

DISCLOSING SUSTAINABILITY

THE TRANSFORMATIVE POWER OF TRANSPARENCY?



**An International Conference organized by the
Environmental Policy Group
Wageningen University, The Netherlands
24-25 June 2016**

Conference Programme



Contents

Hosts and Sponsors	3
Welcome and Conference Theme	4
Contact Details	6
Conference Venue	7
Getting to the Conference Venue	8
Conference Organizing Committee	10
International Advisory Committee	12
Keynote and Plenary Speaker Profiles	13
Programme Overview	19
Conference Panels by Theme	24
Floorplan	25
Presentation and Chairing Guidelines	26
Full Programme	27
List of Participants	81

Disclosing Sustainability: The Transformative Power of Sustainability?

Wageningen, The Netherlands, 24-25 June, 2016

Hosts



Environmental Policy Group (ENP), Wageningen University



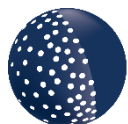
Wageningen School
of Social Sciences

Wageningen School of Social Sciences (WASS)



SENSE – The Netherlands Research School for Socio-Economic and Natural Science of the Environment

Endorsed by



Earth
System
Governance

Earth System Governance Project (ESG)



International Sociological Association
Research Committee on Environment and Society

International Sociological Association – Research Committee on Environment and Society (RC24)

Welcome

Dear Conference Participant,

On behalf of the Environmental Policy Group, as well as our co-hosts and sponsors, we are delighted to welcome you to Wageningen and the Netherlands!

We are convinced that transparency and its relationship to sustainability merits sustained scholarly and policy attention. It is our hope that interrogating this relationship through a variety of disciplinary, interdisciplinary and transdisciplinary perspectives, as we aim to do here, will yield fruitful theoretical and empirical dividends.

We look forward to inspiring discussions with you all during the next two days!

With best regards,

Aarti Gupta, Ingrid Boas, and Peter Oosterveer
Conference Chairs

Conference Theme and Sub-Themes

Transparency is one of the most widely touted concepts of our age. We live in an era of ever greater openness and disclosure of information, even as a push for more transparency is not discernible to the same extent everywhere and in all social settings. The driving force of this growing call for transparency is an unwavering belief in its potential to foster more accountable, democratic and effective decision-making and action at different levels and across public and private domains. While the transparency turn is being ever more closely scrutinized in policy domains such as diplomacy, national security, human rights, or economic relations, the relationship between *transparency* and *sustainability* remains strikingly obscure. Yet even in this realm, there remains an assumption that transparency is transformative, i.e. that greater openness and deliberative acts of information disclosure can empower those previously uninformed about the sites and sources of environmental gains or losses, and can transform practices and institutions towards sustainability. Yet does transparency live up to its sustainability promise? Does it enhance the accountability of those perpetuating environmental harm and foster improved environmental outcomes? Such questions are theoretically and empirically under-examined. This conference will address such questions for a wide array of environmental challenges and sectors.

There are three inter-related conference streams:

1. Transparency, accountability and empowerment in global environmental governance

Increasingly, 'governance by disclosure' is pervading public and private attempts to govern transboundary environmental challenges, ranging from trade in hazardous

substances to climate change. A key development is a growing reliance on monitoring, reporting and verification (MRV) systems, as a means to enhance accountability and improve sustainability performance. Yet the politics of MRV systems (and governance by disclosure) remains little scrutinized. Who is being held to account, who is empowered, and (how) is sustainability being furthered? We welcome papers that explore the relationships between transparency, accountability, empowerment, and improved sustainability performance in a wide range of multilaterally negotiated state-led and public-private-hybrid environmental governance arrangements. Particularly less examined are areas requiring anticipatory governance of novel technologies, such as geoengineering, synthetic biology or nanotechnology. By anticipatory governance, we mean governance in the face of extreme uncertainty and normative conflict over the very existence and nature of harm. How (if at all) is transparency and governance by disclosure implicated in anticipatory governance of novel technological risk and harm?

2. Transparency and traceability in commodity chains

Transparency is rapidly moving to the centre of sustainability governance of (global) commodity chains, and is accompanied by new actor roles and changing power relations. Pressure is increasing to supply information about the environmental performance of commodity chains (products as well as production and processing methods) through labelling and certification schemes or other means. In the context of globalizing modernity, enhanced sustainability is often seen as resulting from transparency through traceability. Yet, how is the quality and reliability of information within commodity chains assessed by different involved actors? What forms of and challenges to trust exist between different commodity chain actors? Who is deciding on information standards and who is in control of informational flows? How can the need for clear and reliable standards be balanced with the search for continuous improvement in commodity chains? If transparency becomes a marketable product in itself, what are the consequences for sustainability and different societal actors?

