on a recent assessment of carbon dioxide removal (or negative emissions) technologies (NETs) undertaken by the author for Friends of the Earth in the UK. Alongside criteria such as cost and technical readiness, the review applied criteria regarding controllability, accountability and side effects (including distributional impacts) to around 30 prospective NETs found in the literature. This paper will present a summary of results of the assessment, and in particular, focus on the environmental justice and governance issues identified as arising from the development of NETs. NETs could have major implications for intergenerational equity if their development (or potential) permits mitigation to be postponed, and their deployment could have significant distributional impacts between countries or groups. Three major concerns will be discussed. First, the potential moral hazard arising from the development of NETs, and possible mechanisms to limit the implications of moral hazard both within and beyond carbon markets. Second, the challenges arising from the distribution (and potential limits to the overall availability) of geological storage for carbon dioxide. And third, the implications of competition for biological productivity for negative emissions through biotic technologies (eg tree burial) or through the application of carbon capture and storage techniques to bioenergy. The paper will also reflect on the selection, definition and application of the assessment criteria to derive potential lessons for the governance of current and future geoengineeering research, development and deployment.

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Reforming the governance structure of the Kyoto Protocol’s Clean Development Mechanism: Guaranteeing rights of non-state actors and creating opportunities in developing countries

Freya Baetens¹, Susana Camargo Vieira²
¹Leiden University, Leiden, The Netherlands, ²Universidade de Itaúna, Brazil

Drawing upon the implementation of the Kyoto Protocol’s Clean Development Mechanism (CDM) in Argentina, this papers argues that the state-centric nature of international law could hamper the development of rules and institutions that effectively protect the interests of non-state actors. The delegation of supervision and governance functions to a supranational authority without the simultaneous creation of a support framework guaranteeing basic rights of private parties has created a governance gap which threatens the legitimacy of international decision-making, which in turn may deter project-developers from participating in the CDM. Given such adverse implications, this paper puts forward several proposals to reform the CDM governance structure, including the
adoption of administrative law-like procedures by the Executive Board to guarantee fundamental fairness, justice and respect for property rights. The CDM market in Argentina is used throughout this paper as a touchstone for the suggested reforms, as it forms a model example of a developing country which has considerable potential, principally in landfill gas, energy efficiency and renewable energies. Compared with anticipated CO2 abatements of about 60 million CO2 from registered CDM projects, a three- to fourfold increase seems feasible, depending on the strength of the regulatory framework. Duly reformed, the CDM has the potential to become one of the cornerstones of the post-Kyoto climate regime and an unparalleled opportunity for developing countries such as Argentina to transform into flourishing low-carbon economies.

The Effect of Vulnerability on Climate Change Mitigation Policies

Amit Tubi, Eran Feitelson, Itay Fischhendler
The Hebrew University of Jerusalem, Jerusalem, Israel

The problem of climate change negatively affects many countries throughout the world. The success of measures meant to mitigate climate change is uncertain, and previous attempts to explain countries' mitigative policies have been largely deficient. Thus, the purpose of this study is to improve the comprehension of mitigation policies adopted by various countries, through the introduction of the factors that comprise vulnerability. For this purpose, vulnerability has been defined in the widest possible manner, including factors of its two basic components: impacts (expected damages due to climate change) and adaptive capacity (the ability to moderate those damages). These factors include both socio-economic and natural variables. In addition, the declared and implemented components of mitigation policy have been differentiated and examined separately. The effect of vulnerability on mitigation policies was examined by OLS regressions, incorporating a wide range of control variables. The results obtained indicate that vulnerability has only a limited effect on mitigation policies. Adaptive capacity has a positive effect on the level of declared policy, though it becomes insignificant once implemented policy is examined. This finding suggests that the "free-rider" problem prevents high capacity countries from following through on much of their declared policy. Furthermore, the effect of impacts on both declared and implemented policies is insignificant. Further analyses indicate that this insignificance is caused by the uncertainty in assessments of future impacts, as well as domestic problems in low capacity countries. Finally, findings obtained by this research suggest new hypotheses regarding the effect of vulnerability on mitigation policies.
Session A4

Legitimacy and Civil Society Perception in Global Environmental Negotiations

Chair: Aysem Mert
VU University Amsterdam, The Netherlands

Whose Views are Represented? Differences of Opinion on Climate Change Solutions among Participants at the COP

Naghmeh Nasiritousi
Centre for Climate Science and Policy Research, Norrköping, Sweden

The participation of non-state actors in international politics has been portrayed as a way to reduce the democratic deficit that international organizations are perceived to suffer from. In this view, non-state actors are part of a global civil society that can help bring accountability to international organizations that operate on a weak electoral mandate. However, several rival perspectives on the democratic potential of non-state actors exist. One questions the representativeness of the organizations that participate in international rule-making. A related concern is whether the active non-state actors represent already strong and established interests or if they also bring forth marginalized voices. These perspectives thus raise the pertinent question of what views non-state actors represent. Deliberative democratic theory argues that all types of discourses must be represented and channelled into international negotiations for them to have democratic legitimacy. This paper will therefore examine the views held by a range of participants at COP 17 on what types of climate change solutions are favoured. The data will consist of interview and questionnaire material to examine what views are favoured in the negotiations and by what actors. A comparison of the survey results with actual negotiating text will provide an indication of to what extent certain views are included in the negotiation dynamics. This paper will thereby offer a first assessment of what type of democratic model greater non-state actor participation in climate change governance represents.

Is There a 'South-North' Divide in Global Environmental Governance? Perceptions of Legitimacy Amongst State and Non-stae Actors in Forest and Climate Regimes

Tim Cadman
University of Southern Queensland, Queensland, Australia

This paper investigates stakeholder perceptions of the governance quality of two ‘post-Rio’ environmental policy arenas: the international forestry regime (UNFF) and the largely intergovernmental United Nations Framework Convention on Climate Change (UNFCCC). Participants’ views across a number of mechanisms are explored by way of quantitative and qualitative analysis. Quality of governance – and ultimately, legitimacy – is evaluated using a normative framework of principles, criteria and indicators (PC&I). The paper concentrates on
stakeholder attitudes regarding inclusiveness, equality and decision-making, and identifies the views of governmental and environmental NGOs from both the Global North and Global South, where data permits. The views of governments and NGOs are influenced by the degree to which they enjoy ‘insider’ status and have faith in the specific standards setting procedures adopted by the two regimes. These results lead to the conclusion that stakeholder perceptions regarding global environmental governance relate less to sectoral affiliation and more to who stands to gain or lose from associated initiatives and/or programmes. Attitudes also appear to be based more on geo-political factors and attitudes to governance than a straightforward state/non-state analysis would bring to bear. Perceptions of inclusiveness and equality are key indicators of governance quality. Shortcomings of the research techniques are discussed.

Global Climate Change Policy: Can Civil Society Involvement Increase Public Support?

Robert Gampfer, Thomas Bernauer
ETH Zurich, Zurich, Switzerland

Can governments increase public support for global climate change policy through greater involvement of civil society in the negotiation process? Many observers assume that civil society participation is necessary to mitigate the presumed democratic deficit in global climate governance, thus making an international climate agreement more acceptable to citizens back home. This reasoning plays a part in motivating governments to admit thousands of civil society actors to global climate conferences. Critics note, however, that civil society actors are not elected and thus not accountable to voters, and that they often pursue narrowly defined, perhaps even parochial interests, rather than the "popular will". We undertook three survey experiments with individuals from around the world to find out how the public evaluates the participation of civil society actors in global climate governance. The results show that, given a choice, people prefer to include civil society actors in national delegations to climate negotiations. We also found, however, that more civil society participation does not induce people to view global climate negotiations and climate policy more favorably. Our findings thus pose a considerable challenge to arguments accounting for the massive expansion of civil society involvement in global governance in terms of the legitimizing function of these actors.
Local Climate Change Adaptation

Chair: Christine Wamsler
Lund University, Sweden

The role of local institutions in fostering adaptation to climate change in forest communities of Cameroon

Carolyn Brown1, Olufunso Somorin2, Denis Sonwa3
1University of Prince Edward Island, Charlottetown, PEI, Canada, 2Center for International Forestry Research, Yaounde, Cameroon, 3Center for International Forestry Research, Yaounde, Cameroon

Forests are expected to face significant pressure from climate change over the next century which will potentially disrupt the important ecological, economic, social, and aesthetic services that forests provide to other natural systems and humankind. Community vulnerability to climate change, such as that of forest-dependent communities, is frequently conceptualized as a function of both exposure-sensitivity and adaptive capacity. Resilient social-ecological systems are able to buffer change leading to ecological, economic, and social sustainability. Institutions that learn and store knowledge and experience, and create flexibility in problem solving, can increase people's adaptability and resilience. Since adaptation to climate change is highly local, institutions, particularly in rural areas, have been shown to be the fundamental mediating mechanism against the impact of external shocks. Interactions between local and higher level institutions also affect the capacity of a community to respond to change. Research was conducted in forest-dependent communities in three provinces of Cameroon in order to understand the role that local institutions and governance strategies play in reducing vulnerability, and in shaping adaptation of diverse households to risks from climate change. Areas for strategic capacity-building, in the agriculture and forestry sectors, were identified to improve the institutional response and foster increased resilience for those dependent on natural resources as a source of livelihood. Bridging institutions, such as local government, community forest management committees, and other non-governmental organizations, demonstrate some potential to interface with national policy and effectively implement interventions at the local level.

Determinants of Cassava Farmers' Strategies for Adapting to Climate Change in Ekiti State, Nigeria.

Adewale Fatuase, Igbekele Ajibefun
Federal University of Technology, Akure, Akure, Ondo State, Nigeria

Climate change is expected to have serious environmental, economic and social impacts on Nigeria, particularly on rural farmers whose livelihoods depend largely on rainfall. This study therefore investigated the factors responsible for the choices of adaptation employed by cassava farmers in the study area. The study examined the adaptation choices of respondents from the two agro-ecological zones in Ekiti State. Data were collected and analyzed from a total of 40 respondents from each agro-ecological zone. Descriptive statistics and multinomial logit regression analysis were used to analyse
the collected data. The study examines how farmer perceptions correspond with climate data recorded at meteorological stations of Ekiti State. The statistical analysis of the climate data reveals that temperature, rainfall and sunshine duration are increasing. The perceptions of farmer on temperature and sunshine duration are in line with recorded climate data but contrary with that of rainfall which are perceived to be decreasing by the farmers. The respondents identified lack of funds as the major barrier to adaptation. The study concluded that farming experience, access to credit, access to non-farm income, access to extension services, household size, access to climate information and household farm income are major factors statistically affecting choice of climate adaptation using multinomial logit regression. Government policies and investment strategies must support the factors highlighted above in order to rescue the poor farmers from the danger of climate change.

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**Analysis of Perception and Adaptation to Climate Change among Arable Crop Farmers in Ikogosi Warm Spring Communities of Ekiti State, Nigeria.**

Igbekele Ajibefun, Adewale Fatuase  
*Federal University of Technology, Akure, Akure, Ondo State, Nigeria*

The fact that climate has been changing in the past and continues to change in the future implies the need to understand how farmers perceive climate change and adapt in order to guide strategies for adaptation in the future. This paper discusses the findings of the research that was carried out in Ikogosi Warm Spring Communities of Ekiti State among predominantly smallholder arable crop farmers on their knowledge of climate change and adaptation strategies. The study discovered that almost all the farmers interviewed perceived changes in climate. The outcome of perception questions using Likert Rating Scale revealed that majority (over 93%) of the respondents perceives changes in climate over the twenty years. Further more, the result of factors influencing farmers’ perception decisions using ordered logit regression analysis showed that gender, age and level of education were statistically significant in making decisions on the level of perception made by the farmers. Finally, multinomial logit regression model was employed to analyse the factors that is influencing farmers’ choice of adaptation on climate change and variability. The results indicate gender, age, farming experience, land tenure, farm size, access to extension services, access to loan, engage in non-farming activities, temperature and rainfall as the major factors influencing farmers’ choice of adaptation to mitigate effect of climate change in the study area. It is therefore, concluded that the government should design holistic policies that will develop and improve on these factors.
**Session A6**

**Water Politics**

Chair: Vasna Ramasar  
*Earth System Governance Project, and Lund University, Sweden*

**Liquid Justice: South Africa’s Water Allocation Reform**

Synne Movik  
*Norwegian University of Life Sciences, Aas, Norway*

How is the idea of justice conceptualised in South Africa’s Water Allocation Reform policy? The 1998 National Water Act vested the government with the authority to decide who should have water on what basis through issuing water use licences, with the aim of reallocating water to rectify past injustices. Work on the Water Allocation reform policy, began in 2003, the strategy was made public in 2006, followed by a heavily revised version in 2008. Taking Sen's idea of justice as a pluralistic concept as a point of departure, this paper analyses the policy processes leading up to the launch of the Water Allocation Reform in 2006. Drawing on discourse analysis and interviews with key stakeholders, it demonstrates how there was a subtle shift towards a more utilitarian conception of justice, with efficiency and productivity acting as key conditions for redistribution, and then again a reversal to an explicitly egalitarian perspective with the publication of the 2008 version. The article focuses on the policy discourses leading up to the 2006 policy that over time ended up portraying the existing users as unilaterally beneficial and productive, and the process of redistribution as a risky venture that could lead to environmental degradation and the economy being undermined, whilst failing to acknowledge the waste and pollution of existing users. The paper highlights the importance of unpacking key concepts and realising how particular ideas of justice are altered in the course of a policy process and also how hidden assumptions prevail that affect the outcomes of policy processes.

**Politics of Water and Energy Privatization in Turkey**

Mine Islar  
*Lund University Centre for Sustainability Studies (LUCSUS), Lund, Sweden*

This paper investigates the case of river privatization in Turkey as a means to energy production and its implications on the issues of ownership, rights to water and the community life. Recent neoliberal reforms in Turkey enable private sector to lease the rights of rivers for 49 years only to use for the production of electricity. There are approximately 1700 licenced projects on the several parts of the 25 river basins of Turkey. Moreover, current legal framework does not allow communities to lease the rights of a river for other purposes such as their domestic and agricultural use. By framing privatization as a process which is manifested in the regimes of entitlements, this article aims to analyse this transformation of access to and control of rivers by the redefinition of productive use, access and rights - as well as through legal and social discursive practices that marginalize and undermine alternative framings of nature. Article further argues that particular process of privatization in Turkey is an instance of "water grabbing" where powerful actors are able to reallocate their own benefits in the form of energy by diverting water and profit away from local
communities. The empirical evidence derived from the case study indicates that the politics of exclusion is manifested in river privatization in a number of ways: framing the use of rivers only for hydroelectricity purposes, thereby neglecting other uses; exclusion of rights of environment and rural communities from legal frameworks; and downplaying nation-wide resistance at the political and discursive level.

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**Continuity and change in social-ecological systems: the role of institutional resilience**

Elke Herrfahrdt-Pähle¹, Claudia Pahl-Wostl²

¹German Development Institute (DIE), Bonn, Germany, ²Institute for Environmental Systems Research, University of Osnabrueck, Osnabrueck, Germany

Current political and economic frameworks seem to encompass deeply rooted resistance to questioning and re-evaluating dominant pathways of development when faced with sudden change such as climate change or financial crisis. A major challenge is to have the capacity to make use of abrupt often surprising change, often perceived as crisis, as an opportunity to shift towards sustainability pathways. There are different ways of arguing for favourable pathways of development and thus of conceptualising continuity and change. This paper attempts to shed light on the tension between the concepts of stability and continuity, on the one hand, and change and disturbance, on the other. It focuses on institutions as links between social and ecological systems. The paper centres on the question of how institutional change and institutional continuity interact and build or degrade institutional resilience. Based on an investigation of institutional resilience in two case studies (South Africa and Uzbekistan), it proposes drivers and possible elements of (institutional) continuity during times of transformation as well as elements of (institutional) change during phases of consolidation.

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**Collaborative Governance in Watershed Management: Conditions for Inclusiveness, Responsibility and Accountability**

Katarina Eckerberg, Anna Zachrisson, Gunilla Mårald

Umeå University, Umeå, Sweden

The Water Framework Directive (WFD, EC2000/60) implies targeting the water system as a whole: encompassing all sources of pollutants within a watershed or river basin, and involving participation in decision-making over particular water bodies. The new approach seeks win-win solutions among a range of stakeholders, fostering collaboration that involves negotiations over rules and measures to improve the water situation. Collaborative watershed management has the potential to overcome tensions between different interests through providing more policy-making autonomy to stakeholders at the grassroots level and contribute to trust-building and shared visions over the future of local water resources (Sabatier et al, 2005). In these partnerships, however, the state seems to still play an important role. The WFD calls for consultation with relevant stakeholders through reference groups and Water Councils in the river basin districts as a main ingredient for water management collaboration. But how does this form of collaboration function to foster collective action? This study will be based on a survey in northern Sweden targeting the Water Councils and their networks, as well as the County Administration officers from the Bothnian Bay Water Management District. Our analysis focuses on questions like: What are the participants' motivations
and drivers for improving water conditions? How do expectations vary, and for what reasons, among private and public representatives? What factors contribute to the formation and endurance of watershed collaborations and partnerships? The result will be a critical view on the conditions for inclusiveness, responsibility and accountability in the new bodies for collaborative water governance.
Does a human rights-based approach to climate change lead to ecological justice?

Moritz von Normann  
_Higher Regional Court, Berlin, Germany_

Three human rights-based approaches to climate change have been subject to debate: (1) the application of procedural rights found in international human rights law, (2) the reinterpretation of existing human rights in the environmental context, and (3) the recognition of a substantive human right to environment. The question arises as to whether there is a “value added” of addressing climate change through a human rights lens. It is submitted that a human rights-based approach tailors the discourse on climate change to the actual impacts on people’s lives. Furthermore it draws attention to the most vulnerable and marginalized groups and emphasizes the importance of taking into account their knowledge within the scope of climate change policies. However, the greatest obstacle to holding states accountable for human rights violations caused by climate change is the proof of causation between past greenhouse gas (GHG) emissions of a particular country and a specific climate change-related impact. This problem accompanies questions of allocation on grounds of the “common but differentiated responsibilities” principle. The missing liability of GHG emitting countries and the lack of remedy for the most vulnerable that did not contribute to climate change or economically benefit from it is deemed unjust. In response, a new accountability regime is delineated enabling affected persons to seek remedy while taking into account the proportionate responsibility of states in the context of climate change. This innovative regime draws upon the market share liability principle which has already been applied at the national level.

Governance for a new development model: analysis of a scenario for sustainable energy access for all by 2050

Mans Nilsson¹, Asa Persson¹,²  
¹Stockholm Environment Institute, Stockholm, Sweden, ²Stockholm Resilience Centre, Stockholm, Sweden

In preparation for the Rio+20 conference in June 2012 and considering that 2012 is the International Year for Sustainable Energy for All, an international partnership of research institutes in the field of environment and development are conducting a global assessment of how to achieve sustainable energy access for all in 2050. By sustainable, we mean reduced energy poverty, access to modern energy services, and provision of energy within planetary boundaries (including the climate boundary). The assessment is based on a set of three new scenarios constructed using the LEAP
methodology; a baseline scenario, a ‘technology' scenario and a ‘new development model' scenario. The latter involves assumptions regarding stronger convergence of economic growth rates around the world and will thus require even more ambitious decarbonisation of the energy sector in the North. In this paper, we summarise key pathways identified in the ‘new development model' scenario and discuss the governance issues raised. In particular, we address the interdependence between levels of government to reach the energy access and environmental sustainability goals. The key questions are what key policies at the international, national and local levels respectively would be required and what governance arrangements across the levels would be required to effectively implement such policies. A typology of critical energy access and provision problems is constructed, and policy and governance responses at different levels are identified. The paper concludes with an outlook to what decisions and initiatives could be expected from Rio+20.

Electronic Waste Management in Africa: The Challenge and Opportunities with the Growing Telecommunication Industry

Joseph Adelegan
*Global Network for Environment and Economic Development Research, Ibadan, Oyo State, Nigeria*

Nigeria is often identified as the fastest moving economy and one of the most advanced ICT market sectors in Africa. In just a few years, Nigeria has become the telecommunication hotspot for both telecommunication operators and equipment suppliers. However, the growth was characterized with unprecedented release of electronic waste from the mobile phone companies into the environment and most of them highly toxic. The research addressed the adoption of environmentally sound management of electronic waste as it relates to mobile phones in Africa. Qualitative interviews were held with upper echelon executives representing firms in the Nigerian telecommunication industries with quantitative analysis using structural equation model. The study suggests the absence of legislation dealing specifically with electronic waste, inadequate infrastructure for waste management, absence of any framework for end-of-life product take-back. However, the generation of electronic waste from may turn out to be a win-win situation and clearly has inherent business opportunities for the developing countries if the adoption of environmental benign technologies and policy is embraced.
Integrated water management in New South Wales and Colorado

Andrew Ross
Australian National University, Canberra, ACT, Australia

Integrated governance of surface water and groundwater can provide efficient and flexible use of water, address the externalities of water use and help adaptation to climate variation and uncertainty. This paper explores the relationship between the surface water and groundwater entitlements, allocation and access rules and adaptive governance at different spatial, temporal and administrative scales. Integrated and adaptive water governance requires a comprehensive, balanced and flexible system of water entitlements and rules. This includes provisions for extended water carryover, and aquifer storage and recovery. Successful implementation of integrated water governance requires broad direction by high-level governments and more detailed local planning and initiatives tailored to local resources and user communities. In Colorado the prior appropriation system drives integrated governance by requiring junior groundwater users to make a good their impacts on senior surface water users. This has led to a range of innovations to enable integrated water governance, but these were not robust during severe drought conditions. In New South Wales surface water governance is generally separate from groundwater governance. The governance system encourages individual surface water harvesting and storage but not aquifer storage. Integrated governance in New South Wales can be improved by the introduction of entitlements and rules covering extended carryover and aquifer storage and recovery, and by giving regional organisations a stronger role in water planning. Integrated water governance in Colorado could be improved by strategic watershed planning that integrates consumptive and environmental requirements and the introduction of further flexibility in the prior appropriation doctrine.

Does fiscal equivalence matter for river basin management? What we can learn from recent water management reforms in Portugal and Mongolia

Ines Dombrowsky\(^1\), Andreas Thiel\(^2\)
\(^1\)German Development Institute (DIE), Bonn, Germany, \(^2\)Humboldt Universität zu Berlin, Berlin, Germany

In recent years many countries have embarked on institutional reforms of their water sector, not least inspired by the Integrated Water Resources Management (IWRM) paradigm and the idea to manage water resources at the level of river basins. However, more recently the effectiveness of the river basin management (RBM) approach has increasingly been questioned. This raises the question
whether the concept still has merits and under which conditions it can be considered effective. In the paper in a first step we draw upon fiscal federalism and hypothesize that a RBM has merits if it follows the principle of fiscal equivalence which calls for matching those who receive a benefit from a collective good with those who pay for and decide on it. In a second step we test this hypothesis for the cases of Portugal and Mongolia. The paper finds that the two cases lend themselves well to a cross-evaluation of principles of fiscal federalism. While the RBM approach in Mongolia suffers from unclear competences and insufficient financial resources, the Portuguese case provides an interesting example, not only of the devolution of decision-making and planning, but also of fiscal competences. It seems that a clarification of fiscal competences and the options to price water services at cost-recovery would represent an important prerequisite for more effective water governance in Mongolia. At the same time, the Portugal experience provides some hints as to how politico-economic obstacles towards cost-recovery in the water sector can be overcome.
Session B1

Agency in Multi-Level Governance: the Case of Water

Chair: Farhad Mukhtarov

VU University Amsterdam, The Netherlands

The literature on governance in the domain of water and natural resources has mostly focused on institutional prescriptions (Ostrom, 1990; Barrett et al., 2005; Hayes, 2006; Armitage, 2008), common property theory (Ostrom, 1990, 2005; Berkes, 2008), political ecology (Armitage, 2008; Lebel et al., 2008), and social-ecological systems and resilience research (Folke et al., 2005; 2005; Young et al., 2006; Lebel, 2006). These approaches privilege structure and institutions over an explicit attention to agency. In the water and environmental governance debates few studies explicitly address agency and its formation (Huitema and Meijerink 2009, 2010; Huitema et al. 2011). To fill in this gap we invite contributions which elaborate on the role of agency in a) explaining the performance of natural resource management regimes, b) crafting institutions for environmental resource management, and/or c) influencing policy processes. We welcome contributions on the role of agency and structure as an enabling and/or constraining factor in water governance at multiple levels. We welcome conceptual works which advance our understanding of agency as an analytical category, methodological contributions in studying agency, as well as empirical case studies in water management and policy which discuss the role of change agents.

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Old power, old paths, emerging participation? 'Context matters' in post-soviet irrigation management

Svenja Fox\(^1\), Farhad Mukhtarov\(^2\)

\(^1\)Environmental Policy Research Center, Berlin, Germany, \(^2\)Institute for Environmental Studies, Amsterdam, The Netherlands

Against the background of existing challenges in the water and irrigation sector, decentralisation and devolution of responsibility is increasingly seen as a way to achieve more effective and sustainable management of water and land in irrigation. Many governments turn to participatory irrigation management schemes for better management of their national water resources. In this context, responsibility is transferred to the local level in the form of water user associations (WUA). This model of irrigation management has been implemented in a number of countries across the world, but not always with comparably positive results. In order to understand variations in performance better, more focus is needed on the functioning of water user associations at the lowest appropriate level of water management and on the impact of the institutional environment WUAs are embedded in. This paper examines the link between performance of water user associations in Azerbaijan and contextual factors, such as the policy environment, socio-economic factors and infrastructure.

Based on empirical data generated through expert interviews conducted at the local, regional and national level in Azerbaijan, we study the challenges in the irrigation system, land use and land tenure policy and the implications of these for WUA performance. The study contributes to a better
understanding of the impact of contextual factors on WUAs and on their potential for increased accountability and legitimacy in irrigation management. Our preliminary observations indicate at path dependency and the importance of the Soviet past in the contemporary design and operation of water user associations.

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Deep understanding for better design: action research as conduit for institutional design for social ecological systems?

Andreas Thiel, Dimitrios Zikos
Humboldt-Universität zu Berlin, Berlin, Germany

The paper engages with the way scientists provide knowledge for policy-making for institutional design in the realm of social-ecological systems. We argue that scientists explicitly or implicitly always rely on a theory that informs institutional design. Institutional design aims at change of institutions and behaviour. We will discuss the role of a set of theories (economic, sociological and classical theory of institutional change) concerning how they relate to institutional design. The map we use for this purpose is the discourse on structure and agency and their interrelation. This helps understanding the limitations of institutional design, inform the proposal of measures for institutional design, as well as it informs the implementation and legitimization of institutional design. We develop the requirements for observing but also engaging with the process of institutional design. Action research is then examined as methodology functioning as a conduit for conveying change. Its application is discussed for the case of Volos Metropolitan Area, Greece, which focuses on urban water management. We want to discuss how does action research meet the challenge of scoping the field in an open fashion for determining the appropriate theory of institutional change. How does action research address the question of legitimizing the framework/theory employed to extrapolate the consequences of institutional design? What potential does action research have to address the complexity of the way dialectic theories of institutional change conceptualize the social-ecological setting?

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Jes Weigelt1, Oscar Schmidt2
1IASS, Institute for Advanced Sustainability Studies, Potsdam, Germany, 2Humboldt-Universität zu Berlin, Department of Agricultural Economics, Division of Resource Economics, Berlin, Germany

Decentralization is widely considered to facilitate the governance of land, water and other natural resources. In many cases, however, its actual performance is unsatisfactory. Particularly limited success is observed regarding the promise that the formal transfer of power automatically initiates a transformation of structures of marginalization and inequity. Literature demonstrates that genuinely transformative decentralization depends on advances in procedural justice (e.g. more accountable public officials) and distributive justice (e.g. enhanced resource access). The reasons why in some cases, those conditions can be established and in others not, have received much less theorization. We introduce the concept of path-dependency as a new explanatory perspective to this problem. Our paper reviews both conceptual papers and experiences of decentralization reforms from several countries. We propose that understanding processes underlying any form of structural change -
including the formation and institutionalization of decentralization policies - requires the recognition of the historical embeddedness of the associated actors, organisations and institutions. Our review shows that the absence of procedural justice and distributional justice often represents a consequence from conditions that evolved prior to the decentralization effort. Path-dependent sequences may thus be linked to variety of mechanisms that can be classified within three dimensions, namely an agency perspective, a structural perspective and a discursive perspective. Path-dependency is only adequately conceptualised if it is not only seen as a system characteristic but also as an outcome of human volition. The approach we have chosen offers multiple opportunities to enhance the analysis of decentralization of land and water resources.
Session B2

Connecting the dots: Networks and Polycentric Approaches

Chair: Magdalena Bexell
_Lund University, Sweden_

In Search of Alternative Governance Models - The Contribution of Interregional Climate Cooperation to the Global Climate Change Regime

Astrid Carrapatoso
_Albert-Ludwigs-University, Department of Political Science, Freiburg, Germany_

In the run up of COP17 in Durban, diplomats exchange well-known positions although they are sometimes sold as new and ground-breaking suggestions. The time-consuming and ineffective nature of the UNFCCC process becomes once more explicit. Most of the delegates, observers and experts are skeptical regarding the outcome of the negotiations and do not expect any kind of binding agreement. The question remains whether there are alternatives to the current UNFCCC process and whether other types of climate governance are more effective. Interregional relations, specifically promoted by the European Union, are a suitable platform for the exchange of knowledge and the diffusion of successful climate policies and best practice. The paper examines whether interregional climate cooperation offers an alternative pathway to the current multilateral climate system. A specific focus will be on the transformative role of the European Union in this respect. Theoretically inspired by the interregionalism research agenda, I argue that the current agenda has to be revised to better grasp the nature of interregional climate cooperation. It not only has to focus on policy diffusion as the major function of these interregional relations but also needs to integrate mainstream IR theory with complexity science and green theory. Insights gained through case studies on interregional climate cooperation such as between the EU and China or ASEAN will help to establish an eco-interregional research programme and to explore alternative climate governance models.

Connect the Dots: Managing the Fragmentation of the Global Climate Governance Architecture

Harro van Asselt\textsuperscript{1,2}, Fariborz Zelli\textsuperscript{3,4}
\textsuperscript{1}German Development Institute, Bonn, UK, \textsuperscript{2}Stockholm Environment Institute, Stockholm, Sweden, \textsuperscript{3}German Development Institute, Bonn, Germany, \textsuperscript{4}Lund University, Lund, Sweden

The debate about post-2012 global climate governance has been framed largely by proponents and opponents of the policymaking process established by the United Nations Framework Convention on Climate Change (UNFCCC). In light of the proliferation of institutions governing some aspects of climate change, analysts have asked whether a centralized or a polycentric climate governance architecture will be more effective, efficient, equitable, or viable. While these are valid questions, they obscure the fact that global climate governance is already polycentric, or rather: fragmented.
Against this backdrop - and in light of the dim chances to soon establish an integrated approach, let alone a World Environment Organization - this paper argues that the more pertinent and realistic questions are: how to sensibly link the different elements of global climate governance, and what the role of the UNFCCC could be in getting to a ‘division of labour’. We examine these two questions for three aspects of global climate governance: international climate technology initiatives; emerging emissions trading systems; and unilateral trade measures. The paper shows that there are strong arguments for coordination in all of these cases, and illustrates the possible role of the UNFCCC. It concludes, however, that possibilities for coordination will eventually be limited by underlying tensions that will plague any future climate governance architecture.

Multi-actor scenarios to build capacity for food systems governance at the sub-continental level

Joost Vervoort\textsuperscript{1}, John Ingram\textsuperscript{1}, Polly Ericksen\textsuperscript{2}, Moushumi Chaudhury\textsuperscript{3}, Wiebke Foerch\textsuperscript{2}, Philip Thornton\textsuperscript{2}, Patti Kristjanson\textsuperscript{3}

\textsuperscript{1}University of Oxford, Oxford, UK, \textsuperscript{2}International Livestock Research Institute, Nairobi, Kenya, \textsuperscript{3}World Agroforestry Centre, Nairobi, Kenya

Global pressures on food security such as climate change, rising food prices and rising populations demand collaborative action from actors governing food systems across all levels and scales. This paper describes concerted efforts in East Africa, West Africa and South Asia to build capacity for food system governance at the regional (sub-continental) level where key environmental and socio-economic change processes play out. The Climate Change, Agriculture and Food Security (CCAFS) program is a partnership between the global agricultural development institutes (CGIAR) and the global environmental change community (ESSP). CCAFS uses multi-actor scenarios development processes to bring together regional actors from civil society, NGOs, the private sector, national governments, regional governance institutions, media and research. Together, these actors use exploratory scenarios of the future to consider radically different, plausible socio-economic development pathways for their regions. These alternate futures explore different roles for state – and non-state actors and interactions between national and regional governance efforts in terms of food security, environmental management and livelihoods. The scenarios also explore the consequences of reactive and proactive modes of governance and the focus on short term priorities versus long term priorities. This paper reports on how developing these socio-economic scenarios creates collaborative multi-sector networks in East and West Africa and South Asia that together focus on key regional uncertainties. Furthermore, we discuss the subsequent use of the scenarios to test strategies, policies and technologies with state and non-state actors to build capacity for regional governance.
The Local – Knowledge, Scales and Actors

Chair: Kimberly Nicholas  
*Lund University, Sweden*

**Justice & Equity for Native American Tribes Under NEPA: The Impact of Legal Authority on Significant Environmental Actions**

Matthew Luizza, Anthony Henner, Courtenne Mendes-Persson, Sunshine Swetnam  
*Colorado State University, Fort Collins, Colorado/Rocky Mountain West, USA*

Effective collaboration and meaningful public participation are important measures in moving towards just and equitable earth systems governance. Environmental statutes like the National Environmental Policy Act of 1969 (NEPA) seek to facilitate such processes, but engaging marginalized stakeholders including indigenous groups is often hampered by issues of allocation and access linked with conflicts over jurisdictional and legal authority. This paper examines the nature of collaboration and extent of public participation under NEPA, addressing questions of justice and fairness between federal agencies and Native American tribes. We first afford a broad overview of tribal engagement with NEPA, exploring their role in the process of creating an Environmental Impact Statement (EIS) and involvement in NEPA litigation within the 9th and 10th U.S. Court of Appeals. Next, three representative NEPA projects involving the Navajo Nation are used as a lens into the complex nature of jurisdictional and legal authority of tribes and its impact on effective collaboration and meaningful participation within the NEPA process. Our findings hold significance beyond the United States, as the adoption of the NEPA model by over 100 countries has important implications for environmental decision-making and just and equitable dealings with indigenous groups worldwide.

**Indigenous space for action within international nature conservation discourse**

Elsa Reimerson  
*Umeå University, Umeå, Sweden*

This paper investigates how indigenous subject positions are constructed in international nature conservation discourse; what subject positions are made available to indigenous peoples; and what political agency these positions entail. Analyzing international conventions and regulations for nature conservation, and using postcolonial and discourse theory, this paper situates the discussion in its historical context and critically interrogates the process of defining indigenous space for action with regards to the management of protected nature and the implementation of nature conservation policy. The discourses on nature conservation and natural resource management have changed over recent years. Local influence and participation is given increased importance, and ideas about nature conservation as protecting specific species or areas have been challenged by notions of socio-ecological systems and biodiversity. Protected areas often include traditional lands of indigenous
peoples, and although indigenous rights have been strengthened through international treaties, conflicts over land entitlement are common. The construction of indigenous subject positions within discourses of nature conservation can be assumed to have implications for the capacity of indigenous peoples to claim their right to land and to influence management of their traditional lands, and also to affect distributions of power and influence as well as the design and implementation of policy - thus having great significance for issues of justice and fairness in earth system governance. The results of this study contribute to the discussion on how participation in environmental decision-making is organized, emphasizing the role of power in environmental governance systems.

Localising global environmental governance norms: implications for justice

Melissa Hansen¹, Vasna Ramasar², Kent Buchanan²
¹LUCID/Lund University Department of Sociology of Law, Lund, Skåne, Sweden, ²Lund University Centre for Sustainability Studies (LUCSUS), Lund, Skåne, Sweden

Sustainability norms have become increasingly dominant in the international arena, progressively influencing policy rhetoric at state level - and operational management at local levels. Normative sustainability concepts include those of democratization and the maintenance of ecological integrity. Such normative discourses have come to dominate global environmental governance and in the process, guide natural resource governance in South Africa. This chapter explores global sustainability norms and problematizes their uncritical application to environmental governance at the local level. The chapter describes how such norms evolve at the global level and gain favour at national, provincial and local levels. Practical implementation of these norms through management must be adapted to the local context, or risk creating or exacerbating social injustices. The case of the iSimangaliso Wetland Park in northern KwaZulu-Natal is analysed using the cross-cutting issues of norms, scale, and justice. This case illustrates some of the problems associated with localising global norms of environmental governance. In making normative discourses relevant to a local context, it is important to address challenges such as legal pluralism; different approaches to conservation management; and agency in participatory decision-making. These factors speak to different constructions of norms, scales and understandings of social justice across time, space and different actors. The authors consider it essential to recognise the role of global environmental governance norms as an influential part of the ‘system of rules that shape the actions of social actors’ in natural resource governance in South Africa.

Collaborative groundwater governance: two cases in South Australia

Andrew Ross
Australian National University, Canberra, ACT, Australia

Groundwater provides most of the freshwater accessible for human consumption, but groundwater governance has received less attention than surface water. This paper examines collaborative groundwater governance through a comparison of groundwater planning processes in two regions in South Australia. Effective groundwater governance requires broad direction by high-level governments and more detailed local planning and action by multiple levels of government and users, tailored to local resources and user communities. High-level governments are more accountable and less flexible than multi-scale local governance arrangements. The South Australian cases show how comprehensive stakeholder engagement can link different levels of governance and
help to bring about mutual understanding, trust and commitment to action. Stakeholder engagement and commitment also help to build capacity and accountability for the implementation of agreed actions. In both cases consultative committees, including members able to represent general community interests and independent scientific advisers played an important role in achieving mutual understanding and agreement on objectives. It was more difficult for governments and water users to agree on common actions. Effective leadership of governments and users, coupled with well targeted communication and community meetings led to stronger progress in one of the cases. Knowledge gaps lead to collaboration to get better information, but in one case lead to ongoing disagreement about the justification for entitlement reductions. In both cases different problem framing by governments and users coupled with knowledge gaps led to some groundwater allocation issues being left for later resolution. These issues may become more difficult to resolve over time.
Session B4

Democracy and Accountability in Public-Private Governance Arrangements

Chair: Harriet Bulkeley
Durham University, United Kingdom

Conceptualising democratic accountability measures for hybrid environmental governance mechanisms

Aysem Mert
AGCI, VU Amsterdam, Amsterdam, The Netherlands

Environmental governance has emerged as an experimental arena for new modes of governance (Bäckstrand et al. 2010). These hybrid governance mechanisms (HGMs) involve not only non-state actor participation in decision-making but also reflect an increasing tendency towards selective deregulation, voluntary schemes of non- or self-regulation, and market-based solutions to environmental problems. HGMs such as public-private partnerships, governance networks, and emission trading schemes are hybrids because they combine different rationales, steering modes, public and private sector goals regarding environmental issues. Their effects on environmental governance have been so striking that terms like ‘governance for sustainable development’ (Meadowcroft, 2008) or ‘earth system governance’ (Biermann 2007) were developed to depict the complex interaction between HGMs, international organizations and treaties. HGM are often introduced as a means to enhance the democratic quality of environmental governance although research suggests that they fail to produce more inclusive, participatory processes. At the global level, there are few and only fragmented mechanisms to ensure their accountability. Moreover, there is no legal authority to petition in case of undesired consequences or governance failures. Inversely, there is little incentive for the HGM to behave responsibly, as the liabilities are obscured. Hence, new governance mechanisms require new accountability measures, specifically designed for global environmental governance. This paper aims to conceptualise such measures for the most wide-spread, well-known, and market-based types of HGM on climate change and biodiversity: sustainability partnerships, financial markets of biodiversity and carbon offsetting, and mitigation and species banking based on environmental, scientific, legal and social/economic dimensions.
Post-nature and UN partnerships: on gene regimes for sustainable development

Eric Deibel, Aysem Mert

1IFRIS-CEPN, Paris, France, 2AGCI-VU, Amsterdam, The Netherlands

Since the initiation of the ‘WEHAB areas’, agriculture has been an important focus of UN’s efforts in sustainability governance. After the 2002 Johannesburg Summit, the main governance tool in this pursuit has been public-private partnerships (PPPs) on plant biotechnology, sustainable agriculture and the conservation of crop genetic resources. While individual PPPs have considerable traction in these fields and are frequently legitimized as means to overcome barriers to sustainable development, there are notable imbalances in the partnerships regime regarding the organization, types and foci of the PPPs initiated. Most notably they are frequently related to the legitimization of highly controversial usage of (bio-)technologies in agriculture. Both these imbalances and the opaqueness of the decision-making in the use of biotechnologies are likely to undermine the future of equitable governance of agriculture. This paper begins by critically scrutinizing PPPs on agriculture and biotechnology, in the context of the partnerships regime 10 years after its formation. While partnerships are a popular governance mechanism because of its highly flexible organizational model, this is a form of flexibility that privileges the integration of sustainability with a focus on technological change and innovation. Specifically its flexibility is situated in the context of the existing trade mandate, including rules on patenting and genetically modified organisms. We argue that the partnerships regime and existing trade rules are highly specific as a combination, and by no means the only possible option for agriculture governance.

The institutional sustainability of public-private governance arrangements - the case of EU biofuels sustainability regulation

Thomas Vogelpohl, Bernd Hirschl

Institute for Ecological Economy Research, Berlin, Germany

New modes of governance emerge in the wake of the desire to govern the earth system towards a more sustainable development. A cornerstone of many of these new modes is the integration of private actors. One example for this trend is the actual biofuels regulation of the European Union (EU), which relies on private certification schemes to prove the compliance with EU sustainability criteria. Notwithstanding the potential benefits of this strategy, the transfer of state competencies to private actors also has its bottlenecks. But can the tendency towards public-private arrangements in environmental governance itself be evaluated in terms of its sustainability? This question refers to the institutional dimension of sustainability. This perspective emphasizes that the sustainability of an institution is not only a question of achieving good results in terms of ecological, social, or economic aspects, but that the way how this is achieved has an inherent sustainability value as well. Important aspects in this regard are the reflexivity of institutions, their inclusiveness or their power balancing capacity. After introducing the concept of institutional sustainability, we analyze to what extent public-private governance is compatible with its criteria, using EU biofuels sustainability regulation as an example of use. The results of this analysis shed some light on the particular challenges of designing public-private governance arrangements in order for them to live up to the requirements.
of institutional sustainability. In the concluding chapter, these results are discussed with a view to identify prospects for enhancing the institutional sustainability in environmental governance.

Democracy, Markets and the Legitimation of Transnational Climate Change Governance

Matthew Paterson³, Matthew Hoffmann², Michele Betsill¹, Steven Bernstein²
¹Colorado State University, Fort Collins, Colorado, USA, ²University of Toronto, Toronto, Canada, ³University of Ottawa, Ottawa, Canada

Existing scholarship about the legitimacy of non-state governance has identified increasing pressure for such initiatives to legitimate themselves by reference to democratic norms of participation and accountability. The paper advances these debates by drawing on an extensive database on Transnational Climate Change Governance. In the data collected on TCCG, however, democracy plays only a minor part in the legitimation of these initiatives. Rather, dominant legitimating narratives have been around discourses of market creation, efficiency, expertise, and a focus on learning. We ask whether, how and why over time these initiatives gradually face pressure to become more democratic or whether alternative requirements for legitimacy continue to dominate. We test the hypothesis that democratic legitimating discourse and practice arise because of the heightened profile and "publicness" of such initiatives and expectations around democracy generated by broader affected communities or of national or international institutions with which they interact. Conversely, if we find an absence of democracy, we ask whether that absence can be similarly explained by alternative expectations of affected communities and national and international institutions, or owing to alternative discourses and/or power relationships specifically around transnational climate change governance that favour alternative legitimating criteria.
Multi-level Governance and the Quest for Sustainable Development

Chair: Olav Schram Stokke, 
Fridtjof Nansen Institute, Norway

This panel explores how the quest for sustainable development is embedded in a complex system of multi-level governance, from the local to the regional to the global. In particular, the papers scrutinize the way in which global norms and local context interact in the field of forest certification, the way adaptation is governed at multiple levels and how old and new institutions overlap in the governance of forestry in Central Europe.

The panel is organized by COST Action “Transformation of Global Environmental Governance: Risks and Opportunities”.

Adapting to adaptation: increasing the gap between levels of governance?