3. Citizen generated (and citizen-centered) transparency

The relationship between transparency and sustainability is often approached through a top-down perspective, with a focus on institutions, rules and technocratic monitoring systems. An alternative to this approach is how transparency can be achieved bottom-up or through co-creation. Citizens, as individuals or organized in collectives, are increasingly involved in the analysis, provisioning and monitoring of sustainable development. Citizens detect environmental problems through innovative technologies, such as smart phones; monitor energy use and consumption through in-house displays; or analyze data on sustainable development through open data platforms. What do these developments mean for promoting sustainability through transparency? Do citizens gain greater insight and influence over trajectories of sustainable development? Does this *empower them to creatively self- or co-organize sustainable lifestyles*? If so, who gets involved and in what ways do they become empowered? Or do new technologies of visibility actually control and constrain citizen involvement, demanding more top-down oversight?

Contact Details

Conference Organization

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Environmental Policy Group
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6700 EW Wageningen
The Netherlands

Web: www.transparencyp2016.com

Conference Venue

Hotel De Wageningsche Berg

De Wageningsche Berg is a four-star hotel situated in southeast Wageningen, in a wooded area between the Utrecht Ridge and the Lower Rhine. It sports a panoramic view across the river, the floodplain and the Betuwe.



Contact

Phone: +31-(0)317-495911
E-mail: info@hoteldewageningscheberg.nl
Web: <http://hoteldewageningscheberg.nl>
Address: De Wageningsche Berg
Generaal Foulkesweg 96
6703 DS Wageningen

Facilities at the Conference Venue

The conference registration fee covers refreshments during the breaks and both lunches. The conference dinner on June 24 is also included.

Hotel De Wageningsche Berg offers the following facilities:

- Free wireless internet in public areas and rooms
- Reading table with newspapers and magazines
- Transfer service (on request)
- Car- and bicycle rent (on request)
- Free Parking
- Wheelchair accessible
- Six rooms suitable for disabled guests
- 24-Hour Front Desk
- Check in from 15.00 hour
- Check out for 11.00 hour
- Only smoking free rooms (smoking free hotel)
- If you want to use copy and printing facilities at the conference hotel, please ask a member of the conference organization or the hotel staff directly

From: <http://hoteldewageningscheberg.nl/en/hotel/facilities/>

Getting to the Conference Venue

Wageningen is located in the centre of the Netherlands and is easily reachable by car and public transport. When traveling by public transport, we recommend using travel planner <http://9292.nl/en#> when planning your journey from the airport.

From Schiphol Airport to Wageningen by train

The closest airport is Schiphol (Amsterdam). Enter Arrivals and follow the signs from Schiphol Arrival Hall to the Railway Station: "to the trains". At the train station you can purchase a ticket to "Ede-Wageningen" from one of the yellow vending machines, or at the Service Desk.

Easiest is to take the intercity train to "Nijmegen" which departs twice per hour (at ...:00 or ...:30). Get-off at "Ede-Wageningen" which is the 5th stop. The train journey will take around 1 hour.

Public transport from train station Ede-Wageningen to the conference hotel

From Ede-Wageningen station, take bus 84, 86 or 88. You can purchase your bus ticket in the bus (do bring coins or a 10-20 euro bill). Get off at the final stop called "bus station Wageningen". Then switch to bus line 352, 51 or 53 that head towards Arnhem. You have to get off at the third stop called "Wageningse Berg". The rest of the route you have to travel by foot. Turn right at the first roundabout, then immediately left into the woods, keeping right. After 200 meters you will arrive at the parking area of the hotel De Wageningsche Berg.

Alternatively, you may take a taxi from the train station to the hotel. Please note that taxis are expensive in the Netherlands. A taxi from Ede-Wageningen train station to Wageningen costs approximately € 30.00.

By car

Wageningen is located near highways A12, A50, and A15 and easily reachable. A car journey from airport Schiphol to Wageningen takes approximately 1 hour. It is convenient to plan your car journey using [Google Maps](#). Parking space is available at the hotel.

Schiphol Airport to Ede-Wageningen station by train.



Ede-Wageningen to the conference venue by public transport.