Marc Hufty, Morgan Scoville-Simonds, Hameedullah Jamali
Graduate Institute of International and Development Studies, Geneva, Switzerland

Adaptation to climate change aims at reducing the vulnerability and improving the resilience of societies confronted to negative impacts such as drought, floods, landslides, loss of biodiversity, etc. Given the present limits of mitigation (suppressing the sources of carbon emissions) adaptation has become one of the international community’s major response to global change. Most of the programs and funding mechanisms ultimately focus on local communities and especially governance processes. As climate change is not immediately perceptible for most people (they have to be told that negative events are related to climate change), this research assumes that societies adapt primarily to discourses on climate change (what they are being told by experts) and to policies associated with those discourses (funding mechanisms) than to climate change itself. Discourses and policies reflect the way climate change and adaptation is conceived at the international and national levels rather than local preoccupation. The more marginalized people are in political, economic and ecological terms, the more so. There is therefore an increasing risk of creating a gap between different levels of governance, making the resources dedicated to adaptation ineffective, and perpetuating an unjust “earth system governance”. ‘Adapting to adaptation’ refers to how local governance processes and institutions respond or ‘adapt’ to adaptation policies and discourses, an almost unexplored area of environmental governance. Drawing on tested methodologies and approaches, our aim is to understand this process by comparing cases in 3 countries: Switzerland, Peru, and Pakistan. This paper presents our research results after one year.
Making and taking forest management principles in Finland - Universal models and national context

Eero Palmujioki¹, Philipp Pattberg²
¹University of Tampere, Tampere, Finland, ²VU University of Amsterdam, Amsterdam, The Netherlands

This paper discusses how universal models of governance have been implemented at the national level. ‘Universal model’ refers to social, economic, and political practices that have been adapted and sometimes formulated universally. These models may be established by international conventions or the agreements that are a central part of them. The paper pays attention to an expanding forest management model, forest certification, which has strong international dimensions. It studies how the formulation of the national application of the sustainable forest principles has developed in Finland, examining the case of two competing forest certification schemes - PEFC and FSC. The case of Finland is particularly interesting, as the forest sector has been a key sector in the industrialization of Finland and it still plays an important role in the national economy. The paper examines how these principles have been shaped on the one hand during the interaction of different players, and on the other hand in the competition between two competing schemes in order to gain legitimacy among consumers, producers and forest owners. We scrutinize how the PEFC has tried to preserve its place as the dominating forest certification scheme in Finland, and how the FSC strives for acceptance among the Finnish forest industry and forest owners. The empirical data of the study consist both of the documents made in the certification process between the stakeholders and interviews of the key actors and stakeholders in these schemes.

Robustness, vulnerability and adaptive capacity of long surviving traditional forestry institutions in central Europe

Veronika Chobotova, Tatiana Kluvankova-Oravska
Institute for Forecasting, Bratislava, Slovakia

This paper concentrates on the analyses of historical forest common property regime in central Europe – called ‘Urbars’ - that transformed into the present forest governance structure after 40 years interruption during socialism. The political transformation and changes in property rights structure has created the opportunity for forestry owners to re-establish their traditional management practices. However emergence of market and increased market demand for timber may affect the robustness and vulnerability of those historical regimes. Based on common pool resource experiments and field research (focus group discussions and in depth interviews) collected with forest actors in nature protected areas we argue that ‘Urbars’ can be seen as long surviving institutions for sustainable forest management under the market and democratic regime. In this paper some recommendations offered to enhance the robustness of SES in order to mitigate the consequences of the emergence of the market regime.

To analyze the changes occurring in our study, we used the conceptual robustness framework. This framework establishes the interrelationship between four main components of SES: resource, resource users, public infrastructure providers and public infrastructures. Resource users and public infrastructure providers are human-based. Public infrastructure includes physical infrastructures and
social capital (i.e., institutional rules). The links between the components represent environmental and social disturbances. The vulnerabilities of SES to the emergence of new regimes derive from the internal components of the systems (public infrastructure providers, social capital and resource characteristics) and those beyond the system through the appearance of new external disturbances.
Toward accountable governance at national levels

Chair: Jamil Khan
Lund Institute of Technology, Sweden

Governing the Low-Carbon Transition: Which Roles for the Various Actors?

Sebastian Duwe
Freie Universität Berlin, Berlin, Germany

Many actors from various parts of society participate in the transition to a low-carbon economy of a nation-state. This raises the question how to incorporate them in a functional governance regime. Nowadays, the state remains a central actor, but civil society and the private sector play an increasingly important role. This is meant to increase the legitimacy of the process as well as the acceptance for decisions. However, no blueprint exists how these governance regimes are designed. While it depends on the implemented political structure and culture of a nation, the literature offers lessons how to structure this deliberative decision. This review paper surveys the current political science and sociological literature on how to incorporate civil society, business and state actors in a low-carbon transition. It analyses each category of actors (public, private and civil society) individually and maps out hybrid regimes which combine them. The paper stresses that a strong state that adopts ecological issues as a core issue is key to establishing environmentally-friendly governance. Otherwise pressure groups of polluting businesses might dominate the public discourse. The danger that arises is that a more deliberative decision making weakens the democratic legitimacy as it empowers already powerful pressure groups. This would be the opposite of what was envisioned. The paper concludes that currently implemented instruments increase the legitimacy and acceptance of decisions, but it must be ensured that they are not abused by the profiteers of the current regime. Recommendations are given which role each actor group should play.

Building a democratic uranium development strategy in Saskatchewan, Canada

Margot Hurlbert
University of Regina, Regina, Sk, Canada

In 2008 the province of Saskatchewan, Canada pursued a uranium development strategy and resulting nuclear power generating plan. Three multi-stakeholder processes were used in relation to this strategy. The original strategy was prepared by a dozen key government selected stakeholders tasked with pursuing the value of uranium for the province. The strategy included expanding medical research related to uranium, supporting consultation for a siting process for a long term repository of used fuel management facility, and creating a center of excellence in nuclear research and training. The most controversial recommendation included the potential for a large nuclear plant to supply future Saskatchewan energy needs. Upon release of this strategy a province wide
consultation concerning the strategy was held. Finally a committee of the Saskatchewan legislature was tasked with assessing how Saskatchewan’s future energy needs should be met.

Based on a discourse analysis of submissions made within the consultation process, a review of the perceptions of the public consultation participants surrounding the legitimacy and accountability of the initial stakeholder strategy and public consultation process is provided. A review is made of the practices associated with the multi-stakeholder processes (including information disclosure and disclosure of the purpose and outcomes of the multi-stakeholder consultation). Consequences of the practices associated with the development of the strategy, consultations, and legislative committee are outlined and an analysis of the effectiveness and participation quality of the multi-stakeholder processes made.

Sub-national governance: reducing the climate impact of cars

Karen Anderton  
*University of Oxford, Oxford, OXON, UK*

This research is an examination of inter-departmental collaboration to address climate change at the sub-national (state) government level, as well as that between levels (local, state, national) of government. It investigates the development and implementation processes at play in delivering policies to address transport-related climate change. Research investigating the effectiveness of efforts to reduce transport emissions based on the policy content abounds. Therefore, this paper is not concerned with the ‘what’ – the substance of policies designed to reduce transport emissions; but the ‘how’ – policy design, development and implementation – and the ‘who’ is involved in decision making and has ultimate responsibility. Considering 4 distinct themes (scale, scope, leadership/power and process) as well as the barriers faced, this paper highlights the major outcomes from an international comparative study examining four state governments (Bavaria, California, Scotland and South Australia) that have pronounced themselves to be ‘leaders’ on climate change. Whether this leadership extends to transport policy is a central consideration. Grounded in cross-disciplinary governance theory, the research takes one policy to reduce GHG emissions from cars in each context and develops the concept of ‘sub-national governance’ to evolve the notion that each level of government has a specific role to play and distinct relationships with the ‘middle’ tier of government. It highlights that ideas of policy diffusion from either ‘top down’ or ‘bottom up’ perspectives do not reflect the complex reality and furthermore examines the presupposition that transport-related climate change policy depends on horizontal and vertical interaction to succeed.

Manoeuvres for a Low Carbon State in India: Identifying Agency, Authority and Accountability in Governance of Clean Energy Development

Ashwini Swain  
*Independent Researcher, Delhi, India*

More recently, India has been claiming to undertake a transition to a low carbon electricity sector. This alleged transition comes as a response to a range of competing agendas and simultaneous constraints in energising development without compromising the climate. The transition is based on two strategies involving renewable energy development and promotion of energy efficiency. India has been following a ‘market-plus’ approach based on the narrative of co-benefit. Consequently, a
set of new actors have emerged to implement these strategies and gain from it. These actors are not confined to lobbying and advising national government in creation and implementation of rules; rather, they frequently become agents of change in that they substantively participate in and/or set their own rules related to clean energy development. In this paper, I aim to identify these agents of change and their authority and accountability within the clean energy governance structure. How these agents contribute to implementation of strategies for clean energy development? How their existence contributes to Indian’s capability to reduce GHG emission? By focusing on the role of agency, authority and accountability in governance of clean energy, this paper will unpack the neglected question of what forms of state capacity and political strategy are needed to pursue climate mitigation measures within Indian energy sector. The findings of the paper will be useful to determine what form of state capacity and political strategy are needed to pursue climate mitigation goals sector and how to strengthen the existing state capacity and political strategies.
Session B7

Development of Governance for the Commons

Chair: Kristina Jönsson
Lund University, Sweden

Towards cooperative regionalisation: a reformist proposal for improving the global governance of sustainable development

Hannes R. Stephan
Lund University, Lund, Sweden

Many of the global environmental assessments published over the last decade depict a variety of possible future world orders. Each of these scenarios has specific implications for the global governance of sustainable development. This paper critically reviews the conceptual plausibility of such scenarios, using illustrations from both climate change and biodiversity governance. It finds that globalisation and regionalisation represent the scenarios most closely associated with the prevailing structural trends in world politics. Globalist perspectives tend to focus on technological innovation, competitive market mechanisms and informational governance - often in connection with transnational actors and processes of social learning. Regionalist (and state-centric) approaches emphasise the continuing importance of territorialised political power within an emerging multi-polar world order. This analysis also helps to explain why the motto of the Rio+20 summit highlights both 'green growth' and sustainable development. The former represents the (often market-driven) pursuit of ecological modernisation on a global scale, while the latter’s more integrated conception of human progress equally depends on pro-active steering by national governments and supranational bodies. Improving sustainable development governance by strengthening its equity and legitimacy dimensions requires a more inclusive, representative and responsive nature of global institutions. Yet, current globalising trends reflect both a proliferation of actors and an accentuated hierarchy among states. The paper concludes that moving towards greater (cooperative) regionalisation would contribute to more balanced political interactions - without necessarily eliminating economic and ecological interdependence between regions. Such regionalisation may thus increase the effectiveness, equity, and legitimacy of global governance for sustainable development.

From Local to Global Commons: Applying Ostrom’s Key Principles for Sustainable Governance

Valnora Leister, Mark Frazier
Openworld, Inc, Dayton, Virginia, USA

This paper explores a possible new local-to-global system for the equitable governance of the “common pool resources.” As normally understood, the “Commons” refers to resources that are owned or shared among communities. Such resources (forests, fisheries, etc.) when located within
national boundaries are subject to that country’s laws. Areas beyond national jurisdiction, including the high-seas, Antarctica, the ocean sea-bed, outer space and the Earth’s environment, are known as “Common Heritage of Mankind” (CHM) and subject to Public International Law (PIL). The object and subject of traditional PIL is the nation-state. However, since the 1972 Conference for the Human Environment, individuals and Non-Governmental Organizations (NGO’s) have been legally recognized under PIL as having direct responsibility for protection of the global environment, by working for transparency and accountability in its management. With this opening for direct participation by individuals and NGOs in working for sustainable management of the global Commons, it may be now feasible to extend the precedents identified by Elinor Ostrom for successful economic governance of local common pool resources to wider CMH areas. A recently developed legal concept – nondominion – offers a framework for recognizing user rights toward this end. Combining Ostrom’s principles with this new approach for shared use of the Commons, promises to give a more solid legal grounding for the 5 “As” (Architecture, Adaptiveness, Accountability, Allocation and Access) in the governance of the global commons for the benefit of humanity.

The Sustainability Challenge to Justice and Fairness in Access and Allocation of Fisheries in South Africa

Ngeta Kabiri
*University of Cape Town, Cape Town, South Africa*

The apartheid regime bequeathed South Africa a legacy of inequity in access and allocation of fisheries. The post-apartheid dispensation formulated appropriate institutions to remedy this legacy. Despite this initiative, marginalization in fisheries still persists. The persistence of claims of injustice and unfairness in access and allocation of fisheries by the South African poor amidst appropriate legal instruments for redress, and a reputation for the rule of law, is puzzling. Literature suggests that balancing the place of the fisheries sector in the political economy of South Africa and considerations of ecological sustainability largely accounts for this variance between policy intentions and outcome. But for a democratic polity, this raises further questions of how the causal process plays out. Why has the resolution of this challenge been against the interests of local communities and not industry?[Unlike Zimbabwe’s land question] This study analyzes how the ecological sustainability argument is deployed to sustain the privileges of industry and impedes the application of institutions meant to redress the imbalances of the past in terms of access and allocation of fisheries. It seems the poor are treated unfairly to be fair to the earth. Because at the centre of this debate is the question of preferences of various actors and how institutions of governance are appropriated by these actors, an actor-centered institutional framework will be used to both procure and analyze primary and secondary data.
A Preliminary Assessment of Living Marine Resources Governance in the Wider Caribbean Region

Alexcia Cooke¹, Lucia Fanning², Robin Mahon¹, Patrick McConney¹
¹Centre for Resource Management and Environmental Studies (CERMES), University of the West Indies, Cave Hill, Barbados, ²Marine Affairs Program, Dalhousie University, Halifax, Nova Scotia, Canada

Living marine resources are important to the people of the Caribbean from a social, cultural, economic and ecological perspective. They play a significant role in fisheries and tourism activities by providing food and employment for the people in the region. These resources however are known to be transboundary and impacted from overexploitation and degradation of marine habitats. Responsibility for regional issues of governance of living marine resources in the Wider Caribbean Region (WCR) is currently distributed among many organizations. This organizational complexity raises governance questions related to how well transboundary living marine resource issues are addressed. Key among those include: Are the key transboundary issues such as pollution, over-exploitation, habitat degradation and climate change represented in the current regional governance architecture in the WCR? Are there organisational overlaps or gaps? Do the existing interactions among organizations promote or hinder effective governance? This presentation will discuss the current context for regional governance of living marine resources in the WCR by: Identifying regional organizations involved in living marine resource governance and assessing their stated mandates and actual functions relative to transboundary issues; Identifying gaps and overlaps in the regional governance architecture; Analyzing interactions through network analysis.

This research contributes to the on-going governance initiatives of the Caribbean Large Marine Ecosystem (CLME) Project - the CLME and its adjacent region, the North Brazil Shelf.
Session B8

Ethics and Ownership in Biodiversity Conservation

Chair: NN

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Facing the Mystery of Life: A Phenomenological Contribution to the Ethics of Biodiversity Preservation

Anders Melin

Global political studies, Malmö University, Malmö, Sweden

Surveys have shown that it is a common moral intuition, at least within developed countries, that humans have a moral obligation to preserve threatened species for their own sake, and not only as a resource for humans. The majority of the attempts to justify this moral intuition within the ethical debate can be categorized as either biocentric or ecocentric. According to biocentrism individual living beings ought to be taken into account for their own sake, while ecocentric ethicists claim that also collective entities such as species should be taken into account for their own sake. However, there are serious problems with both the biocentric and the ecocentric attempts to justify the moral intuition that species should be protected for their own sake. As for biocentrism, the sole focus on individuals makes it difficult to justify the prioritization of individuals belonging to threatened species. As for ecocentrism, the realization that species are human constructions in the sense that it is humans who decide how living beings should be categorized into species makes it difficult to claim that species have moral interests. In this paper it is argued that a more promising attempt to justify the moral intuition that threatened species should be protected is by assuming that humans have a moral duty to limit their interference with the development of life on earth. This paper will attempt to justify this assumption by making use of insights from phenomenological philosophy, mainly the philosophical biology of Hans Jonas and the ethics of Emmanuel Levinas.

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The moral evaluation of environmental rule systems

Karl Christoph Reinmuth

Department of Philosophy, University of Flensburg, Flensburg, Germany, Department of Philosophy, University of Greifswald, Greifswald, Germany

My presentation will be focused on the question of how the moral quality of environmental rule systems can be examined by use of a theory of sustainability. The moral quality of rule systems can be examined in different ways and I want to focus on two philosophically prominent ways: A rule system has a high moral quality if the rules of the system are justified (in the sense that the rules are adequate means for morally desired goals) or if they are argumentatively well-founded. So for the moral evaluation of rule systems one needs a criterion for appraisal which provides the goals and the moral premises. I want to show how the examination of the moral quality of different environmental rule systems works using the ‘Theory of Strong Sustainability’ as developed by Konrad Ott and Ralf Döring. To achieve this I will first deal with several philosophically disputed preliminarily decisions
related to this approach, for example the clarification of the terms ‘rule’ and ‘norm system’ or the question whether rules can be derived at all or in which sense they are means for achieving certain goals. In a second step I will present the two different ways of examining the moral quality of rule systems, e.g. the moral justification and the moral argumentative substantiation. Following that I will outline the main aspects of the aforementioned sustainability approach. Finally I will illustrate the evaluation of the moral quality of rule systems using some examples of environmental rule systems.

Scalar practices and environmental justice in biodiversity governance: Evidence from Greece and Finland

Evangelia Apostolopoulou¹, Riikka Paloniemi²
¹School of Biology, Department of Ecology, Aristotle University of Thessaloniki, Thessaloniki, Greece, ²Environmental Policy Centre, Finnish Environment Institute (SYKE), Helsinki, Finland

Biodiversity governance involves multiple scales by linking different geographical, ecological, economic and socio-political phenomena. By engaging with the literatures concerning political geography, political ecology and human-environment relationships, we explore how issues of environmental justice are woven into scalar practices by analyzing stakeholders’ scales framings concerning conservation practices. We build our argument on theories of flat ontology, hierarchies and networks and use evidence from eight focus groups conducted in Greece and Finland and from desk studies of relevant laws, strategies and reports. We found out that both aspects of networks and hierarchies occur in complex dialectic interrelationships between stakeholders’ scalar practices, as socially constructed and politically contested processes, and the material outcomes of them. The identification of scales framings revealed how actors behave strategically by scaling conservation issues to either claim or reject responsibility in a particular situation, establish lines of exclusion and inclusion, or obtain access both to natural resources and governance processes. Similarly, stakeholders often contest dominant scalar configurations by either “jumping” existent levels or creating scales in a way beneficial for their own positions, networks and interests. In the context of changing policy and socio-ecological conditions and scales, scalar practices directly relate to environmental justice. They shape the spatial-temporal allocation of conservation costs and benefits influencing the adaptive capacities of social groups to respond to environmental change.
Session C1

Assessments, Visions and Dialogues

Chair: Ruben Zondervan

*Earth System Governance Project, and Lund University, Sweden*

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**Exploring the impact of the IPCC Assessment Reports on science**

Eleftheria Vasileiadou¹, Gaston Heimeriks², Arthur Petersen³

¹IVM, VU University, Amsterdam, The Netherlands, ²Copernicus Institute, Utrecht University, Utrecht, The Netherlands, ³PBL Netherlands Environmental Assessment Agency, the Hague, The Netherlands

Even though critique to IPCC is certainly not new, the climate controversies of 2009 and 2010 brought this critique again to the fore in public media. The paper contributes to this ongoing debate, and investigates empirically the impact of IPCC on science. Even though the role of the IPCC has been so prominent in societal and policy debates, we have no clear understanding of its impact on the field of climate science itself, or on other scientific fields. There have been only few critical voices warning against the growing epistemological influence of the IPCC, as the only spokesperson for climate change, without systematic empirical research. We study the impact of the four Assessment Reports of the IPCC on scientific publications and science, through scientometric analyses of cited references to IPCC reports. The results indicate, among other things, that the aggregate impact of IPCC reports on scientific publications has increased through each consecutive assessment report, independently from the increase of the climate change field, showing a pattern which suggests that the references are quite generic. Both disciplinary distribution and geographical distribution of the impact of the reports are skewed, the former towards geophysical sciences, the latter towards western/developed countries. However, this skewness is decreasing over time, as the impact on non-geophysical sciences and non-western countries is increasing faster. Given the increasing impact further away from the climate change field, it is important that the IPCC becomes more transparent about its internal processes and main conclusions.

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**Visioning Transformative Sustainability Governance: A Result from World Café Exercise**

Norichika Kanie¹, Michele Betsili³

¹Tokyo Institute of Technology, Tokyo, Japan, ²United Nations University Institute of Advanced Studies, Kanagawa, Japan, ³Colorado State University, Colorado, USA

The institutional framework for sustainable development (IFSD) is one of two major topics to be tabled for discussion for the Rio+20 Conference. There are a number of proposals discussed to date on IFSD both scholarly and politically, but the political discussion regarding “how” to reform has been stalled as in case of many recent practices of global negotiations such as UNFCCC COP15 and CSD19. A reason for this is a growing gap between the UN institutions and political reality on sustainable
development issues. The current system governing sustainable development is no longer sufficient given the number, impact, interdependence and complexity of problems associated with global change. Tackling such a gap requires a transformative reform of governance. This paper presents the result of a World Café exercise, called Hakone Vision Factory, involving academic experts and policy makers to deal with the issue. The workshop participants identified visions required for a transformative governance reform for sustainability, and concluded that governance for sustainability in the era of "anthropocene" requires that objectives, underlying values and norms, as well as knowledge and uncertainty be refined and operationalized. In addition, governance for sustainability demands the broadening of meaningful and accountable participation and solutions from people for people. Finally, the architecture for sustainability governance needs to be re-built to include better integration, as well as improved institutions and decision-making mechanisms. After elaborating on these issues, the paper calls for further consideration of a sustainable development council in political process, which hopefully starts at Rio+20.

Global Scientific Assessments and Governance: Towards a Science-Policy Interface Ladder

Joyeeta Gupta

VU University Amsterdam, Amsterdam, The Netherlands, UNESCO-IHE, Delft, The Netherlands

While in the past, global governance and especially international legal agreements attempted to harmonize existing state practice, in the latter half of the 20th century, science began to play an increasingly more important role in influencing governance processes. However, the routes by which epistemic communities communicate with governance processes differ from regime to regime. Using a methodological framework covering the nature of the problem, governance, scientific assessments and the science-policy interface, this paper analyses the patterns of science-policy interface in (a) climate change governance and the Intergovernmental Panel on Climate Change, (b) forest governance and forest related research work, (c) environmental governance and the Global Environmental Outlook, and (d) water governance and the World Water Development Report. The institutionalization of science is different in each of these arenas, ranging from very institutionalized and bureaucratized to informal and ad hoc. Based on an assessment of these arenas, the paper tries to discern patterns of relationships and presents a hierarchical 'science-policy interface ladder' with eight rungs. It then assesses the analytical implications of this ladder.
Session C2

Complexity and MEAs

Chair: Fariborz Zelli
Lund University, Sweden

Managing the Global Chemicals Regime Complex

Nils Simon
Freie Universität Berlin, Berlin, Germany, German Institute for International and Security Affairs, Berlin, Germany

In recent years, scholars of international relations in general and environmental governance in particular have increasingly focused their attention towards so-called regime complexes. While the existence of such entangled webs of institutional arrangements governing a particular issue area is widely acknowledged nowadays, relatively little research has focused on the dynamics within these complexes. Usually critique levelled against international environmental governance takes issue with its immense complexity, leading to unnecessary duplication of work and thereby inefficient use of resources. Regime complexity as a social scientific concept, it appears, offers little more than a designation for a detrimental way of organizing multilateral relations. Against this preconception, I argue that the development of regime complexes is characterised by conscious decisions on the level of governments and international organizations (IO), following the intention to actively manage institutional interplay, and leading to a distinct division of labour between the institutions involved. To identify national governments and international organizations as the primary actors who influence interplay management. Together with reviewing literature on organizations dealing with chemicals, including OECD, UNEP, FAO, WHO, and ILO, and accounts on treaty negotiations, I employ a web-based survey and expert interviews on the level of individuals working in governments and IOs. Thereby, I show that during its developmental stages the global chemicals regime complex is being designed in a more functional and more rational way than previously assumed, featuring a division of labour among elemental regimes along the lines of particular issue areas, governance functions, and spatial boundaries.

Global Governance of Biofuels for Transport: Viewpoints of Key Stakeholders?

Stewart Fast¹, Kes McCormick², Jeff McKinnon²
¹Department of Geography, Ottawa University, Canada, ²IIIEE, Lund University, Sweden

In the context of the emerging bioeconomy, the use of biofuels for transport is expanding rapidly around the world. This development presents both exciting opportunities and significant risks. The implications of different production chains and the international trade of biofuels is attracting interest from a range of stakeholders across government, industry, society and academia. This paper argues that the governance of biofuels clearly demands critical attention. The purpose of this paper is to identify and discuss the key challenges facing the global governance of biofuels for transport and
ways forward. This paper is based on a literature review and questionnaires completed by global actors promoting bioenergy, including the World Bioenergy Association, the Global Bioenergy Partnership, the International Energy Agency, and the International Renewable Energy Agency as well as environmental organizations, including Greenpeace, Friends of the Earth, World Wide Fund for Nature, and Birdlife International. This paper explores the governance of biofuels for transport through the analytical problems defined by the Earth System Governance Project, which encompass architecture, agency, addictiveness, accountability, and allocation and access. With the analytical problems as a foundation, this paper draws out the issues of political legitimacy and engagement of key stakeholders in shaping the global governance of biofuels for transport. The interactions between the analytical problems and the importance of multi-sector, multi-level and multi-actor governance for biofuels are discussed in this paper.

Institutional Complexity and Interplay Management: Compatibility and Change in Global Governance.

Sebastian Oberthür¹, Olav Schram Stokke²
¹Institute for European Studies, Vrije Universiteit Brussel, Brussels, Belgium, ²Fridtjof Nansen Institute, Lysaker/Oslo, Norway

In this paper we argue that the compatibility between the elemental regimes of institutional complexes may vary and results from processes of (collective) interplay management by states and other regime participants who make conscious efforts to address and improve institutional interaction. Our attention to interplay management implies a focus on the governability of institutional complexes. Most prominent existing approaches have either conceptualized institutional complexes as social systems with the elemental institutions as units of analysis or have focused on consequences of institutional complexity for actors and their options and political strategies for realizing their individual interests. In contrast, our conceptual framework systematically accounts for both actor-level and system-level conditions of interplay management shaping inter-institutional compatibility. We first discuss the key concepts of institutional complexity and interplay management and how they may affect inter-institutional compatibility. On that basis, we build an explanatory model that combines properties of the actor system - notably issue malignancy and distribution of power - and characteristics of the normative system, especially its decision-making rules, existing commitments and the pre-existing level of compatibility. We substantiate our argument empirically with reference to several regime complexes, including those in the areas of trade, climate, fisheries, biodiversity, shipping, and the Arctic.

Solving the global mercury problem: Why negotiating a new Convention?

Kristin Rosendal, Jon Birger Skjærseth
The Fridtjof Nansen Institute, Lysaker, Akershus, Norway

This paper explores the following puzzle: Why did the UNEP Governing Council decide to negotiate a new global mercury convention in 2009 when a number of global and regional treaties already existed? In 2009 significant disagreement on whether existing treaties or voluntary approaches would suffice to deal with the problem was ended by an agreement to go for a new global convention. Three explanations, rooted in different strands of IR theory, international organizations,
regime interaction and actor interests, are investigated. First, existing treaties were insufficient. Second, UNEP pushed a legally binding approach for organizational reasons to strengthen its own position. Finally, key actors changed their position on the issue. The results shows that all the explanatory factors have some merit. Existing conventions were insufficient to deal with all aspects of the problem, but a new protocol could have been negotiated under the Stockholm Convention. However, this would reduce the role of UNEP which had strong vested interests in the issue. The key underlying factor was a change in the US position as a result of the Obama administration entered the White House in January 2009.
Modes and challenges of addressing barriers to climate adaptation under the UNFCCC

Christoph Oberlack¹, Klaus Eisenack²
¹University of Freiburg, Freiburg, Germany, ²University of Oldenburg, Oldenburg, Germany

Under the UNFCCC a regime is emerging to enhance international cooperation on climate change adaptation. One of the multiple challenges is the institutional design of channels for facilitating adaptation at local, national and regional governance levels. It largely remains unclear yet which of these can be expected to lead to successful adaptation. Persistent barriers at multiple governance levels may impede the process of adaptation or lead to highly inequitable outcomes. Although such barriers are frequently claimed to exist, their properties and how they might be addressed through adaptation governance are not thoroughly understood. Our paper aims to address this by identifying barriers that may be approached by international cooperation and by analysing how a UNFCCC adaptation regime may enhance action and develop adaptive capacity in developing countries. We proceed by systematically taking stock of the current UNFCCC adaptation regime based on a document study to identify channels for international adaptation governance. These governance arrangements are assessed against a precise, empirically grounded diagnostic framework that characterizes barriers to adaptation at local, national and regional levels. We find that the emerging UNFCCC adaptation regime comprises arrangements in the channels of adaptation finance, learning processes, institutional development, insurance and technology transfer. Major barriers include resource constraints; poverty and exclusion; lack of climate-related mental models; and missing or uncertain information. Overall, in order to translate into reduced vulnerability at local levels most of the current UNFCCC adaptation arrangements need further development accompanied by reforms of institutions and policies at lower governance levels.

Justice and legitimacy in allocating adaptation resources

Johannes Stripple¹, Göran Duus-Otterström²
¹Dept of Political Science, Lund University, Sweden, ²Dept of Political Science, Gothenburg University, Sweden

This paper deals with the central, but so far neglected, question of how to allocate the resources for adaptation in a fair and legitimate way. There are, in the scholarly literature, few well thought-out answers to questions such as: who is principally entitled to adaptation means – states, regions, municipalities or perhaps even single agents? According to which distributional principles should actors be entitled in the first place – according to need, vulnerability, utility or perhaps even desert? Furthermore, while it is one thing to identify the principle that ought to guide the allocation of
adaptation resources, it is another thing whether a recipient of the resources endorses that principle. Thus, adaptation also raises profound questions of legitimacy – the extent to which the recipient of adaptation resources consents to or endorses (directly or indirectly) the way in which the resources are allocated. The paper first assess the most likely principles of justice for allocating adaptation resources and then proceeds to illustrate the potential conflicts between justice and legitimacy by surveying different sites of global adaptation governance, including the Green Climate Fund, the Cancun Adaptation Framework and the use and design of so called NAPAs. We argue that while the allocation of adaptation resources should meet requirements of both justice and legitimacy, those requirements might pull in different directions. The post-Copenhagen situation (understood as an increasing fragmentation the global climate policy architecture) exacerbates the legitimacy problem, as there are less clear political mandates for adaptation allocation.

Social justice and adaptation in the UK

Magnus Benzie
Stockholm Environment Institute, Stockholm, Sweden

Assessments of the distribution of climate impacts across social groups within countries have so far been lacking. Adaptation strategies therefore generally do not offer protection to the most vulnerable people in society and may even heighten vulnerability or disadvantage for some groups. This is largely the result of the tools used by decision makers to assess climate risks and identify adaptation priorities. The paper will draw on primary research work that was undertaken as part of the Joseph Rowntree Foundation's Climate Change and Social Justice Programme in the UK. The social nature of vulnerability to climate change will be examined through analyses of coastal (Fernandez-Bilbao et al, 2011) and pluvial (Houston et al, forthcoming) flooding. The development of a socio-spatial index of vulnerability (Lindley et al, 2011) will be used to further articulate these social justice issues. Case studies of vulnerability to heat (heatwave planning) and drought (water pricing) adaptations (Benzie et al, 2011) will be used to explore the role of ‘adaptation’ in reducing or exacerbating vulnerability. Complementing these insights, work on the distributional impacts of mitigation policies and public attitudes to fairness will be used to summarise the implications for the governance of adaptation. In conclusion, the potential for alternative methods and tools for assessing vulnerability to climate change will be explored and the implications for stakeholders, policy and the use of science will be noted.

Sustainable development and climate change governance in Latin America: conceptual contributions from the Institutional Economics School

Verónica Gutman, Martina Chidiak
Buenos Aires University, Buenos Aires, Argentina

Traditionally, Economic theory has conceived environmental problems as efficiency dilemmas that could be solved either by optimization exercises or through game theory approaches. Therefore, most climate policy recommendations have been aimed at ‘fixing the right prices’ in order to make polluters internalize the social costs they impose to society. Nevertheless, climate change is too complex to be analyzed in this limited theoretical framework since it poses many simultaneous policy challenges, uncertainties and equity dilemmas. A more comprehensive approach is needed in
particular from a Latin American perspective, given its special configuration of political and institutional factors, economic development, natural resource dependence and high vulnerability to climate change. The Institutional Economics School can shed some light by helping understand how natural resources and their vulnerability to climate change create interdependence and conflict among users in resource dependent countries. In turn, this could be solved by creating and/or modifying environmental governance and institutions for sustainable development. This paper aims at analyzing the conceptual contributions of the Institutional Economics approach when defining and reviewing climate change governance in Latin America. Specifically, it will analyze the role of national governments (at all levels) and of supranational institutions in order to achieve regional development goals while complying with international climate architecture mandates and responding to adaptation needs. Firstly, it will identify the main environmental, economic, historical, political and ethical interdependences that governance institutions should tackle. Secondly, it will derive recommendations that follow from the Institutional Economics approach, keeping in mind Latin American local conditions and needs.
Session C4

Foundations for Deliberative Democracy in Environmental Governance

Chair: Hayley Stevenson, Sheffield University

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The Deliberative Person: Building the Foundations of Deliberative Democracy and the consequences for Earth Systems Governance

Simon Niemeyer

Australian National University, Canberra, Australia

This paper argues that the development of a deliberative system can be usefully informed by insights gained from the empirical study of minipublic deliberation, which, in turn, has implications for Earth Systems Governance under deliberative settings. It argues that the development of deliberative systems needs to keep an eye on not only the processes whereby arguments are articulated into outcomes; it is also necessary to account for way in which the system shapes and transforms the will of the public - usually expressed in terms of public opinion. The imperative for this approach is illustrated using the example of climate change, particularly in the Australian context, where effective action is very much connected to public opinion, which is itself shaped by the intervention of dominant actors in the public sphere. This raises the question regarding what minipublics can tell us about a ‘legitimate’ outcome that reflects a deliberative form of public will, as well as the sort of dispositions and capabilities required to achieve them. The paper goes on to argue that there is a need to develop an account of the ‘deliberative person’ at the heart of the deliberative system, drawing on economic theory as an illustrative example. While the overt rationalism ascribed to the idea of the economic person is rejected, the paper draws on tentative evidence to suggest what a ‘deliberative person’ that is grounded in empirical observation might look like. It then draws out the implications for the development of a deliberative system that is consistent with meeting major earth system governance challenges such as climate change.

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On the deliberative capacity of private multi-stakeholder governance: The roundtables on sustainable palm oil and responsible soy

Greetje Schouten1, Pieter Leroy2, Pieter Glasbergen1,3

1Utrecht University, Utrecht, The Netherlands, 2Radboud University, Nijmegen, The Netherlands, 3Maastricht University, Maastricht, The Netherlands

Recent decades have witnessed the rise of private governance initiatives addressing sustainability problems. Roundtables are examples of such initiatives and aim to improve the sustainability of an entire global commodity chain. In these multi-stakeholder platforms only private actors - businesses and NGOs - have decision-making power. Private governance arrangements have been discussed
from different vantage points, one of which focuses on their democratic credentials. One side of the debate regards these arrangements as part of a deliberative turn, as they include various stakeholders in their decision-making processes. In contrast, the other side disputes the democratic potential of multi-stakeholder arrangements, stating that while some groups may have privileged access, collaborations may focus on selective issues and discourses, and power asymmetries might result in colonization by certain actors. These two opposing positions in the debate reveal difficulties in measuring and analyzing democracy in private governance arrangements. Because many of these arrangements themselves emphasize their deliberative democratic rational, we find it useful to adopt the concept of deliberative capacity to analyze them. The main question of the paper is if the concept of deliberative capacity can help us to progress in the debate on the democratic potential of transnational governance. This paper applies the concept of deliberative capacity to two roundtables: the Roundtable on Sustainable Palm Oil and the Round Table on Responsible Soy. By means of a combination of methods, including discourse analyses, we show to what extent the communicative processes in these roundtables are inclusive, consequential and authentic (Dryzek, 2009).

Reforming Global Environmental Governance Through Deliberative Norm Building.

Walter Baber¹, Robert Bartlett²
¹California State University, Long Beach, CA, USA, ²University of Vermont, Burlington, VT, USA

Juristic democracy is an approach to improving and reforming global governance by establishing a fruitful means for creating and legitimizing transnational norms that can serve as the basis for a global common law (Baber and Bartlett, 2009, 2010). Juristic democracy presents a citizen jury with a concrete (but hypothetical) problem and asks it to come to a unanimous resolution of that problem. Then a substantial number of these deliberative outcomes are aggregated through a process of restatement into a description of the considered judgment of the population regarding the normative question underlying each hypothetical. The discursively constrained environment of the jury, and the neutrality resulting from the hypothetical nature of the case, allows ordinary citizens to contribute to collective will identification (or formation).

As a first step in modeling this process, we present and analyze early results from repeat citizen juries (in the United States, Italy, and Russia) which were invited to adjudicate three hypothetical cases of potential normative conflict in global environmental governance. These hypothetical cases involved the following issues: (1) responsibility for shared environmental impacts of development having vastly differential benefits; (2) the adequacy of informed consent as a regulative strategy for trade in hazardous materials; and (3) the appropriateness of alternative regulatory schemes for allocating risks and benefits from differential transboundary pollution of a common resource.
Session C5

Participation and Transparency in Transnational Sustainability Governance

Chair: Frank Biermann
VU University Amsterdam, The Netherlands, and Lund University, Sweden

This panel analyzes the role and relevance of participation and transparency in transnational sustainability governance. Papers scrutinize the practice of disclosure as a means to foster social learning within and across certification schemes, participation as a determinant of success in organic production and marine certification as well as lessons learned from using internet-based modes of participation.

The panel is organized by COST Action “Transformation of Global Environmental Governance: Risks and Opportunities”.

Learning through Disclosure: The Evolving Importance of Transparency in the Practice of Nonstate Certification

Graeme Auld¹, Lars Gulbrandsen²
¹Carleton University, Ottawa, Canada, ²Fridtjof Nansen Institute, Lysaker, Norway

Governance by disclosure has gained mainstream popularity as a means of social steering using the disinfectant power of information to improve the legitimacy and accountability of global governance. Set within these trends, certification programs-organized and coordinated by nonstate actors-exemplify efforts to encourage and control information flows to resolve environmental and social challenges within and beyond state boundaries. These initiatives have formed in numerous sectors attending to problems of labor exploitation, environmental degradation, and social injustice. The hope for some is that certification can be a tool for NGOs, investors, governments, and consumers to identify and support high performers, and hence, place upward pressure on sector-wide practices.

Building from an initial appraisal of the Marine Stewardship Council and the Forest Stewardship Council, this paper extends an initial analysis of the Marine Stewardship Council and the Forest Stewardship Council to other programs operating in the fisheries and forest sectors and assesses what the individual activities of nonstate certification programs mean for the practices that emerge in the growing field of private regulatory initiatives. Not unlike innovation in the knowledge economy, nonstate certification programs are generating new governance arrangements, mechanisms and norms which have broad value to collective efforts to manage earth systems. However, we argue, incomplete or uneven transparency within the community of nonstate certification programs presents problems for this collective model of innovation. This unevenness may mean certain programs are gaining from the experiences of others, without reciprocating with information about their own successes and failures.
Participation in private rule-setting organizations for sustainability: Does it matter for effectiveness?

Philipp Pattberg, Agni Kalfagianni
VU University Amsterdam, Amsterdam, The Netherlands

Global governance, from local to global levels, relies increasingly on private governance arrangements. Private actors, specifically corporations and civil society organizations, increasingly design, implement and monitor rules and standards that guide and prescribe behavior in a range of policy areas including sustainability, banking and international security, to name a few. Even though the involvement of private actors in global politics is not a new phenomenon, the creation of cooperative arrangements in the form of organizations that lead to private regulation is relatively novel. This paper focuses on private rule-setting organizations that have emerged in the global governance of sustainability. It starts from the observation that despite seemingly performing similar roles and functions, organizations differ both in terms of outputs they produce as well as rules of participation and decision-making. Accordingly, the paper evaluates whether organizations providing a more inclusive approach have different implications for the quality and relevance of rules. Hence, it aims to shed light on the way private rules and standards are decided and the associated implications, in view of their increasing role and relevance in sustainability governance. In more detail, we contend that there is no linear relation between democratic legitimacy and effectiveness. While inclusiveness and representativeness in the standard-setting process will likely lead to more stringent and comprehensive rules, those regulatory systems with high stringency will be the ones least taken up. Empirically, the paper illustrates its argument with a comparison of five private rule-setting organizations that have emerged in the global governance of fisheries sustainability.

E-Democracy at the Transnational Level: Innovation and Disillusionment in AccountAbility’s Second Wiki-Based Consultation Process

Oren Perez
Bar Ilan University, Faculty of Law, Ramat Gan, Israel

This article seeks to develop a better understanding of the limits and potential of the Internet to foster democratic processes by taking a closer look at a Wiki-based consultation process which was conducted by AccountAbility, a transnational NGO dealing with corporate responsibility and sustainable development, during 2009-2010. Theoretically, the article draws on nuanced approach to the question of the potential impact of ICTs on democratic processes, which steers away from technological determinism, and gives closer attention both to the micro details of the technological design and to the social dynamic in which e-democratic processes are embedded. This unique case study, which examines a real-life transnational e-democracy project, seeks to shed further light on the complex interaction between online and offline social deliberative processes. Looking closely at a real political process could generate insights that may not be available in more controlled experiments. The article’s first section offers some theoretical reflections and predictions regarding the use of wiki platforms to facilitate democratic deliberation. The second section examines the dynamic of AccountAbility’s consultation process. The empirical analysis includes a study of the Google analytics data-set of the Wiki’s website and a survey of the Wiki potential participants. The
The final section concludes with a theoretical discussion exploring the future use of wikis in transnational consultation processes and some policy recommendations.

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The necessity of organic production regulation: are public certification schemes better than private ones?

Ieva Misiune

Mykolas Romeris University, Vilnius, Lithuania

In recent years many private actors emerged in environmental governance. This appearance reveals itself in different forms one of which being certification and labelling schemes. However, some investigations exposed cases when the private certification and labelling schemes were not sufficiently transparent, reliable or effective. The focus of this research is on the organic certification and labelling schemes. Standardization of organic products has one unique element when compared to other schemes. In most developed countries private standards of the organic production have became marginalized by the successive development of public standards. This happened in the US, Japan, the EU and some other countries. The private schemes continue to exist alongside with the public ones. In this case the product can be certified against several standards which is costly and the effect of that is not well known. The case study of this research is the EU legal framework for the certification and labelling of organic production. EU regulations on organic production is an example of an attempt to impose legal control of voluntary actions. The main objective of this paper is to answer the question if governmental interruption is necessary and if legally controlled schemes can provide better legitimateness, credibleness and overall effectiveness. These three aspects are usually identified as main drawbacks of the private schemes.
Session C6

Allocation Policies

Chair: Turaj Faran  
*Lund University, Sweden*

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**Investigating the Resource Frontier of Green Capitalism: Capacity Building, Aid and the Entrance of Carbon Markets in Laos and Cambodia**

Mira Käkönen, Hanna Kaisti, Otto Bruun  
*Finland Futures Research Centre, University of Turku, Turku, Finland*

Different avenues for carbon offsets have been introduced to achieve flexibility and cost-efficiency in climate governance, producing a myriad of Kyoto and post-Kyoto mitigation projects in the developing world. In this paper we denote new carbon offset producing areas in developing countries as a ‘resource frontier’ of carbon markets in the framework of green capitalism. Official Development Assistance (ODA) seems to support the required institutions and regulatory bodies while assuring financial continuity. The paper analyses the creation of carbon offsets for voluntary and compliance markets via CDM, REDD+ and Voluntary Carbon Standards in Laos and Cambodia, focusing on energy and forests. Cambodia is cited as a CDM success story while both countries are enthusiastic early REDD+ starters. With regards to the production of offsets for carbon markets we ask 1) what kind of institution building takes place and on whose terms? 2) What kind of capacity is deemed necessary, who is building it and with what distributional outcomes? 3) How are internal and North-South power relations renegotiated? We argue that climate and development governance have become dynamically interlinked through carbon markets, with key effects for both fairness, ODA and climate governance. Capacity building efforts are at the center of this trend because they also alter the perceptions of justice and fairness of key actors in the South. The paper highlights some of the more invisible and power/knowledge related effects of climate governance. The paper is based on case studies from fieldwork in Laos and Cambodia in early 2011.