The walk from bus stop 'Wageningse Berg' to the hotel.



Conference Organizing Committee

Conference Chairs



Aarti Gupta

Aarti Gupta is Associate Professor with the Environmental Policy Group at Wageningen University. Her research focuses on global environmental politics, including anticipatory governance of novel technologies and the role of science therein; and questions of transparency and accountability. She has published extensively on these topics, including the co-edited book *Transparency in Global Environmental Governance: Critical Perspectives* (MIT press, 2014).

She holds a PhD from Yale University, and has held research fellowships at Harvard and Columbia Universities. She is currently Associate Editor of the journal *Global Environmental Politics*, and Lead Faculty of the international Earth System Governance Project, as well as co-founder of the interdisciplinary REDD@WUR network at Wageningen.



Peter Oosterveer

Peter Oosterveer is Professor at the Environmental Policy Group, Wageningen University. After his MSc Rural Sociology (1982), he received his PhD in 2005. Since then, Peter Oosterveer continued academic work on innovative institutions for sustainability in global food provision, on environmental policy and on general social theory. He has published extensively on these themes in international journals and other scientific publications. Peter Oosterveer is treasurer of

ISA – RC 24 and member of the Board of ESA – RN12. He is member of the Editorial Board of *Environmental Sociology* and *Sustainability: Science, Practice & Policy*.



Ingrid Boas

Ingrid Boas is Assistant Professor at the Environmental Policy Group at Wageningen University. Ingrid's research is focused on the intersection between environmental change, governance and mobilities examining environmental, informational and migration flows. Her recent book is *Climate Migration and Security: Securitisation as a Strategy in Climate Change Politics*, published with Routledge (2015). She is a research fellow with the Earth Sys-

tem Governance Network; was member of the Management Committee of the EU COST ACTION on climate change and migration that ended in 2015; and served as an expert on environmental migration on several occasions, including at the EU and the UN.

Conference Management



Robin Smale

Conference Manager

Robin Smale, MSc, is PhD candidate at the Environmental Policy Group, Wageningen University. His research project, titled *Emerging Energy Practices in the Smart Grid*, investigates the smart grid transition from a social practices and householder perspective. Robin Smale has a MSc degree in Environmental Sciences from Wageningen University, with a minor in Development Sociology from Lund

University. Twitter: @Robin_Smale. Project website: www.energyinpractices.com



Nila Kamil

Logistics Coordinator

Nila Kamil is a PhD student at the Environmental Policy Group, Wageningen University. Her research focuses on transparency in climate governance in developing countries. She is analysing the politics of transparency in the United Nations Framework Convention on Climate Change, and the establishment and implementation of Measuring, Reporting and

Verification (MRV) systems for climate mitigation actions in China, India and Indonesia. A key question is whether MRV systems can contribute to identifying opportunities for low emission development pathways in these countries. Nila holds a Master's degree in Climate Studies from Wageningen University and a Bachelor's degree in International Relations from University of Indonesia.

International Advisory Committee

Saurabh Arora, University of Sussex (United Kingdom)

Bas Arts, Wageningen University (Netherlands)

Magnus Boström, Örebro University (Sweden)

Daniel Esty, Yale University (USA)

Elena Fagotto, Harvard University (USA)

Koichi Hasegawa, Tohoku University (Japan)

Virginia Haufler, University of Maryland (USA)

Ans Kolk, University of Amsterdam (Netherlands)

Phil Macnaghten, Wageningen University (Netherlands)

Simon Marvin, University of Sheffield (United Kingdom)

Susan Park, University of Sydney (Australia)

Gert Spaargaren, Wageningen University (Netherlands)

Keynote and Plenary Speaker Profiles

Keynote Speakers

Arthur Mol



Arthur P.J. Mol is professor of environmental policy and Rector Magnificus (vice-president) at Wageningen UR, the Netherlands. He has worked and published extensively on environmental politics and governance, globalization, environment and social theory, and China. He was trained in environmental studies (MSc) and sociology (PhD). He has also been professor of environmental policy at Renmin University, China; at Tsinghua University, China; and at the National University of Malaysia UKM. He is joint editor of the journal *Environmental Politics*, and book series editor of *New Horizons in Environmental Politics*. He is

author of, among others, *Environmental Reform in the Information Age: The Contours of Informational Governance* (Cambridge University Press, 2011).