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**The impact of external funding agencies on regional environmental cooperation in the Southern Cone of South America**

Karen Siegel  
*University of Glasgow, Glasgow, UK*

So far the focus of research on environmental institutions has been mostly on global negotiations. Regional environmental cooperation has received relatively little attention and is dominated by studies of the EU or other regions made up fully or partly of countries of the global North. Yet, many environmental problems do not have global causes or consequences and it cannot be taken for granted that findings from studies of the North are also applicable to other regions. Based on extensive field research in Argentina, Brazil, Paraguay and Uruguay this paper examines regional environmental cooperation in the Southern Cone of South America. One of the main differences that emerged was the reliance on external funding agencies, such as UN agencies, development banks and national or EU cooperation agencies, for regional environmental cooperation. This adds an extra
layer of interests and international negotiations where agreements or compromises between all parties are necessary before it is possible to work on implementation. Moreover, it is difficult to achieve coherent and lasting implementation of policies if this is dependent to a great extent on development cooperation. The paper examines the role of external funding in three policy areas: protection of migratory species; sustainable production policies; and water in the Southern Cone of South America. It argues that the involvement of external funding agencies constitutes one of the main differences in comparison with regional environmental cooperation in the global North and needs to be taken into account in the design of policies.

The ‘Allocation Problem’ and Conceptualising Linkages in Earth System Governance

Paul Anderson
www.chapter5.org.uk, UK

Significant among perspectives on making economic practice sustainable are those of neoclassical economics and distributive justice. Environmental unsustainability is seen respectively as market failure due to inefficient resource-use distribution or as embodying conflicting claims over desired distributions of wanted goods and necessary harms which call for adjudication in light principles of justice. Both perspectives are limited by a tendency to downplay distributions of power. Significant among such distributions is that embodied in the way in which national communities address the ‘allocation problem’, that is, allocate both resource use within them and authority between them to determine domestic allocation. This prior allocation of key resource control and authority is critical. It determines which distributions are efficient and inefficient. It also influences the existence, level and distribution of goods and harms in so far as (i) economic practice is organised principally by the nature of key resource allocation by states and (ii) the scope (opportunities, difficulties) for collective action to arrest common problems, such as those which arise from domestic allocation, is characterised by the nature of territorial jurisdiction claimed by states. Consequently, concerns about the inefficient and unjust distribution of goods and harms (‘allocation’) ought to be situated within wider concerns about the distribution of power (‘accountability’, ‘agency’). The distribution of power ought in turn to be seen primarily as the result of ways in which the allocation problem is, and can be, addressed.


Session C7

Conflict and Cooperation across the North/South Divide

Chair: Katharine N. Farrell, Humboldt-Universität zu Berlin, Autonomous University of Barcelona, and Central European University

Green Growth as Field Frame

Lau Blaxekjær
University of Copenhagen, Copenhagen, Denmark

Green Growth is heralded as the panacea to the global climate change problem. Since 2008, UNEP (United Nations Environment Programme), The World Bank, IMF, OECD, APEC, G8 and G20, The EU Commission, Mexico, South Korea, and several major cities have published strategies in the name of Green Growth. However, there is no single definition or understanding of what Green Growth entails. Each actor presents different variations of Green Growth, and emphasises different aspects. They all agree on one thing, though: Growth and sustainable development are not mutually exclusive and is the way forward. Green Growth as a catch-all concept will nonetheless be challenged at the global Rio+20 Conference, where the main focus is on the green economy in the context of poverty eradication and sustainable development. Rio+20 seeks to establish an institutional framework for sustainable development. As is it now there seems to be a huge difference between, e.g. the EU's concept of Green Growth and the UN's concept, where the latter emphasises poverty eradication in the developing world, The EU Commission emphasises growth, job creation, and technological development within the EU countries. The paper answers the question of how we can understand and explain Green Growth globally and regionally. This is done through an application of a Bourdieu-inspired analysis, which reveals different regional fields of climate change governance within the global field. By understanding Green Growth as a specific field frame in different field, the different positions and power struggles between actors (within and between fields) can be explained.

The Role of Cognition in Global Climate Politics – Mapping Belief Systems and Emotions across the North-South Divide

Manjana Milkoreit
University of Waterloo, Waterloo, Canada

This paper argues that the rational choice paradigm, which has been dominant in past analysis of global political processes, has significant limitations. Building on a review of literature on international cooperation and recent insights in the field of cognitive sciences, this paper argues that a cognitive approach to is more fruitful because of its ability to integrate rationality with other cognitive processes. Demonstrating the potential utility of a cognitive approach to Earth Systems Governance, the paper applies a basic framework for cognitive analysis to global climate governance. It introduces cognitive-affective mapping as a tool to identify and visualize the concepts and emotions that drive national delegations in global climate negotiations, with a particular focus on
effective often the stronger than basic of change unknown. governance (2009) unilaterally, resources in work conflict a cause of friction between parties as it may aggravate the asymmetries between the sides in terms of power and issues of trust. Given the potential to have such contrary outcomes, we examine empirically whether uncertainties in a transboundary setting seem to promote or impede cooperation. Taking Arab-Israeli water agreements and subsequent negotiations as a case study, this work identifies which uncertainties policymakers address collectively, which they address unilaterally, and which they do not address at all. We also identify which mechanisms are used by the various parties involved to address uncertainties. We then evaluate their effect on potential conflict and cooperation. Our results indicate that social and political uncertainties play a much stronger role in water negotiations than do technical or physical uncertainties. The uncertainties are often situated outside the realm of water management and tend to detrimentally affect the chances to resolve water issues. Most of the indicators used indicate that, although partners often attempted to address uncertainties in a cooperative manner, the mechanisms proposed tended, themselves, to become a focal point for friction. Many of these mechanisms were procedural rather than clear and defined rules or outcomes. This open-ended approach creates its own uncertainties.

Global governance versus national sovereignty: the case of the extraterritorial impacts of biofuel policies

Mairon G. Bastos Lima, Joyeeta Gupta
VU University Amsterdam, Amsterdam, The Netherlands

Recent years have seen an explosive growth of biofuel production driven primarily by national - and, in the case of the EU, supranational - policies. Rationales for such policies have ranged from climate change mitigation to energy security and, especially in the case of developing countries, rural development. However, biofuel promotion has come under massive criticism due to its uncertain environmental and socio-economic consequences. This includes, importantly, issues of access to basic resources such as water and food and of allocation of benefits and burdens across groups, nations, and the North-South divide. Implicitly or explicitly, what have come into question are the extraterritorial impacts of biofuel policies and the right of countries to develop using their natural resources as they please. While the balance - or, often, the confrontation - between global governance efforts and national sovereignty is a recurrent debate, we argue that the biofuels case introduces new dimensions to this problematic. In particular, it can be asked to what extent it is
legitimate or even fair to attempt restrictions on how a country uses its land and agricultural production, whether for fuels or for food. It is in this context that this paper utilizes the topical case of biofuels to (a) take stock of the debate between global governance and national sovereignty, (b) examine the particular challenges posed by biofuel policies and their extraterritorial impacts, and (c) analyze and discuss to what extent it is fair and legitimate for global governance to play a role.
Session C8

Environmental Injustices - Power, People and Participation

Chair: Margot Hurlbert
University of Regina, Canada

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From Fukushima to Rio - lessons from ongoing efforts towards more just and equitable governance system

Hayato Kobayashi¹, Masahiro Sato²
¹University College London, London, UK, ²Kyoto University, Kyoto, Japan

Limited information disclosure about accidents at Fukushima daiichi nuclear power plant and a series of scandals that have erupted in the aftermath of the 2011 Tōhoku earthquake and tsunami demonstrate a serious fraud in the decision-making system of Japan. The lack of transparency and accountability has allowed "participatory" tools such as a town hall meeting to be captured by the industry promoting nuclear power. The fact that nuclear power plants and waste storage facilities concentrate in rural areas including Tōhoku represents the skewed power relations between Tokyo and the rest of Japan with serious environmental justice implications. The challenge is dire, yet the tragic disaster has created an opportunity for change. The disaster brings an issue of environmental justice that have long been ignored in Japan to light. Radioactive pollution triggered a debate of inter-generational fairness. And Japanese public are no longer so "obedient" and start to question what the government announces. There have been a number of efforts to improve governance from the bottom. Japan Voices project is one of such emerging processes that aims to contribute to the Rio+20 conference by taking stock of diverse views on sustainable future across Japan. Reconstruction planning increasingly adopts multi-stakeholder process with greater participation of civil society. The paper presents interim results of Japan Voices project and other emerging approaches and discusses key challenges and lessons based on ongoing efforts towards more just and equitable decision-making process and governance system in Japan.

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International Water Export and the Battle for Ocotillo Wells: an Examination of Transitivity Problems in the Provision of Environmental Justice

Stephen P. Mumme, Peter Leigh Taylor
Colorado State University, Fort Collins, CO, USA

How do international water agreements incorporate and promote equity? To what extent do these complex agreements operate in a transitive fashion, where achievements in environmental equity at one level support environmental equity at other levels? This paper will examine a case of a little-known historical link between a community-level controversy over cross-border water trading and bi-national negotiations related to the U.S.-Mexico “Salinity Crisis” of the 1960s and 1970s. The Ocotillo
Wells bottled water controversy involved the tacit acceptance by both national governments of technically illegal water trading across the California-Mexico border in service of larger strategic agendas related to equitable management of rising salinity levels in the Colorado River. This paper employs Robert Putnam’s concept of diplomacy as a “two-level game” to explore how players pursuing equity at international and local levels found their strategic calculi inter-linked and interdependent. However, the pursuit of bi-national environmental equity ultimately undermined community level environmental equity. The international “salinity crisis” was ultimately resolved by distributing the salinity problem more fairly across the border. Yet Ocotillo and Mexicali City residents ended up with weakened rights to demand safe and secure local water supplies in their respective communities. The paper concludes that environmental equity cannot be assumed to be transitive across international and local levels. Efforts to advance environmental equity in water need to include careful consideration of potential unintended consequences of trade-offs among the interests of actors at different levels.

Joint knowledge production for global change adaptation and sustainability: how can it be done?

Dries Hegger¹, Annemarie Van Zeijl-Rozema, Carel Dieperink²

¹Environmental Governance, Copernicus Institute of Sustainable Development, Faculty of Geosciences, Utrecht University, Utrecht, The Netherlands, ²International Centre for Integrated Assessment and Sustainable Development (ICIS), Maastricht University, Maastricht, The Netherlands

In several Western European countries, scientists, public policymakers and other actors collaborate in climate change adaptation research projects. It is often argued that such joint knowledge production leads to ‘better’, ‘more policy relevant’ or ‘more socially robust’ knowledge. Although there exist many conceptual analyses of knowledge co-production, including its potential opportunities (e.g. production of more practically oriented knowledge) and threats (e.g. science becoming tainted with politics), we lack systematic empirical assessments. In this paper we aim to address this gap by providing a retrospective analysis of six Dutch research projects dealing with climate change adaptation in regions. The projects were part of two large programs, titled ‘Climate Changes Spatial Planning’ and ‘Living with Water’, explicitly endorsing knowledge co-production. The analysis is based on desk research combined with 27 semi-structured interviews with researchers, policymakers and project funders. An initial classification of the projects has been made, based on the questions (i) who initiated the project (science- vs. policy-driven); (ii) who learned from the project (broad vs. narrow learning); and (iii) how were the project outcomes perceived by the participants (in terms of credibility, salience and legitimacy)? The analysis suggests that - up to certain limits - fruitful co-production by scientists, policymakers and other societal actors is possible. This can be deemed of crucial importance, since due to the value pluralities and uncertainties related to global change and sustainability problems, the required knowledge cannot be developed by actors in isolation.
The Politics of River Basin Organizations. Coalitions, institutional design choices and consequences

Chair: Sander Meijerink
Radboud University Nijmegen, The Netherlands

In their book ‘Embracing watershed politics’, Schlager and Blomquist state that: “For the last 25 years, prescriptions of the water policy literature have centered upon two themes. The first is that ‘the watershed’ is the appropriate scale for organizing water resource management [...]. The second is that since watersheds are regions to which political jurisdictions almost never correspond, and watershed-scale decision making structures do not usually exist, they should be created.” In this panel we see the foundation of river basin organizations as a “shift in governance”, which affects issues as the accountability of the governance regime. Shifts in governance can occur in multiple directions: to the market, to civil society, to higher jurisdictional levels, etc. We regard river basin organizations as an example of agentification, meaning that functions of the nation state are moved to special purpose organizations. We invited papers that address the following questions: (1) How were the river basin organizations that have been founded in a country designed in terms of their institutional set up and how were their geographical boundaries chosen? (2) Who were propagating and resisting the founding or reform of river basin organizations, and through which strategies did they try to accomplish their goals? (3) How well do the river basin organizations function in terms of coordination, accountability, and in terms of providing a forum for dialogue; and to which degree can this be attributed to the institutional design of the organizations and their geographical delineation?

Tracing the rise of river basin organizations from discourse, political economy and political ecology perspectives

Farhad Mukhtarov¹, Andrea Gerlak²
¹IVM, VU, Amsterdam, The Netherlands, ²University of Arizona, Tucson, USA

River basin organizations (RBOs) constitute one of the principles of good water governance. RBOs have a long history and have proliferated internationally since the 1930s multi-purpose river basin development in the USA. Today, RBOs are framed as part of Integrated Water Resources Management (IWRM) and are promoted by various international organizations, NGOs, initiatives and agreements. Successful cases of RBOs point out to the promise of the model, whereas many failures around the globe suggest the complexity of design and challenges in implementation and riparian political relations. However, we understand little about the staying power of the RBOs discourse, the trajectory of its development into global prominence, and the reasons for its continued influence. Better understanding of the reasons associated with the rise and prominence of RBOs would allow for strategic positioning of key actors in this policy field and offer insights into possible scenarios for future development or evolution of the discourse. Drawing from the three distinct streams of literature: discourse analysis, political economy and political ecology, we have derived five elements
to explain the rise of RBOs to prominence. These elements include: (i) history and path-dependency, (ii) promotion of ‘best practices’ internationally, (iii) changing values of the global civil society, (iv) interests of stakeholders at multiple levels, (v) and linkages to other discourses. We explain the rise of RBOs with the use of this typology and draw on a wide variety of cases of both domestic and transboundary RBOs to illustrate our argument.

Explaining the functional and scalar differentiation of German river basin administrations: the case of the Elbe

Andreas Thiel
Humboldt-Universität zu Berlin, Berlin, Germany

Based on extensive qualitative field work the paper aims to explain how the German water administration changed throughout the last decade, with specific reference to the scalar reorganisation of water governance in the case of the Elbe and partial reference to water management in overall Germany. Our analytical framework combines a top-down institutionally constrained design perspective, and a bottom-up, functional perspective which articulates substantive management problems and top-down European performance criteria for water management. Theoretically, it combines a cost-effectiveness and social learning informed perspective on gradual institutional change with a top-down, institutionally constrained, interest based perspective. Specifically, in the case of the Elbe, two articulated, non-binding coordination structures at the supra-Länder and supra-national levels have been introduced following the requirements of the WFD. A set of contingent, agency-related factors in combination with functional, substance related aspects and fiscal constraints led to a relatively strong coordinating role for both non-binding River Basin Organisation. We argue that water governance has become more differentiated in Germany and will probably continue to do so. Specifically, and in contrast to the German constitution, the federal and the supra-Länder level have increased their significance, while at the same time adding a layer to water management competencies of the Länder. Not least stakeholders struggle with engaging with the overlapping consultation and participation structures. While on its way, a clear, polycentric division of labour in River Basin administration only starts to emerge.

The politics of river basin organizations. Coalitions, institutional design choices and consequences

Dave Huitema1, Sander Meijerink2
1VU University, Amsterdam, The Netherlands, 2Radboud University, Nijmegen, The Netherlands

Establishing river basin organizations (RBOs) is the most popular recommendation in the water governance literature (Schlager and Blomquist, 2008). Although this recommendation is increasingly followed up upon, there are many instances where the formation of RBOs has stalled or not followed the ‘ideal’ theoretical design (ibid). This paper lays the conceptual groundwork for a book project that will provide an in depth investigation of RBO formation globally. The purpose of this book project is to uncover the politics behind RBO formation and design. Studying RBOs requires an analytical framework that is capable of dissecting the organizational architecture of such organizations. For this we will use Elinor Ostrom’s IAD framework. Using that framework, we suggest
that four ideal types of RBOs exist: autonomous RBOs, agencies, coordinating and partnership type of RBOs. The second part of our framework offers the tools to analyze discussions about the formation of RBOs. For that purpose we conceptualize decision making on the architecture of RBOs as a process of strategic interaction in which actors with diverging ideas try to gain support, build coalitions, and exploit windows of opportunity and multiple venues to further their agenda (Huitema and Meijerink, 2009). The third part of our framework is meant to guide evaluation of the performance of RBOs. Being special purpose organizations, RBOs can be expected to bring changes from the perspective of coordination, accountability (Skelcher et al., 2005) and opportunities for dialogue. How has the design of RBOs affected these aspects of performance?
Major Groups

Chair: Steinar Andresen
*The Fridtjof Nansen Institute, Norway*

**Legitimacy and transparency aspects of the structuring of public participation in intergovernmental institutions through the major groups**

Sebastien Duyck
*University of Lapland, Northern Institute of Environmental and Minority Law, Rovaniemi, Finland*

The adoption twenty years ago of Agenda 21 and its recognition of the importance of nine major groups have undeniably played a key role in strengthening the participation of in decision-making. Since 1992, several intergovernmental institutions have framed the participation of stakeholders on the basis of the representation of the interests of these nine groups. However, the impact of this major group approach in categorizing stakeholders has not been studied in depth. This paper considers the structuring of civil society engagement consequent to the adoption of this approach in intergovernmental institutions. This analysis relies on a comparative approach, studying intergovernmental processes with various models for stakeholders representation. The paper argues that this framing has both advantages and drawbacks in relation to the legitimacy of the participation of civil society representatives. On the one hand, the major group approach contributes to the legitimacy of public participation in ensuring a balanced participation of various groups. Also this structure has been utilized by UN secretariats to require the establishment of transparent and democratic procedures within each civil society platforms or networks. Drawbacks of the major group approach in terms of legitimacy include the exclusion of groups not specifically recognized in Agenda 21, and the imposition upon stakeholders of a categorization that might diverge from the participants self-identification. As the Rio+20 conference builds on previous UN conferences on sustainable development, this paper will provide a timely analysis of the consequences of the major group approach to stakeholders participation.

**Gender, biodiversity and climate change: some aspects of the legal and policy dimension**

Nicky Broeckhoven
*Ghent University, Ghent, Belgium*

Addressing climate change and the loss of biodiversity is a current global priority. Studies show that, in many cases, women in developing countries are hit hardest by the effects of climate change and the loss of biodiversity. The role of women in the conservation of biodiversity and the importance of their participation with regard to climate change and biodiversity issues has been acknowledged in several international legal and policy documents (e.g. Convention on Biological Diversity, Agenda 21, Cancun Agreements). There is, however, still a huge lack of implementation of these international engagements. Moreover, most policy documents never translate into action, there is a lack of monitoring and there is almost no enforcement. We hypothesize that the above mentioned
problems are partly due to (1) the limited involvement and participation of women in the adoption of biodiversity and climate change law and policy (2) the soft law character of many of the documents that do include a gender perspective and (3) a lack of gendered monitoring and implementation mechanisms. To test this hypothesis some selected legal and policy documents that recognize the link between gender and environmental protection are analyzed. Participation and input of women, gendered output and available monitoring and implementation mechanisms will guide this analysis. Special attention will also be paid to recent developments in this field (e.g. Cancun Agreements and the harmonization roadmap to mainstream gender in the three Rio Conventions).

Who is securitizing the sustainable development discourse and why: Evidence from the UN Commission on Sustainable Development

Itay Fischhendler, David Katz

Hebrew University, Jerusalem, Israel

The use of the term ‘security’ in policy discourse has been expanded beyond military and hostile threats to include broader threats to quality of life and the environment. Yet, use of security jargon in such matters could have a profound effect on willingness to cooperate, sacrifice or even debate. As such, is important to be able to predict what resources are to be securitized, by whom and what variables contribute to this process. We examined the construction of the security references, arguments and language in the statements of the Commission on Sustainable Development (CSD) dealing with energy and water. We found that the CSD is a venue where sustainability and security discourses are discussed interchangeably. International organizations and NGOs were more likely than state actors to use such security jargon to discuss sustainability issues. The issues securitized are not the traditional high political ones such as regime stability and conflicts, but rather access to renewable energy, affordable food, and clean water. Use of the term "security" in water related sessions was associated with greater resource dependency, consistent with the focus of security being on potential supply disruptions. The results from energy security regressions, however, were inconsistent with the theory that greater scarcity induces more security concerns. Differences between the types of resource may be due to differences in the ability of international trade to supply the resource, in the ability to store the resource, and in the availability of alternatives.
Session D3

Climate Change Policies in a North-South Perspective

Chair: Vasna Ramasar
Earth System Governance Project, and Lund University, Sweden

Locating Climate Controversies: Mapping Climate Change Policy Network in India during 2007-2010

Pradip Swarnakar
ABV-Indian Institute of Information Technology and Management, Gwalior, MP, India

In today’s world humankind is facing the toughest challenge of climate change. Over the years, international protocols, from Kyoto to Cancun, failed to attain the desired consensus on climate change governance. Moreover, a strong debate is gradually surfacing on the pattern of future climate governance models between developed (Global North) and developing countries (Global South). Under growing international pressure in the recent past, India has taken some important steps towards climate change governance to address domestic level problem particularly during 2007-2010. With this backdrop, the study investigates how is social network structure (composition of actors, power relations within the network) associated with policy positions related to India’s climate change during 2007-2010? Moreover, the study examines the degree of differences in the structure and content of national policy and networks output related to policy outcomes with particular reference to National Action Plan on Climate Change. The theoretical perspective of the study follows environmental governance along with epistemic community approach and organizational state perspective in particular. The study is based on qualitative methodology and the main data collection methods were in-depth interviews of key informants, literature review of policy papers and content analysis of newspaper and web articles. The study concludes that there are several long-term, unsolved governance issues which hinder the potentials of the national climate change action plan. The overall governance crisis involves inadequate participation of actors, top-down approach of policy making, disputes between different actors and stakeholders, and poor policy and law enforcement guidelines.

Environmental justice: EU biofuel demand and oil palm cultivation in Malaysia

Erika M. Machacek
International Institute for Industrial Environmental Economics, Lund, Skane, Sweden

This paper addresses transboundary dimensions of social, economic and environmental justice, related to the European Union Directive on renewable energy and its impact on oil palm cultivation in Malaysia. Specifically, the effects of promoting a 10% increase in biofuel use in transportation within the European Union by 2020 are discussed and analysed in light of the social, economic and
environmental impacts on the Orang Asli, the indigenous population of Peninsular Malaysia, whose livelihood, culture and nature-based spiritual beliefs are closely linked to their inhabited ecological niche. The analysis includes the inequalities faced by the Orang Asli in the competition for natural resources, examines their access to material resources and the impacts on their legal empowerment under Malaysia’s New Economic Model and the 2020 vision. To this end, the scope and limitations of cost benefit analysis and contingent valuation as a supporting tools for public policy are considered, in the context of attributing value to environmental resources and services without expressed market values by using willingness to accept or willingness to pay approaches. The concept of common but differentiated responsibilities is discussed from a global justice perspective. The European Union boundaries of liability in fostering biofuel are reflected upon and set against the accountability of Malaysia for biodiversity conservation and the protection of indigenous peoples' rights. The paper concludes that various facets of the rule of law and transparency, including the legal recognition of the Orang Asli, need to be targeted concurrently to ensure the sustainable sourcing of biofuel from Malaysia.

Does the EU renewable energy directive contribute to fair and just governance of the biofuel sector? A comparison between the Swedish national scheme and EU accredited voluntary reporting schemes

Sara Brogaard, Bodil Elmqvist, Stefan Anderberg, Joanne Morris
Lund University Centre for Sustainability Studies, Lund, Sweden

In the search for viable pathways for transforming governance and institutions in the Rio+20 agenda, strengthening of public-private governance networks has been emphasized. Important initiatives are found in the expanding bioenergy sector where several certification schemes have been launched for ensuring that bioenergy feedstock meet environmental and social requirements. These initiatives are encouraged by the EU Renewable Energy Directive (RED). RED states that biofuels should replace 10% of Europe’s fossil fuel in transport by 2020. However, the production of bioliquids raises serious environmental and social sustainability concerns in producer countries. In order to contribute to the EU targets, economic operators most comply with a set of sustainability criteria through one of three reporting schemes. This study, emphasizing the Swedish case as one of the first countries to transpose RED into national law, focuses on which reporting system is chosen by economic operators and on what grounds. Are social concerns such as labor rights, land and resource rights considered important factors? Preliminary work show that the national scheme is stressing environmental sustainability, showing fewer concerns of social aspects, while the EU recently accredited voluntary systems, driven by a range of actors, are more transformational concerning the inclusion of social concerns in producer countries. The study contributes to the important question on how to promote north-south justice and fairness aspects in governing a sustainable biofuel production by learning from the implementation of this potentially influential regulatory innovation.
Adaptive climate change governance for urban resilience

Emily Boyd¹, Sirkku Juhola²
¹Department of Geography and Environmental Science, University of Reading, Reading, UK, ²Centre for Urban and Regional Studies, Aalto University, Aalto, Finland

Urban areas are the forefront of climate change adaptation and mitigation. Without preparation for future climate change risk urban spaces are likely to suffer the consequences of climate exacerbated local environmental-development pressures. Climate governance and urban discourse is often tied into a particular narrative around sociotechnical transitions and mitigation of greenhouse gases. The narrative is often sectoral and focused on infrastructure, buildings and transportation. Much of this ‘frontiers’ urban climate governance work has a flavour of post Marxist critique with a focus on environmental justice and social wellbeing in the process of transitioning to low carbon development (material, tools, technologies). While the sociotechnical and critical social theory focuses on the deficits of neoliberalism and technical fixes as ‘eroding’ social resilience at the city level, in contrast the social-ecological resilience discourse examines possibilities, avenues for change, and transformative actions through collaboration, partnerships and networks with limited critical analyses of the outcomes of those actions. In this paper we aim to conceptualise adaptive climate change governance for urban resilience by bringing together the social, ecological and the technical characteristics of the urban system. We draw on the Global Urban Transitions database to explore three interrelated questions: what is unique about governing urban climate change? Are the current transitions contributing to the emergence of adaptive governance? Can adaptive climate change governance help to build sustainable and equitable urban spaces?

Decision-making in turbulent times: Transport policy and governance in Ireland during and after the ‘Celtic Tiger’ period

Henrike Rau
NUI, Galway, Galway, Ireland

Personal transport and economic development are frequently seen as closely intertwined both in public debate and policy discussions. For example, unsustainable levels of car dependency are regularly treated as (almost) inevitable outcome of economic growth. However, recent comparative research has captured the significance of governance for the evolution of national, regional and local transport systems in Europe (e.g. Vigar 2002, Wickham 2006). There is ample evidence that the
socio-political particularities of places with comparable levels of prosperity may produce vastly divergent patterns of how (much) people travel on a day-to-day basis. This in turn raises interesting questions about the transferability of models of good practice in sustainable transport policy. This paper offers a critical examination of transport policy in the Republic of Ireland during and after the so-called ‘Celtic Tiger’ (1995-2007) to capture how the prevailing governance system responded to rapid economic and social changes. Drawing on a sociological analysis of policy documents and case studies, the paper identifies political factors that paved the way for some unsustainable transport policy decisions prior to the financial crisis in 2008. It is argued that issues of transparency, accountability and public participation, a shift towards privatisation and public-private partnerships, the devolution of power to quasi-autonomous public bodies and close links between the political elites and the construction sector contributed to a high-cost ‘react and provide’ approach to transport policy and infrastructure development. Finally, the paper asks what changes in governance are needed to implement recent policy commitments to ‘smarter travel’.

'My Green Neighbourhood'‐ Potentials and limits of a redevelopment initiative in a stigmatized housing estate

Eva Gustavsson, Ingemar Elander
Örebro University, Örebro, Sweden

In the shadow of the debate on the role of global, national and local government levels in environmental governance the potentials and willingness of households/individuals to change their attitudes and behaviour towards sustainable consumption and life styles are issues increasingly raised in policy and research, as illustrated by concepts like ”ecological citizen”, ”political consumer” and ”moral agent”. The empirical focus of this paper will be upon an attempt by a municipal housing company to approach the residents of a stigmatized, multi-family estate with a redevelopment scheme expressing a will to combine social and ecological qualities under the brand ”My Green Neighbourhood”. Considering the area’s multi-ethnic, socially vulnerable, and ”stigmatized” character, the company wants to increase residents’ participation, and identification with the area, and at the same time changing their behaviour by constructing energy saving and other ”green” technical solutions. Drawing upon data describing the aim and scope of the redevelopment scheme as presented by the company, the dialogue activities planned, and partly implemented, and the residents’ reactions so far our analysis will be related to similar research done by ourselves and others, and interpreted in the framework of current theoretical debates on the potentials and limits of deliberative environmentalism. Can projects like this inspire residents to make them ”behaving clean”, maybe even without ”thinking green”, and at the same time strengthen their positive identification with the neighbourhood? What are the potentials and limits of deliberative top-down interventions of this kind? Do they contribute to accountable, just and legitimate earth governance?
Building Just and Sustainable Cities in Africa

Geoffrey Nwaka
Abia State University, Uturu, Nigeria

Poverty and rapid urbanization are two of the greatest challenges facing Africa today. UN-Habitat estimates that Sub-Saharan African cities have over 166 million slum dwellers, most of who work in the informal sector where they simply do not earn enough to afford decent shelter and services. What does sustainability mean for such cities and townspeople? Agenda 21 of the Earth Summit emphasized that sustainable development has to be socially just and ecologically stable, and that the creation of sustainable human settlements is integral to the achievement of sustainable development. The paper examines how urban poverty has developed in Nigeria and other African countries over the past 50 years, and the extent to which government policies have helped or constrained the poor and social justice in the cities. While acknowledging the importance of the 'green agenda' to preserve natural resources and ecosystems in order to ensure our common future, the paper argues that human development and welfare ought to be at the centre of the concern for sustainable urbanization in Africa, and that greater priority should be given to the living conditions and development concerns of the poor. This calls for rethinking and broadening the narrow technical focus of conventional town planning and urban management in order to incorporate the principles of urban justice and sustainability embodied in the Habitat Agenda and other recent global initiatives which provide guidance on how to make cities everywhere more inclusive and socially sustainable.

Private Sector Participation in Urban Water Services in Sub-Saharan Africa: The Way Out for Improved Quality and Efficient Service Delivery in Nigeria

Joseph Adegan
Global Network for Environment and Economic Development Research, Ibadan, Oyo State, Nigeria

Over the years Governments in sub-Saharan Africa has made appreciable investment towards development and management of water resources. For certain reasons the demand for safe drinking water supply services continues to overwhelm the delivery. It is against this background that the study simulates the privatization of water supply with a view to improve water quality and service delivery and transfer the financial responsibility in the provision of water services to the private sector while allowing them a fair rate of return. The study sample covers ten Nigerian urban and semi-urban centres. Data for the study were obtained from World Bank Assisted Project. The Discounted Cash Flow (DCF) Principles including Net Present Value, Internal Rate of Return and Discounted Payback Period constitutes our model. Field visits were also made to five Nigerian urban and semi-urban centres before and after rehabilitation and privatization for twelve months between April 2008 and March 2009. Water samples were taken from water supply schemes for the physico-chemical and bacteriological analyses. Data analysis shows a net present value, NPV of US$672million, an internal rate of return, IRR of 28.35% and a discounted payback period, PBP of 4years signifying that the return on investment is enormous to attract private sector investment. The result also indicates that the post-privatized and rehabilitated water are within the World Health Organization (WHO) water quality guidelines unlike the pre-privatized values. Our study indicates that more of the Nigerian citizenry would have access to potable water and improved water quality through private sector participation.
Session D5

Processes of Empowerment, Learning and Deliberation

Chair: Melissa Hansen, Lund University

Creating Just, Legitimate, Democratic and Accountable Earth System Governance on Pongso no Tau

Eric Clark¹, Chun-Chieh Chi², Sutej Hugu³, Syaman Lamuran⁴, Chia-Nan Lin⁵, Yung-Ching Lo⁶, Syaman Rapongan⁷, Huei-Min Tsai⁸

¹Lund University, Lund, Sweden, ²National Dong Hwa University, Hualien, Taiwan, ³The Tao Foundation, Pongso no Tau, Taiwan, ⁴National Taiwan Normal University, Taipei, Taiwan, ⁵National Taiwan University, Taipei, Taiwan, ⁶Leiden University, Leiden, The Netherlands

The Tau people of Pongso no Tau (literally, ‘Home of Man’, a small northern outlier of the Batanes Islands southeast of Taiwan) have for centuries exercised a highly egalitarian and non-hierarchical form of earth system governance prior to being subjected to two waves of colonial oppression by Japan (1896-1945) and Taiwan (since 1945). Japanese dominance brought police, formal schooling (for ‘savage children’), currency and trade, the forced appointment of Tau chiefs or leaders, and anthropologists to the island. Colonial influence escalated with Taiwanese dispossession of land, establishing farms and labor camp prisons, topocide of traditional villages replaced with low quality housing, imposing Mandarin as primary language, exploitative tourism, extraction of timber and replacement with alien fast-growth species, over-fishing, dumping nuclear waste and plans to make the island a national park. Tau resistance has taken various forms with various aims. This paper i) briefly outlines pre-colonial earth system governance by the Tau, ii) analyzes consequences of Japanese and Taiwanese dominance for the justice, legitimacy, democracy and accountability of earth system governance on Pongso no Tau, iii) describes the last thirty years of Tau resistance and strategies to move towards earth system governance characterized by autonomy, justice, legitimacy, democracy and accountability - building upon, while adapting and developing, traditional Tau knowledge and culture, and iv) presents a Tau perspective on strategic political, judicial, institutional and organizational changes for creating a future with more just, legitimate, democratic and accountable earth system governance on Pongso no Tau.

Community based conservation as a process of self-transformation: Reflections of social learning and governance among the women of Ghandruck, Annapurna Conservation Area, Nepal

Kaitlin Almack

Lund University Centre for Sustainability Studies, Lund, Sweden

Social learning is a process that encompasses individual and group learning up through dynamic processes of interaction and communication. Social learning is essential for knowledge generation
and plays a critical role in shaping governance practices that have democratic quality and contribute to sustainable development. Outcomes from social learning typically entail qualitative results such as empowerment, cohesion and reflexivity. These soft results are often overlooked by political expectations on hard results centred on instrumental skills that are verifiable and quantifiable. The Annapurna Conservation Project has a standing tradition in using local communities as key partners in forest management moreover the project fosters woman’s involvement in conservation activities. With the intent of understanding how participants learnt from conservation efforts, research focused on women’s learning process, using Social and Transformative Learning Theory. This work is a result of a month of fieldwork in the Annapurna Conservation Area, where qualitative methods such as participant observation, interviews and focus group were conducted with women from Ghandruk village. This study points out that development programs and corresponding assessments have focused mainly on hard skills such as literacy, plantation and tourism management. Nevertheless, our research shows that women are highly aware of their own learning process, not only expressing instrumental acquirements but also reflecting upon the interconnected transformations that conservation brought to their milieu and their lives. This works outlines recommendations to actively promote soft learning as a venue capable of shaping more legitimate governance through fostering greater participatory and deliberative quality in conservation efforts.

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Procedural Justice and Earth System Governance; Designing Fair Decision-making Processes for Global Environmental Governance

Luke Tomlinson

University of Oxford, Oxford, UK

The challenges of global environmental governance require new institutional architectures that can coordinate effective action amongst diverse groups of actors. Various criteria are proposed as guiding principles for the design of these institutions, including: effectiveness, legitimacy and justice. The issue of justice has been extensively examined in relation to the distributive implications of governance architectures. However, justice also relates to the processes through which these distributive outcomes are generated. This paper examines procedural justice in the context of Earth System Governance. It determines a principle of justice that can guide institutional design in environmental governance and considers how this principle can be achieved in practice. In specific, the paper analyses the degree of influence that actors should enjoy in the decision-making fora of environmental governance. Should actors be given equal say in decision-making, or should they have influence proportionate to their stake in the decision being made? If actors should be given political equality in decision-making, how can this principle be achieved? Furthermore, decision-making procedures that are fair may not produce allocations that are substantively just. In this instance, the paper considers how concerns for procedural justice can be reconciled with concerns for distributive justice. By comparing substantive and procedural criteria of justice, this paper combines several aspects of Earth System Governance. It considers the interlinkages between: justice in the allocation of resources, the fairness of the process by which these allocations are generated, and how these considerations can be combined in the construction of the overall architectural design.
Climate Change Policies - REDD

Chair: Harro Asselt
*German Development Institute, Germany; Stockholm Environment Institute, Sweden*

**REDD+ and human rights. Addressing overlaps between international regimes**

Annalisa Savaresi
*University of Copenhagen, Copenhagen, Denmark*

The proposed paper will analyse how the nascent mechanism REDD+ under the UN Framework Convention on Climate Change may address synergies and overlaps with extant international law obligations concerning the protection of the rights of indigenous peoples and other vulnerable forest users. These issues largely fall within the realm of human right law. After a short introduction on the development of the REDD+ mechanism, the paper will therefore identify human right concerns raised by REDD+ activities, and the relevant international law obligations. The ensuing section will review social safeguards so far adopted in the framework of the UNFCCC and processes dealing with REDD+ readiness. The conclusions will provide some reflections on REDD+’s potential role in harmonising overlapping international law obligations, summarising advantages and limitations of such an all-encompassing approach to REDD+. The article will build upon the author’s doctoral thesis and published works, and provide an overview on most recent developments in negotiations.

1Whereas negotiations initially focused on reducing emissions from deforestation and forest degradation in developing countries only (REDD), the concept was subsequently expanded to include ‘the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries’ (hence the acronym REDD+).

**Forest Governance: Equity and Effectiveness Issues**

Joyeeta Gupta, Nicolien van der Grijp
*VU University Amsterdam, Amsterdam, The Netherlands*

Sixty years of global forest governance have not yet made much of a dent on deforestation. The current prioritization of forestry issues within the climate change regime (REDD – reducing emissions from deforestation and forest degradation) is expected to lead to a change on this issue. To contribute to the discussion about the policy options for REDD, the paper analyses national experiences with the implementation of forest governance in Vietnam, Indonesia, Cameroon and Peru to understand how equity issues can be taken into account in effective forest governance. We will further expand on the access and allocation framework developed in the context of the Earth System Governance Project. Access to forests will include access to forest use and/or exploitation rights; and the fulfillment of basic needs in relation to forest functions. Allocation refers to how the benefits and disadvantages of specific choices with respect to forests are shared between different social actors. Based on the four comparative country case studies (which include a literature review, content analysis of policy documents, and interviews with key stakeholders from local through to
national level), the paper explains which international mechanisms have been successful in the domestic implementation process so far and which have not. It also identifies the key elements of equity that need to be taken into account in successful forest policy design.

**Actors, institutions, and accountability in REDD+: lessons from Indonesia**

Ida Aju Pradnja Resosudarmo  
*Center for International Forestry Research, Bogor, Jawa Barat, Indonesia*

In the last four decades, forest management in Indonesia has largely revolved around commercial timber harvesting. Reducing Emissions from Deforestation and Forest Degradation (REDD+) initiatives can potentially shift this focus to a more sustainable and environment-friendly ways of managing the forest resources. Despite a strong commitment from the highest authority of the state to reduce GHG emissions, however, the REDD+ policy process to date, and consequently how REDD+ has evolved on the ground, have been slow. This paper analyzes how actors, institutions, and accountability, in the context of an economy reliant on natural resources, have influenced these processes. It shows that the REDD+ policy process is hardly a done deal: negotiations, tug-of-war, and hesitant alterations of institutions color the dynamics and affect how REDD+ is interpreted. Despite significant strides of improvement, an effective accountability mechanism continues to be a challenge.

**Global governance and local realities – Legitimacy and accountability of REDD+ from the stakeholder perspective**

Torsten Krause¹, Tobias Dan Nielsen²  
¹*Lund University Centre for Sustainability Studies, Lund, Sweden, ²Lund University, Faculty of Political Science, Lund, Sweden*

Reducing emissions from deforestation and forest degradation (REDD+) is among the most anticipated global mitigation mechanisms and is portrayed to significantly reduce global emissions attributed to land use change and forest conversion. This paper analyzes the various conceptions of accountability and legitimacy and how they relate to the global REDD+ governance mechanism that is currently being developed. We further compare both concepts and the respective conceptualizations at a global level to local realities, drawing on insights from the national REDD+ program of Ecuador. The argument is that incoherencies between the different conceptualizations of accountability and legitimacy reflect a rift between how REDD+ is understood and dealt with at the global and local level. This bears implications, not only for effectiveness of and the equity in achieving the objectives of REDD+, but indeed for the overall success of a future REDD+ governance mechanism. Bridging global governance approaches with local ‘realities’ is essential for the current process of forming a REDD+ governance mechanism. Key questions that we seek to address refer to the identification of who legitimizes and for whom legitimacy is sought for in REDD+, as well as what form of accountability is currently being established at local levels. These questions are of particular importance, as both concepts are still quite broadly defined in Earth System Governance, but need operationalization in the context of REDD+. This paper attempts to do so.
Session D7

Commodification of Nature - Payment for Ecosystem Services

Chair: Michele Betsill 
Colorado State University, USA

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Freedom to Serve: a critical exploration of the injustices of international payments for ecosystem services

Katharine Farrell 
Humboldt-Universität zu Berlin, Berlin, Germany

This proposed paper is concerned with the question of how the increasingly popular policy concept of payment for ecosystem services (PES) is related to questions of justice and legitimacy in earth system governance. In particular, it is concerned with how the terms and conditions of international PES agreements, such as those arising from the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries and from the Clean Development Mechanism projects associated with the implementation of the Kyoto Protocol may infringe upon the self determination, economic autonomy and biological livelihood of indigenous peoples and the rural poor in so called 'developing' countries. It is intended to contribute toward the conferences discussion on access to, and ownership of, resources and knowledge and will use the narrative thread of payment for the maintenance of ecosystem services as an heuristic to develop a critique of this policy concept and empirical examples to illustrate and support that position.

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Payments for Ecosystem Services schemes: Images of sustainable development

Marianne Henkel 
University of Greifswald, Greifswald, Germany

The aim of the paper is to depict the image of Payments for Ecosystem Services as a tool for sustainable development in funding strategies and other publications of the donor community. The rationale is as follows: Reconciling environmental protection and human development lies at the core of the concept of Sustainable Development. One mechanism conceived to protect ecosystem services while offering rural populations a compensation for opportunities foregone are Payments for Ecosystem Services (PES). Like other market-based instruments, PES have received increasing political attention, especially regarding forest (REDD+), watershed and biodiversity protection. The term "pro-poor PES" has been coined to explicitly link the environment and development perspectives. The concept of PES, however, says little about the outcome expected, and almost nothing about the process. Given, for example, the consensus that water management ought to be participatory (see the concept of IWRM) and the increasing understanding that development is about
increasing chances of participation in society, it seems desirable that PES schemes should be participatory also. Focussing on watershed PES, the paper will thus analyse how bilateral and multilateral donors conceive of PES in their funding strategies, programmes and other publications. The questions to be answered are: (1) Do donors place equal emphasis on environmental protection and development? (2) What are the guidelines set out for such projects (in terms of land use restrictions, participation of land users etc)? (3) What notion of equity in environmental management and development does this convey?

Explaining variation in distributive outcomes of market-based instruments: A typology of institutional design

Eleni Dellas, Frank Biermann
VU University, Amsterdam, The Netherlands

Market-based instruments have become a central element of global and national environmental governance. So far, most studies have focused on the effectiveness and efficiency of such instruments. Yet such instruments may also have profound distributive effects that must be examined and weighed against their efficiency and effectiveness. Well-known examples include the tendency of individual transferable quota regimes in fishing governance to privilege larger corporations at the expense of small fishers, or the encouragement of windfall profits for polluters in emissions trading schemes. These distributive effects are at the centre of the research presented here that systematically compares the overall distributive effects of different institutional design elements. To ensure comparability, we focus on market-based instruments that create tradable allowances for pollution or natural resource use, and exclude other instruments such as taxes, subsidies, certification and labeling schemes. This study provides a first systematic comparative analysis of market-based instruments in different issue areas (e.g. fisheries, biodiversity and climate), and identifies similarities and differences in rules affecting distributive outcomes. Design elements such as rules for initial allocation or auctioning, eligibility criteria, aggregation limits and transferability vary according to factors such as location, actor preferences and issue area. Our analysis shows in detail that while some rule arrangements are shared by many market-based instruments, different issue areas also face distinct distributive implications calling for different rules. Additionally, we identify trade-offs resulting from the fact that rules that are implemented to address distributive conflicts often come at the expense of cost-efficiency and/or effectiveness.