Hans Bruyninckx

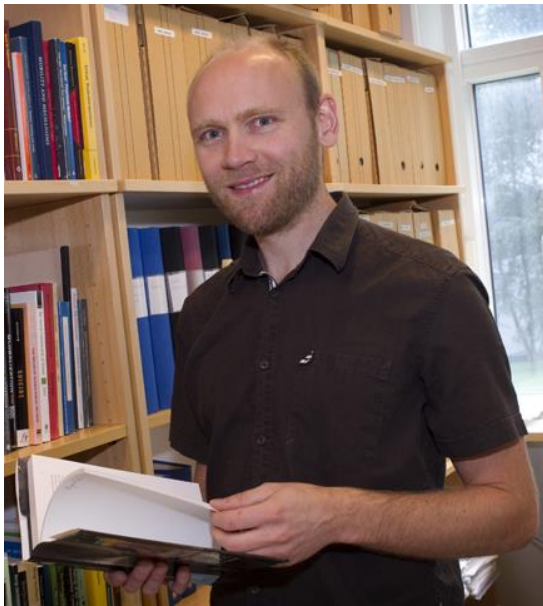


Hans Bruyninckx has been the Executive Director of the European Environment Agency (EEA) since 1 June, 2013. Dr Bruyninckx is a political scientist with degrees from Antwerp University and Katholieke Universiteit Leuven. In 1996, he received his PhD from Colorado State University on the topic of international environmental politics. Prior to joining the EEA, he was head of the HIVA Research Institute in Leuven, which specializes in policy research. Over the last 20 years, Dr. Bruyninckx has conducted research in more than a dozen countries on environmental politics, climate change, and sustainable development. He has been involved in numerous policy processes as

an advisory board member, and has been academic policy advisor to governmental agencies. He has also worked intensely with civil society and business actors in support of public-private initiatives or private regulatory approaches to environmental, climate change and sustainability issues. He was president of the board of Bond Better Leefmilieu (The Association for a Better Environment), a Flemish umbrella organisation bringing together many different environmental groups.

Plenary Speakers (alphabetical)

Magnus Boström



Magnus Boström is Professor in Sociology at Örebro University in Sweden, with a research focus in the field of environmental sociology. More specifically, in his research, Boström focuses on the themes environment, politics and organization and their intersection. He studies politics, governance, participation, communication, organization, and responsibility in relation to transnational environmental and sustainability issues. Boström is also studying how various factors shape green consumerism and organized activism. Boström is member and vice-president of the RC24 (Environment and Society) of the International Sociological Association.

Elena Fagotto



Elena Fagotto is the Director of Research at Harvard University's Transparency Policy Project. Her research focuses on information disclosure, regulatory policy, food policy, and transnational regulatory regimes. She has analysed dozens of US and international transparency policies and published extensively on the role of information disclosure as a regulatory tool and on institutional designs to make transparency more effective. She is a graduate of the Harvard Kennedy School and LUISS University in Rome, where she teaches about transparency and innovations in governance. She has a PhD in Law and Economics from Erasmus University Rotterdam. She has advised the Italian government on how to improve accountability in public education through transparency. Her research has appeared, among others, in the

Journal of Policy Analysis and Management, the *International Journal of Urban and Regional Research*, the *European Journal of Law and Economics*, and *Issues in Science and Technology*.

Virginia Haufler



Virginia Haufler is Director of the Global Communities Living-Learning Programme, and Associate Professor in the Department of Government and Politics at the University of Maryland, College Park. She is a specialist in international relations, international political economy, and global governance. Her current research examines how transnational regulation of the extractive sector addresses conflict and corruption. Publications include *Enabling Economies of Peace* (with Karen Balletine); *A Public Role for the Private Sector: Industry Self-Regulation in a Global Economy*; *Dangerous Commerce: State and Market in the International Risks Insurance Regime*; and *Private Authority and International Affairs* (co-edited with Claire Cutler and Tony Porter).

Angel Hsu



Angel Hsu, PhD, is an Assistant Professor of Environmental Studies at Yale-NUS College and the Yale School of Forestry & Environmental Studies. Her research explores the intersection of science and policy and the use of data-driven approaches to understand environmental sustainability, particularly in the areas of climate change and energy, water, and air quality. Previously, Angel was at the World Resources Institute, where she developed corporate greenhouse gas accounting and reporting initiatives in developing countries. She has written in and been cited by major media outlets and has provided expert testimony for the U.S. government. She holds a PhD in Forestry and Environmental Studies from Yale University.