Trust in implementing REDD+: Lessons from forest certification

Constance McDermott, Deborah Davenport
University of Oxford, Oxford, UK

This paper addresses the conference themes of allocation and access for the new mechanism of REDD+ (reducing emissions from deforestation and forest degradation). The global effort to establish a functional mechanism to fund developing country efforts on REDD+ will require at its most fundamental level assessments of forest carbon, potentially for the most daunting of reasons: to apply to the creation, buying, and selling of credits in a global carbon market. On its surface the act of carbon measurement seems to be one of the more straightforward aspects of REDD+: it involves developing scientific assessment mechanisms to generate objective, transparent information on
additional units of carbon stored. Yet, if one considers the limited funds available to conduct assessments, possible distrust in the actors involved in assessment, together with the addition of non-carbon environmental and social priorities for REDD+, then the act of assessment is likely to appear much less objective and straightforward, as has been found in the context of forest certification. Given the similarities between certification of sustainable forest management and the mechanisms under development for assessing forest carbon—including the fact that they both represent efforts to bring heretofore non-marketed forest values into the market—this paper will consider lessons to be learned from the former with regard to building trustworthy processes for the latter.

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Access to plant genetic resources: an institutional framework for sustainable agriculture or an accessory to trade rules?
Eric Deibel

IFRIS-CEPN, Paris, France

Access arrangements have become an integral part of the international reform agenda in the last two decades. Such negotiations and agreements are, however, extremely delicate because of the relationship to the ownership of knowledge. This paper focuses on the arrangement of access to plant genetic resources and its implication for the sustainability of agriculture. This is a topic that is at once exemplary because international negotiations already resulted in a multilateral agreement at the Food and Agricultural Organization (FAO) and because of the limitations that become apparent when situating the “Seed Treaty” against the backdrop of agriculture as a highly disputed global market and the fast pace of technological change in the life sciences. In the paper it will be argued that the arrangement of access reproduces the unresolved tensions between different international mandates. This can be observed in a variety of high-profile initiatives that have aimed at the conservation of plant genetic resources as well as the improvement of plant varieties using genetic modification. These show that the tensions in the arrangement of access in international negotiations concur with developments in the life sciences where “open access” refers to exceptions to patenting rather than to sustainable development. Hence a specific kind of access to plant genetic resources is being arranged that presumes that sustainable development is compatible with the protection of intellectual property and the liberalization of agriculture.
Power and Accountability in Multi-level Governance in a Nordic Environment

Chair: Carolyn Peach Brown  
*University of Prince Edward Island, Canada*

Adaptation Discourses and Modes of Governance in Swiss Alpine Regions

Alexander Widmer, Christian Hirschi  
*Swiss Federal Institute of Technology (ETH Zurich), Zurich, Switzerland*

Like other European countries, Switzerland has started to develop a national climate change adaptation strategy only very recently. This absence of national adaptation policies has been attributed by previous research to a lack of problem awareness on the side of national policy-makers as well as to a center-right dominated government. In contrast, cantonal governments - in particular those in highly vulnerable mountain regions - have been more active in formulating and implementing adaptation measures. These measures, however, differ considerably with respect to scope, range, and mode within and across regions. In this paper, we analyze this variety of regional adaptation measures within the Swiss federalist political system and will explain par-ticular patterns within those adaptation measures. More specifically, we argue that the observed patterns are determined by the regional discourse on adaptation reflecting the variability of regional climate change impacts as well as the socio-economic structure of the respective regions (in particular, the most vulnerable sectors). However, political discourses alone seem not to translate automatically into adaptation measures. As the analysis shows, the preferences of policy-makers and stakeholders as well as the prevailing modes of governance in the key socio-economic sectors have an impact on the type of adopted adaptation measures too. The study is based on a three-year research project called MOUNTLAND, analyzing the impacts of climate change on Swiss mountain regions as well the related socio-economic changes and policy implications.

How to govern forests toward climate change protection, biodiversity and sustainable agriculture? – Exploring Swedish forestry policies in a multilevel governance context

Mikael Kylsäter  
*Department of Political Science, Lund University, Lund, Sweden*

The legitimacy and effectiveness of environmental politics is increasingly tied to calls for integrated policy strategies that effectively can tackle the multiple problems of climate change, deforestation and biodiversity loss in multilevel governance contexts. However, governance arrangements for forestry, agriculture, land use, climate change and ecosystem services are fragmented across national, EU and global levels. The aim of this paper is to critically examine the synergies and trade-offs between Swedish forest governance and other sectoral policy areas addressing climate change, biodiversity protection and ecosystem services. As a leading forest nation, Sweden is a critical case
for analyzing the alignment of forestry governance with other policy areas. This paper analyzes the
degree to which Swedish forestry governance, policy and legislation is integrated with other policy
areas such as biodiversity, climate change and agriculture. It also places Sweden’s efforts toward a
coherent integrated forest policy with the emerging European forest strategy and the UN forest
principles. This paper is based on a review of recent research literature on integrated forest
governance as well as primary sources such as Swedish forestry legislation and European forest
policy.

A Proposal of Co-management Process Principles: Protected Area
Designations in the Swedish Mountain Region

Anna Zachrisson
Umeå University, Umeå, Sweden

Protected areas have so far been the primary means to conserve biodiversity, an increasingly
important environmental issue, but proposals to establish protected areas are often met by local
resistance due to fears that user rights will be severely restrained. Nature conservation traditionally
aims to preserve an ideal state of nature, in which interference by people is minimized through a
number of regulations, and where central authorities are in charge. Increasingly, however,
conservation policy emphasizes participation. Protected area designations are about institutional
change where customary and legal rights to use and manage certain resources are renegotiated.
Protected areas can be considered as multi-use and multi-level commons that may benefit from co-
management where the state cooperates with user groups, municipalities, research institutions and
others. This paper analyzes the establishment phase of the co-management of multi-level, multi-use
commons through a small-n comparative case study. The results reveal that the rigidity of the
existing institutional framework is an important contextual variable that influences the degree of
learning taking place. Further, certain characteristics of a process (the co-management process
principles) were found to be essential for the realization of co-management arrangements of multi-
level and multi-use commons. The principles are representation, reason(ability), powers,
accountability and learning.

Adaptive capacity building in the Region of Dresden: A review of responses
in planning and policy ten years after a one-hundred year flood

Gregor Vulturius, E. Carina H. Keskitalo
Department of Social and Economic Geography, Umeå University, Umeå, Sweden

With notorious regularity, Central Eastern Europe has been affected by a number of recurring large
scale floods in the last ten years. In the summer of 2002, a series of floods along the Elbe river
watershed caused the deaths of 36 people and inflicted damage amounting to € 12 in Germany and
the Czech Republic. The apparent lack of preparedness of public authorities to deal with the
unfolding excessive damage and speed of events prompted a comprehensive reassessment of
existing natural hazard protection policies in Germany. This study reviews the responses of policy
makers in the German Federal State of Saxony seeking to address flood risk by adopting flood
protection policies that place an emphasis on prevention and sustainability and renounce the
protection principle. Political measures that address climate change are thereby of special interest
for this inquiry. The study utilizes the broad framework of adaptive capacity determinants, reviewing the extent to which institutional, informational, economic, technological, infrastructure, and equity arrangements have supported or limited efforts in flood protection and prevention policies. By assuming a multilevel governance vantage point we are able to identify how adaptive capacity determinants are distributed and unequally employed by authorities of varying political power. Findings are based on eighteen semi structured interviews of representatives of political authorities charged with flood policy. The study concludes the large importance of nested institutional arrangements and communication between policy actors, as well as the large role of comprehensible and available climate data in developing adaptation policies.
Session E1

Does Evidence Help to Promote Transparency and Accountability?

Chair: Sabine Weiland

Freie Universität Berlin, Germany

Recent years have seen a shift to more institutionalized systems of policy impact assessment in many OECD countries and the European Union. This is increasingly institutionalised in the process of policy development as Regulatory Impact Assessment, Integrated Assessment, Evaluation Clauses, etc. As such—it is argued—policy assessment and enhancement of the evidence base of policy making has the potential to improve the quality of regulation, to reduce implementation costs, to deliver more sustainable policies and to address large-scale global challenges such as climate change. The rise of policy assessment and evidence-based policy making has to be understood on the context of the ‘better regulation’ agenda of international organisations and attempts to rationalise policy making. More recently, the European Commission in contrast has hailed policy impact assessment as a tool for transparent and accountable governance. This panel aims to present a set of research papers that study evidence-based policymaking through different disciplinary perspectives, thereby addressing the following research questions:

What is the role of evidence in decision making as compared to power, interests and other political factors?

In which way does the use of evidence promote transparency and accountability of political decisions?

What kind of evidence is required to promote transparency and accountability of political decisions?

What are the consequences of ignoring evidence in policy decision making?

The session is organised by the LIAISE (‘Linking Impact Assessment Instruments and Sustainability Expertise’) Network of Excellence.

Policy Assessment - A Tool for Transparent and Accountable Governance?

Sabine Weiland

Environmental Policy Research Centre, FU Berlin, Berlin, Germany

Policy assessment can be defined as a methodological framework and an administrative procedure for better informed policy making by predicting and evaluating consequences of regulatory activities. Recent years have seen a shift to more institutionalized systems of policy impact assessment in many OECD countries and the European Union as well as world-wide. As such -it is argued- policy assessment and enhancement of the evidence base of policy making has the potential to improve the quality of regulation, to reduce implementation costs, to deliver more sustainable policies and to address large-scale global challenges such as climate change and food safety. The rise of policy assessment and evidence-based policy making has to be understood on the context of the ‘better
regulation’ agenda of international organisations and attempts to rationalise policy making. The European Commission in contrast has hailed policy impact assessment as a tool for transparent and accountable governance. This paper analyses the role of evidence in political decision making as compared to power, interests and other political factors. Particular emphasis lies on the questions in which way the use of evidence promote transparency and accountability of political decisions. The analysis is empirically based on country studies on policy impact assessment undertaken in the EU-FP7-project LIAISE (‘Linking Impact Assessment Instruments and Sustainability Expertise’).

**Scientific Evidence as "Proof" and "Proxy" for Policy Debate -The Case of Global Warming Policy**

Silke Beck  
*UFZ Leipzig, Leipzig, Germany*

The paper discusses how and why the controversy over the scientific evidence of global warming have turned out as a proxy for negotiations on climate policies (Pielke 2007), resulting in the depoliticizing of policy making and the politicizing of science. In response to "merchants of doubt" that started to undermine the scientific foundation of international climate policy, the Intergovernmental Panel on Climate Change (IPCC) has attempted to provide logically indisputable "proof" as a "sound" scientific foundation upon which to base policy (Oreskes 2004). The paper demonstrates why disagreements over how to respond to climate change become transformed into proxy debates over the scientific evidence for climate change. Rather than arguing about the political interests and values which motivated the political controversy in the first place, all the parties become embroiled in a controversy over the scientific foundations on which their views are based. The paper argues that the larger problem lies in the way the problem is framed: scientific evidence counts as the sole foundation of political authority. If scientific evidence is the only basis on which policy action is justified, then policy commitment and public consent are reduced merely to a question of whether the science is right or wrong. The one-size-fits-all model leaves little room for robust democratic debate and choice with respect to institutional arrangements and policies. Finally, the paper calls for the debate to be opened up to accommodate alternatives to the linear model of expertise.

**What type of Accountability? An analysis of the notion of expertise in climate change litigation before the EU Courts**

Sanja Bogojevic  
*University of Lund, Lund, Sweden*

This paper seeks to investigate the type of expertise relating to climate change that litigants and the EU Courts use, or are expected to use in climate change litigation. Climate change litigation is a legal genre that in recent years has mushroomed. Much of this litigation focuses on using existing legal venues through, for instance, judicial review, and human rights to establish a new claim centred around the impact of climate change. A crucial question is to what degree the courts are, or can be employed as a venue to challenge policy-makers - particularly when the legislator proves inapt for legal action. Against this backdrop, this paper will focus on climate change-related actions before the EU Courts, demanding what type of expertise is, or can be used to make these challenges in the
courtroom. The aim is to better understand climate change litigation and how the courts can be used to challenge policy-makers in relation to climate change policies.
Session E2

Finance and Technology Transfer

Chair: Jakob Skovgaard
Lund University, Sweden

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Addressing the changing paradigm of technology transfer and assessing the effectiveness of existing and new institutional framework for the design of technology transfer under the climate change negotiation

Masachika Suzuki\(^1\), Norichika Kanie\(^2\)
\(^1\)Kansai University, Osaka, Japan, \(^2\)Tokyo Institute of Technology, Tokyo, Japan

In the recent climate change negotiation, technology transfer as well as financial mechanism has become a central issue. In Cancun, the parties agreed to organize the Technology Executive Committee (TEC) and the Climate Technology Centre and Network (CTCN). It is essential to reconsider the existing institutional framework and arrange a new framework in order to make renewable and energy efficiency improvement technologies available both in the developed and developing countries. This paper comprises three parts. First, the authors review the historical development of the concept as well as the application of “technology transfer” in the environmental as well as developmental multilateral negotiations since the Stockholm conference in 1972. Secondly, based on the understanding of the historical evolution of technology transfer, the paper highlights a changing paradigm from “North to South” to “South to South” and even to “South to North”. In some area of clean energy technology development, companies in China and India leads the market such as photovoltaic panel producers from China and wind turbine manufacturers from India. The paper suggests that the recent trend needs to be well considered in designing a new institutional framework for technology transfer and financial mechanism. Lastly, the paper addresses the roles of the existing institutions in managing technology transfer. It reviews key programs and initiatives conducted through cross industrial cooperation group organizations, industry associations, multilateral banks and public organizations. The authors identify different roles of these organizations in technology transfer and provide their insights for designing a new institutional framework.

Finance Ministries in Climate Change Politics: A Non-Environmental Governance System Addresses an Environmental Problem

Jakob Skovgaard
Lund University, Lund, Sweden

In the course of the last four to five years, finance ministries have increasingly been involved in the international negotiations regarding climate change. The involvement has to a large degree been due to the framing of climate change as a market failure which is present in among others the Stern Review. Finance ministries may have started taking climate change seriously, but this does not amount to prioritizing the environment over other, primarily economic, objectives or reframing towards sustainability. Rather, finance ministries have addressed climate change precisely because
they saw it as a threat to one of their primary objectives: economic growth. To a large degree, finance ministries and environment ministries have established their own respective governance systems addressing climate change: the former also including institutions such as the World Bank and the OECD and focusing on establishing a global carbon price, the latter centred on the UNFCCC and focusing more on sustainable development. The two governance systems increasingly clash, raising questions of what happens when non-environmental governance systems start addressing environmental issues. Drawing on the Environmental Policy Integration literature, the paper discusses whether sustainability is best achieved strengthening environmental governance systems or through orienting non-environmental governance systems towards environmental objectives.

**The Development of Climate Adaptation Finance Governance: Complementarity vs. Competition?**

David Rossati  
*University of Edinburgh, Edinburgh, UK*

The governance of international climate adaptation finance (i.e. the financing by developed countries of adaptation activities and programmes in developing countries) is currently facing strong fragmentation because of the concurrent action of UNFCCC/KP funds and non-UNFCCC initiatives by multilateral development banks and bi-lateral official development assistance. By analysing the institutional governance of the most relevant funds in terms of scale and participation, the proposed paper will argue for the presence of two opposing forces currently framing adaptation finance governance. On one side actors feel the negative effects of the increasing fragmentation and the need of insuring complementarity of action of financing institutions by means of coordination. On the other, innovative governance - expressed by new means of direct access to climate funds by developing countries - is likely to generate competition between different funds and schemes: competition, thus, emerges on the basis of accessibility, scale of finance, and participation to the governance by developing states. The more a fund is able to attract developing countries, the more competitive it will get. The paper will also question the consequences of complementarity and competition. Complementarity can lead to improved coordination between institutions; however it also reduces competition amongst different funds. Competition, instead, increases differentiation and fragmentation, but it gives thrust to innovative governance, enhanced participation of stakeholders and, eventually, legitimacy of institutions. Which avenue shall, then, the system pursue? Do complementarity and competition really fight against each other?

**Auctioning emission allowances to contribute to the USD 100 billion goal - European experiences**

Katrin Enting, Hendrikje Reich

Mobilizing financial support for mitigation and adaptation activities in developing countries is one of the key issues to halt global climate change. In Cancún, developed countries formally committed to jointly mobilize USD 100 billion p.a. by 2020 to address developing countries’ needs, in the context of meaningful mitigation actions and transparency. However, there is still ambiguity on how to scale-up current financial flows to this level. This paper contributes to the discussion by assessing the option to use revenues generated through auctioning emission allowances within the EU-Emission Trading
System (ETS) as an innovative source for international climate financing. Today, this instrument is already used by one EU Member State (MS) - Germany - and could serve as a role model for others. First, the paper provides the theoretical rational for using revenues from auctioning emission allowances for climate purposes. Second, it gives insight into the respective regulations within the EU ETS, especially with focus on the third trading period. Hereafter, different ways to implement the EU regulations within a set of MS will be assessed, looking at revenue generation as well as (planned) expenditure. Not only the question of how, but particularly the question of why certain decisions have been taken should be analysed. If the instrument is reasonable, why did only Germany chose to earmark these revenues for climate finance? The paper concludes by discussing potential barriers for this kind of earmarking and means to create a window of opportunity for a win-win situation - both for MS and international climate finance.
Participatory Earth System Governance: Conceptual and Methodological Innovations

Chair: Naghmeh Nasiritousi
Centre for Climate Science and Policy Research, Norrköping, Sweden

The ‘wickedness’ of participation in climate change adaptation governance

Leah Sprain¹, Clare Tompsett², Pinar Ertor³, Viviana Asara³
¹Colorado State University, Fort Collins, CO, USA, ²University of Bergen, Bergen, Norway, ³University of Barcelona, Barcelona, Spain

The “wicked dimensions” of climate change require rethinking how to best govern efforts towards adaptation. Wicked problems (Rittel & Webber, 1973) are “ill-formulated, involve uncertainty and confusing information, have many decision-makers and affected parties with different and conflicting values, and promise ramifications for the whole system” (Ferkany and Whyte, 2011, p. 3). Wicked dimensions forefront the importance of ongoing governance that is able to make incremental decisions to address problems, recognizing that future conditions will likely require different strategies. We argue that democratic governance requires meaningful participation by a range of stakeholders and citizens. Yet achieving meaningful participation is itself a wicked problem in light of power differences, the ontology of consensus, and practical tradeoffs. Since wicked problems are defined by different and conflicting values, theories of participation must consider not only how to involve people in governance but also how differences will be negotiated in the process of governing together. Starting with critiques of participation from the development literature and post-political theory, we explore how the concepts of ‘social learning’ and ‘adaptive management’ attempt to move the debate forward in environmental governance. However, we find that these approaches sidestep the fundamental issues at the heart of the participation critique. Instead, we suggest how participation can be used to “constitute forms of power that are compatible with democratic views” (Mouffe, 1999, p. 753). Using ideas from social learning but rejecting its basis in communicative rationality, we argue that participation processes must allow room for argumentation for legitimate governance.

Sand Waves and Human Tides Comparing the debates on climate-induced migration and desertification

Giovanni Bettini, Elina Andersson, Lennart Olsson
Lund University Centre for Sustainability Studies (LUCSUS), Lund, Sweden

In spite of the growing attention to climate-related migration, there is no satisfactory understanding of the matter - even less any comprehensive, robust and fair governance strategies. Although such an impasse relates to the unprecedented character of the socio-ecological processes involved, we argue...
that the novelty of climate-related migration does not imply that the challenge is unique in the history of global environmental governance. Proceeding from this, we compare climate migration with the issue of desertification including the discourse and regulations surrounding it. The comparison provides 'lessons' for the debate on climate-related migration, since: (a) Unlike climate migration, the desertification discourse has been institutionalized through a UN Convention with a constellation of agencies and practices. (b) This process of institutionalization was scrutinized by extensive research, offering 'practical' insights on the formation of environmental governance responses. The two discourses present striking similarities in their:1/ ontological foundation (how the 'problems' are constructed), 2/ epistemological development (how scientific knowledge is assembled and made use of), and 3/policy approaches (what responses are envisioned). We highlight common shortcomings such as scientism, vagueness and ambiguities in the definitions, a malfunctioning science-policy interface, a tendency to envision one-fits-all solutions that overlook the multi-scalar phenomena involved. We discuss how such ontological and epistemological flaws have contributed to the failure of the desertification regime. Consequently, we propose that climate migration debates should move beyond such deficiencies, in order to avoid the emergence and consolidation of policy responses reproducing the same deficiencies that hamper the struggle against desertification.

Corporate Climate Change Strategy and Likelihoods of Maladaptation: How to Ensure Legitimate, Democratic and Accountable Corporate Governance?

Md Khalid Hossain
RMIT University, Melbourne, Victoria, Australia

It has been observed that the focus on 'corporate environmental strategy' and 'corporate climate change strategy' are overlapped largely in the area of corporate harms on environment or 'inside-out effects' of corporate activities on environment until now. However, corporations are also facing the effects of climate change in their business operations and have to address those 'outside-in effects' through a different set of corporate climate change strategy. While a considerable amount of focus has been given on 'inside-out' impact related corporate strategies, a negligible focus has been given on the 'outside-in' impact related corporate strategies or corporate climate change 'adaptation' strategy. This strategy could be defined as the adjustment in business strategy to avert risks along with exploiting beneficial opportunities created by climate change impacts. However, the negligible focus on the issue as a whole has created the possibility of corporate activities that may be beneficial for corporations within the definition of climate change adaptation while bringing no or disadvantageous consequences for the society. As 'maladaptation' is observed as the actions which increase vulnerability rather than resilience, it is therefore imperative to take measures so that legitimate, democratic and accountable corporate governance in relation to climate change adaptation strategy could be ensured. Bearing this in mind, through presenting some current debates around corporate climate change strategy and likelihoods of maladaptation, this paper presents a framework of related corporate governance which could be adopted to avoid maladaptation to ensure societal benefits.
A theoretical framework to explore the capability of participative and collective governance for sustainable outcomes - Combining theoretical approaches of Political Science, Institutional Economics and System Theory

Jennifer Meyer-Ueding

_Humboldt University Berlin Department of Agricultural Economics and Social Sciences Division of Cooperative Sciences, Berlin, Germany_

The paper presents a composite theoretical framework dealing with participative and collective forms of resource governance in integrative institutional settings. Therewith, the framework refers to all five analytical problems covered by the Earth System Governance project, emphasizing architecture, agency and accountability. Given the observable deficiencies of hierarchical governance, the underlying approach argues that the transfer of governance powers to affected stakeholders makes the provision of basic and limited resources more legitimate and sustainable in case it is organized along certain criteria of participation and cooperation. In a multidisciplinary character the approach combines insights from Political Science, Institutional Economics and System Theory. The main theoretical concepts incorporated into the framework cover

1. K. Hagedorn’s (2008, 2002) idea of integrative and segregative institutions based on his Institutions of Sustainability (IoS) framework;
2. The empirical-analytical concept of participative governance, following inter alia H. Walk, (2008) and B. Geißel (2009);
3. E. Ostrom’s (2005, 2009) considerations on collective action based on her Institutional Analysis and Development (IAD) and Socio-Ecological Systems (SES) frameworks;
5. The system theoretic approach according to D. Easton (1965) and Almond and Powell (1966, 2000).

The framework is developed for analyzing the degree of participative governance and collective action along respective organizational forms of civil society at the local level in the urban context in India (i.e. cooperatives, NGOs, CBOs) but can be employed for analyzing different organizational forms at different levels (local, regional, national, global).
An Integrative Approach to Addressing the Socio-Natural Complexity of Carbon and Climate Governance

Jennifer Rice¹, Paul Hirsch²
¹University of Georgia, Athens, GA, USA, ²SUNY - College of Environmental Science and Forestry, Syracuse, NY, USA

In a post-Kyoto word, issues of environmental governance have become intrinsically bound up with the calculation and valuation of carbon flows. This new policy architecture demands effective translation between social and physical sciences, that is—an analytical framework that can be used across disciplinary approaches, including those that often stand in inherent tension with each other. We provide an integrative approach for understanding and assessing complex socio-environmental issues of measurement and management, such as carbon governance. Our framework uses three integrative lenses that both social and physical sciences can address, including valuation (what counts and how), process (through what means and where), and power (in whose interest and how equitably) to assess the environmental and social justice trade offs that accompany any governance structure. In the case of carbon governance this encompasses 1) how and why carbon becomes a unitary representation of what is valuable and measurable; 2) the role of carbon as the basis for scientific inquiry and decision-making; 3) the use of carbon markets as a way of promoting environmental sustainability (particularly within areas characterized by historic and/or institutionalized inequality and injustices), and 4) cross-scale complexities of carbon management. Our integrative framework actively seeks out different (often conflicting) perspectives and goals with respect to problem framings, knowledge, and appropriate solutions for socio-environmental concerns, with the aim of more carefully articulating the architecture, accessibility, and adaptive potential of carbon governance. This approach, we argue, provides a promising framework for linking the five A’s of earth systems governance.

Meeting the climate change challenge: A scan of greenhouse gas emissions and climate change action in British Columbian communities

Sarah Burch, Yuill Herbert
the University of British Columbia, Vancouver, Canada

The Canadian province of British Columbia (BC) is taking significant steps towards climate change mitigation, including a carbon tax on fossil fuels and legislation that mandates greenhouse gas reductions within public sector organizations and greenhouse gas reduction targets for
municipalities. Groups such as the Federation of Canadian Municipalities and the Fraser Basin Council have led extensive programs to stimulate climate change adaptation planning throughout the province. Communities are responding to these signals with the tools available to them (such as land use and transportation planning, waste management, and public engagement campaigns) but also face a range of barriers to innovation on climate change. This paper assesses the greenhouse gas emissions of BC communities using the provincially mandated Community Energy and Emissions Inventory (CEEI) reports. We map trends in energy consumption and emissions per capita while uncovering correlations between these variables and land use planning, geographic, and demographic variables. We deepen this analysis to explore the extent to which BC communities have pursued the multi-level governance of climate change mitigation and adaptation. Despite the relatively nascent state of many of these initiatives, we find compelling examples of innovation and growing momentum behind sub-national climate policy. We conclude by identifying the need for a deeper exploration of the drivers of community-level climate change action, and the strategies that might be employed to facilitate and scale up both adaptation and mitigation.

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The rise and fall of the South African feed-in tariff

Anna Pegels

*German Development Institute, Bonn, Germany*

The carbon intensity of the South African economy is among the highest worldwide: The amount of CO2 emitted per million international dollars generated almost reaches twice the world average. First steps have been taken by the South African government to tackle the decarbonisation challenge, such as the introduction of a renewable energy feed-in tariff (REFIT) in 2009. However, the REFIT is a showcase for potential pitfalls in the implementation of renewable energy support policies: A stalemate of two years after the introduction ended with the abandonment of the scheme in favour of a competitive bidding process in 2011. This paper seeks to analyse the underlying reasons and derive recommendations for similar situations in the future. The paper identifies three main barriers to the implementation of the REFIT: 1) Societal priorities other than the deployment of renewable energy technologies, 2) a lack of coordination and capacity at policy makers’ level, and 3) strong lobby groups with interests in fossil fuel technologies. Many of the recommendations derived for South African policy makers can be transferred to other country contexts, such as informing the public about climate change and stressing the positive side-effects of renewable energy technologies, thereby building public support, making use of international mechanisms to build political momentum, forming clean energy coalitions with powerful groups in the society, establishing inter-ministerial groups with oversight authority to enhance political coordination, supporting established energy suppliers in their discovery of RETs as a new business field and strengthening the position and capacity of renewable energy newcomers.
Session E5

Global Climate Governance across Scales

Chair: Philipp Pattberg
VU University Amsterdam, The Netherlands

This panel explores current options for effective global climate governance at different scales. Papers address the challenge of finding the best overall architecture for climate governance, the current increase in fragmentation within and beyond the United Nations climate negotiations and finally the relevance of governing climate change at the local level with a particular focus on climate justice and cities.

The panel is organized by COST Action “Transformation of Global Environmental Governance: Risks and Opportunities”.

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Climate regime(s): Key architecture challenges

Steinar Andresen
The Fridtjof Nansen Institute, Lysaker, Akershus, Norway

Both in academic and policy circles there is a trans-Atlantic divide over the future architecture of climate regime(s). In Europe the top down all inclusive approach, as manifested in the UNFCC and the Kyoto Protocol, is embraced. For most European academics this also seem to be the regime most oftenly referred to. In contrast, prominent US researchers have come up with the the notion of climate regime complexes and many of them also favor a bottom up approach, as do key US policymakers. In the short run, the most important question to deal with for climate negotiators is whether to embrace a top-down or a bottom up approach. Both options are feasible within the framework of the Cancun Agreement although there has been a development towards a bottom up approach. Merits and short-comings of both these approaches will be discussed and linked to the ongoing discussion of soft law vs. hard law. Research has shown that hard law may stand a higher degree of rendering increased effectiveness, a combination of the two may also give positive results. Although a legally binding agreement may be the preferred option in the long run, a bottom up pledge and review approach may make it easier to enlist reluctant actors like the US and emerging economies. Although the UN based regime will play a key role in the foreseeable future, more exclusive ‘clubs’ may be needed to supplement the UN regime. If so, it is important that synergies, and not conflicts, are forged.

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Contesting climate justice in the city: examining politics and practice in urban climate change experiments

Gareth Edwards, Harriet Bulkeley
Durham University, Durham, UK
Charged with responsibilities for reducing GHG emissions and adapting to the impacts of climate change, municipal authorities and a range of private and civil society actors have come to view cities as a key arena in which they can address climate change whilst also pursuing wider social, economic and environmental interests. Providing 'climate resilient' housing, creating forms of low carbon energy supply, improving public transit and greening the city are regarded as a means through which financial savings, green jobs, health benefits, and improved urban habitats can be created. Alongside changes to urban planning and policy, this discourse about the responsibility and opportunity for cities to address climate change is giving rise to a range of new forms of intervention, or 'climate change experiments'. In this paper, we examine the economic and political relations that are shaping the assemblage of climate change experiments and how these in turn configure issues of climate justice - of responsibilities and of rights. Examining two cases, the "Retrofit Philly 'Coolest Block' Contest" and the WWF Climateers Hong Kong, we examine the ways in which urban infrastructure, housing and everyday practices are being reconfigured in the light of climate change and consider the implications for how issues of social and environmental justice can be addressed. In particular, we examine how and for whom such experiments create benefit and consider the ways in which such forms of intervention may serve to challenge or sustain existing forms of urban inequality.

**The Fragmentation of Global Climate Governance: Causes, Consequences and Responses**

Fariborz Zelli¹,², Harro van Asselt³,⁴

¹Lund University, Lund, Sweden, ²German Development Institute, Bonn, Germany, ³Stockholm Environment Institute, Stockholm, Sweden, ⁴Oxford University, Oxford, Germany

This paper addresses the conference themes 'transforming the institutional framework for sustainable development' and 'linking the 5 A', by bringing together the problems of architecture, accountability and allocation. The paper draws on the outcomes of an expert workshop on the fragmentation of global environmental governance, allowing for an analysis encompassing different environmental policy domains, such as climate change and energy, biological diversity, fisheries, water, forests and chemicals. A first question we address is: how can the observed institutional fragmentation be explained with the help of explanatory variables (e.g. power, constellation of interests, knowledge, norms, discourses)? We provide an overview of major theory-based approaches currently used in the literature on fragmentation and their different explanatory power across selected issue areas. Second, what are the advantages and drawbacks of institutional fragmentation with regard to negotiation dynamics and decision-making procedures at different levels? We find that such implications include aspects of legitimacy of smaller or restricted forums ('accountability'), including or excluding the interests of certain actors ('allocation and access') and effects on the operation of monitoring and implementation review systems. Third, what are options for and limits to the management of fragmentation? In the context of discussions about the reform of international environmental governance, the paper suggests that options such as the clustering of multilateral environmental agreements may prove quite successful in policy fields where agreements have clear-cut scopes, while being less adequate for issue areas with less well-defined boundaries of subject matters.
Session E6

Dimensions of Justice in Environmental Governance

Chair: Barry Ness
Lund University, Sweden

Electronic waste imports and informal recycling in Pakistan - a multidimensional governance challenge

Shakila Umair, Stefan Anderberg
Lund University, Lund, Sweden

Flows of electronic waste have grown dramatically with the diffusion of PCs and mobile phones. Much of the e-waste in industrialized countries end up in informal recycling in developing countries, that is extremely polluting and damaging to human health. The goal of the project "Electronic waste recycling in developing countries" is to contribute to the overview and understanding of e-waste flows and related governance problems via analysis of international e-waste flows, and local effects of recycling and dumping in developing countries. The paper focuses on the e-waste flows in Pakistan, which is one of the largest receivers of e-waste, impacts of informal recycling, and related governance challenges. It presents a preliminary overview of flows of e-waste into the country, and involved stakeholders, and case studies of the informal e-waste recycling in the three major cities, based on interviews with stakeholders and site observations. The imports are in complete violation of international treaties. E-waste is brought into the country camouflaged as second hand equipment, donations and as Afghan imports. E-waste recycling provide poor urban communities with a lucrative yet hazardous means of livelihood. Recycling processes such as manual dismantling of equipment, burning of cables, and dipping of motherboard in acid for extraction of precious metals have drastic impacts on both environment and health. All involved in E-waste recycling in Pakistan have very high profit margins, but impacts are mostly borne by the most vulnerable and poor. Local and national authorities seem unaware or have not shown much interest in the risks of this expanding business.

Local Governance of Social-Ecological Systems in Tourism Dependent Areas of the Mesoamerican Reef: Implications for Resilience and Social Justice

Susan C Stonich¹, Sara E Alexander²
¹University of California, Santa Barbara, CA, USA, ²Baylor University, Waco, TX, USA

The Mesoamerican Reef (MARS), the longest barrier reef in the Western Hemisphere, stretches more than 1,000 km from the northern tip of the Yucatan, Mexico to the coastal region of northern Honduras. Given its spectacular natural and cultural attractions, it is not surprising that tourism is the dominant economic sector in the region and that at the regional, national, and local levels the peoples of the MARS are significantly dependent on tourism incomes. In turn, the tourism sector is critically dependent on the health of the reef and adjacent coastal ecosystems. However, multiple
exogenous and endogenous stresses, emanating from short term surprises interspersed with longer-term forces, currently threaten the health of the biophysical environment on which tourism depends and the resilience of the social-ecological systems of the MARS. Responses to these interrelated threats include the creation of various modes of local tourism governance aimed at reducing existing vulnerabilities and enhancing the resilience of social-ecological systems. This paper summarizes the major findings of a 3-year project funded by the U.S. National Oceanic and Atmospheric Administration co-directed by the authors. It compares and contrasts local tourism governance networks in three different tourism dependent coastal areas of the MARS in terms of their histories, institutions, and structures within the context of national and international governance policies, and their effects on local and national tourism policies. The various local governance approaches are then evaluated in terms of their advantages and disadvantages, especially related to their capacity to strengthen more just, fair, and equitable governance.

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**Women’s Empowerment in Natural Resources for Equitable Earth System Governance in Himalaya**

Prakash Chandra Tiwari
*Kumaun University, Nainital, Uttarakhand, India*

Himalaya being ecologically fragile, economically underdeveloped and densely populated is highly vulnerable to global change. Due to limitations of terrain subsistence agriculture constitutes main source of rural livelihood. Consequently, large proportion of men out-migrates in search of employment. Hence, women are primary resource developers and backbone of subsistence economy. However, they do not enjoy ownership of natural resources and excluded from resource management process due to physical, economic, social and political inequality. Majority of developmental programmes failed due to gender discrimination. This is posing serious threat to equitable access to and governance of natural resources and to improving adaptive capacity of both natural and social systems to long-term impacts of global change. Main objective of paper is to analyze factors of gender inequality and evolve an institutional framework for social, economic and political empowerment of rural women.

Relevant data was generated through primary social-surveys. Study revealed low educational level of women (21%) and consequent lack of awareness about their rights excluded women from resource ownership and their participatory governance. In view of this, an institutional mechanism was evolved: (i) to educate women through informational system, (ii) women’s capacity building through awareness development and training, (iii) empowering women in natural resources, and (iv) constituting Village Natural Resource Governance Committees (VNRMCs) with minimum 50% women’s representation. It was observed that rise in educational level, increase in awareness and capacity building enhanced women’s access to natural resources and motivated them to involve actively in resource governance which facilitated sustainable development of natural resources.
Environmental Justice Organizations: their role in resource extraction conflicts and in waste disposal conflicts

Joan Martinez-Alier, Beatriz Rodriguez-Labajos, Leah Temper
ICTA Universitat Autonoma de Barcelona, Barcelona, Catalonia, Spain

As the social metabolism increases, the search for energy and materials reaches the last "commodity frontiers". Waste disposal also increases, including excessive production of carbon dioxide. Often, those most heavily impacted are poor people and indigenous peoples, who depend most directly on natural resources for their livelihood. Environmental Justice Organizations (EJOs) are civil society organizations involved in conflicts over resource extraction or waste disposal, focusing on the link between the need for access to environmental resources and services, and the defence of basic human rights with the aim to redress inequitable environmental burdens. The paper will present first results from the project Environmental Justice Organizations, Liabilities and Trade, 2011-15, uniting scientists, activist organizations, think-tanks, policy-makers from the fields of environmental law, environmental health, political ecology, ecological economics, to research and make visible Ecological Distribution Conflicts. Central concepts are Ecological Debts (or Environmental Liabilities) and Ecologically Unequal Exchange. We focus on the use of these concepts in science and in environmental activism and policy-making. The Action Plan of EJOLT comprises the production of databases, networking platforms, mutual case study development, workshops, possible legal actions, policy papers, dissemination of best practices, and training materials on environmental conflicts for EJOs, other stakeholders and policy-makers, geared to a key issue of immediate interest to society, namely: Which are the underlying causes of increasing ecological distribution conflicts at different scales, and how to turn such conflicts into forces for environmental sustainability?
Session E7
Conservation versus Local Communities

Chair: Melissa Hansen
*Lund University, Sweden*

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**Cross-Scale Value Trade-Offs in Managing Social-Ecological Systems: The Politics of Scale in Ruaha National Park, Tanzania**

Asim Zia¹, Paul Hirsch², Alexander Songorwa³, David Mutekanga⁴, Sheila OConnor⁵, Thomas McShane⁶, Peter Brosius⁷, Bryan Norton⁷

¹University of Vermont, Burlington VT, USA, ²SUNY College of Environmental Science and Forestry, Syracuse NY, USA, ³Sokoine University of Agriculture, Morogoro, Tanzania, ⁴Wildlife Conservation Society, Ruaha National Park, Tanzania, ⁵Arizona State University, Tempe AZ, USA, ⁶University of Georgia, Athens GA, USA, ⁷Georgia Institute of Technology, Atlanta GA, USA

Management of social-ecological systems takes place amidst complex governance processes and cross-scale institutional arrangements that are mediated through politics of scale. Each management scenario generates distinct cross-scale trade-offs in the distribution of pluralistic values. This study explores the hypothesis that conservation-oriented management scenarios generate higher value for international and national scale social organizations, whereas mixed or more balanced management scenarios generate higher value for local scale social organizations. This hypothesis is explored in the management context of Ruaha National Park (RNP), Tanzania, especially the 2006 expansion of RNP that led to the eviction of many pastoralists and farmers. Five management scenarios for RNP, i.e., national park, game reserve, game control area, multiple use area, and open area, are evaluated in a multicriteria decision analytical framework on six valuation criteria: economic welfare; good governance; socio-cultural values; social equity; ecosystem services; and biodiversity protection; and at three spatial scales: local, national, and international. Based upon this evaluation, we discuss the politics of scale that ensue from the implementation of management alternatives with different mixes of conservation and development goals in social-ecological systems.

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**Unpacking governance in Swedish reindeer husbandry: The role of images, instruments and actions**

Annette Löf
*Lund University, Umeå, Sweden*

Reindeer husbandry is practiced across the circumpolar North and is commonly considered a "traditional" and highly adaptive practice. In Sweden it is considered an immemorial based usufruct right, exclusive to the Indigenous Sami, and includes more than 40% of the Swedish land surface. Today escalating levels of conflict and novel challenges, particularly in terms of land-use and climate change, call into question both the assumed adaptability and governability of Swedish reindeer husbandry. Drawing on Kooiman's Interactive Governance theory this paper unpacks the governance system of reindeer husbandry and presents an analysis of how governability - i.e. the capacity for governance - is currently limited and could be enhanced. The analytical tools employed are governing
images, instruments, action and governing modes. Based on previous research, interviews, observations and document analyses, the study reveals crucial patterns of both continuity and change in the governance system and how governing images, although playing a key role in determining governability, are often made implicit.

Why do poor people pay for conservation in Africa?

Hanne Svarstad¹, Pål Vedeld², Tor A. Benjaminsen², Espen Sjaastad², David M. Tumusiime²
¹NINA, Oslo, Norway, ²Norwegian University of Life Sciences, Ås, Norway

The paper is based on an inter-disciplinary research project carried out 2008-2012 with four in-depth case studies - two in Uganda and two in Tanzania. In the leading conservation discourse today, conservation practices are presented as involving win-win-win situations that fulfil aims of maintaining biodiversity, mitigation of climate change and poverty reduction through various benefit-sharing mechanisms. While the first two aims may be fulfilled, our sociological narrative analyses show that even in assumedly best cases, local villagers tend to be dissatisfied and disappointed. Our socio-economic studies show that they have good reason to be discontent, because benefits accruing to protected area neighbours in the four cases are limited, while the costs they accrue are substantial. In the discussion of explanations for the presented situation, we point at ways that power is exercised by alliances of actors who operate both at national and international levels. Whereas these actors serve their own interests by disseminating narratives of win-wins in conservation, there are barriers preventing more prudent presentations of the situation. Based on our findings in the four cases, we argue that poor people in Africa today pay a high price for conservation because the external initiators have left them to do this. The situation is impossible to interpret as fair and equitable. Our paper ends up with some policy suggestions that are relevant for the 2012 UN Conference on Sustainable Development.
Accountability of IGOs in global environmental governance

Chair: Catia Gregoratti
Lund University, Sweden

Climate Advocacy: Civil Society Strategies in the UN Climate Change Negotiations

Johannes Kruse
Bremen International Graduate School of Social Sciences, Bremen, Germany

This paper will analyze the advocacy strategies of non-governmental organizations (NGOs) in the UN climate change negotiations. In the climate change regime, civil society and NGOs enjoys far-reaching consultation and participation opportunities. The activities of NGOs, however, can range from protests in the streets and alternative people’s summits to highly professionalized consultations in closed circuits and decision-making fora. In order to improve our understanding of climate advocacy, the paper will address three questions: First, what advocacy activities are pursued by NGOs in and around UN climate change conferences? Second, how do NGOs balance their participation in the empowered space of international climate negotiations with other more contentious activities in the public space such as mass demonstrations or publicity stunts? Third, what implications do these choices have for the legitimacy of the UNFCCC negotiations and for the accountability and influence of NGOs? To answer these questions, data is drawn from participant observation of the 2011 UN climate change conference in Durban, South Africa, and from a set of semi-structured expert interviews with NGO activists. Additional empirical material is compiled from primary documents, media sources, and secondary analysis covering the conferences in Copenhagen (2009) and Cancún (2010). A closer examination of these questions holds the potential to improve our understanding of the role NGO advocacy plays in global environmental governance.

A move towards more participation in IGOs? Evidence from German diplomacy

Tobias Weise
Universität Bremen, Bremen, Germany

Questions of who should be allowed to participate in institutions of global rule making have drawn growing attention both empirically and normatively. One reason for this is the growing political power these institutions possess. Here, it is especially intergovernmental organizations (IGOs) that have the most impact on national politics and therefore on individual lives. Consequently, looking at IGOs in questions of participation is a central concern in the debate. This paper analyses how argumentative patterns towards the participation of non-state actors are used in German diplomacy. Diplomats are chosen because it is them that need to decide in IGOs if more participation should be allowed. German diplomacy is an interesting case because it is often described to be driven by scripts
and concepts of Germany as a civil power. The paper analyzes policy documents and interview material. It provides some evidence that traditional normative footings of governance as an exclusive club of states are beginning to be replaced by more participative notions of rule making in IGOs.

**Power dynamics in the production of governance in the Clean Development Mechanism**

Emma Lund  
*Lund University, Lund, Sweden*

The Clean Development Mechanism (CDM) of the Kyoto Protocol engages private companies in implementing and supervising projects reducing greenhouse gas emissions in developing countries, creating emission reduction credits that can be traded on the carbon market. The active role of business in the CDM does not, however, mean that the mechanism could function independently of public actors. The market depends on public actors both to create a demand for credits, and to uphold legitimacy and trust in the mechanism. Since both public and private actors are intimately involved in the production of governance in the CDM, a traditional approach to the study of the role of business on global governance, conceptualising governance as either public or private, is not very helpful. An alternative approach is offered by the sociology of markets literature, which argues that markets are constructed in a process of trial and error, involving a multitude of actors. A new market mechanism such as the CDM is a case just in point for these scholars, as it is actually being constructed in front of our eyes. But where is agency and authority located in this process? In order to trace the power dynamics in the production of governance in the CDM, this paper explores the interaction between public and private actors throughout the development of the CDM, from its inception in Kyoto 1997 until the end of 2011, drawing upon evaluations of the mechanism by market actors and academics as well as documents from the negotiations.