Phil Macnaghten



Phil Macnaghten has worked in the science in society field since the mid-1990s on a series of science and technology controversies, notably: GM food and crops, transgenic animals, nanotechnologies, synthetic biology, geoengineering and hydraulic fracking. He has developed in-depth qualitative methodologies for researching controversial technologies which, in turn, have informed the development of the Owen/Macnaghten Responsible Innovation framework which is being implemented across the portfolio of EPSRC-funded research. Currently working as Personal Professor in Technology and International Development at Wageningen University, Phil was previously a Visiting Professor

at the University of Campinas (Brazil) (2012–2015) and Professor of Geography at Durham University (UK) (2006–2015).

Simon Marvin



Professor Simon Marvin is Director of the Urban Institute University of Sheffield. He is an internationally recognised academic with an excellent publication profile with class leading expertise in constructing conceptual understanding and empirical evidence of the changing relations between socio-technical networks and urban and regional restructuring. To date, he has played major roles within urban research towards addressing important questions surrounding telecommunications, infrastructure and mobility, sustainability and infrastructure, smart meters, interdisciplinary urban research, and, most recently, cities, systemic transitions, energy, climate change, ecological security and smart cities.

Susan Park



Susan Park is an Associate Professor in International Relations at the University of Sydney. She focuses on how state and non-state actors use formal and informal influence to make international organisations, particularly the Multilateral Development Banks, greener and more accountable. She has published in numerous journals, most recently in *Global Policy*. Her book *The World Bank Group and Environmentalists: Changing International Organisation Identities* was published by Manchester University Press in 2010 and she has co-edited two books. Susan is co-convenor with Dr. Teresa Kramarz (University of Toronto) of the Earth Systems Governance Task Force 'Accountability in Global Environmental Governance.'

Graham Smith



Graham Smith is Professor of Politics at the Centre for the Study of Democracy, University of Westminster, UK. He is a specialist in democratic theory and practice and environmental politics. His publications include *Democratic Innovations: Designing Institutions for Citizen Participation* (Cambridge University Press, 2009). Graham is an investigator on a number of international research projects, including Participedia, a global knowledge platform on participatory governance; Cherry-picking: The Results of Participatory Processes; and Democracy Matters that has organized pilot constitutional assemblies in the UK. He is Chair of the Foundation for Democracy and Sustainable Development.

Gert Spaargaren



Gert Spaargaren is Professor of 'Environmental Policy for Sustainable Lifestyles and Patterns of Consumption' at the Environmental Policy Group of Wageningen University, The Netherlands. His main research interests and publications are in the field of environmental sociology, sustainable consumption and behavior, and the globalization of environmental reform. His recent books include *Food Practices in Transition; Changing Food Consumption, Retail and Production in the Age of Reflexive Modernity* (edited with Peter Oosterveer and Anne Loeber, Routledge, 2012), and *Practice Theories and Research* (with Don Weenink and Machiel Lamers) to be published at Routledge in 2016.

Pre-dinner Speaker

Martin Herold



Martin Herold is Professor in Geo-Information with emphasis on Remote Sensing at Wageningen University. His research focuses on large area land and forest monitoring and assessments; including approaches to REDD+ monitoring and MRV and analysis of land use-related emissions, uncertainties and links to climate change mitigation in tropical countries.



Programme Overview

Friday 24 June

08:00-08:45	Registration and coffee Room: Arboretumzaal		
09:00-10:30	<p>Opening Plenary I Room: Bosrandzaal</p> <p>Welcome and Introduction to the Conference, Aarti Gupta (Wageningen UR) Keynotes by Arthur Mol (Rector Magnificus of Wageningen UR) and Hans Bruyninckx (Executive Director of the European Environment Agency)</p>		
10:30-11:00	Coffee break Room: Arboretumzaal		
	<i>Parallel sessions I</i>		
11:00-12:30	<p>Panel 1A: Transparency in the Making: Assessments, Scorecards and Open Government Practices Room: Meidoornzaal Chair: Judith van Leeuwen</p> <p>Saheed Matemilola, Isa Elegbede, Brandenburg University of Technology, Germany</p> <ul style="list-style-type: none"> Transparency: A Tool for Effective Environmental Governance in Nigeria <p>Mireia Guix, Xavier Font, Stephen Henderson, Leeds Beckett University, UK</p> <ul style="list-style-type: none"> The Materiality Balance Scorecard- Linking Sustainability to what Matters: Informing Strategy, Practices and Reporting Efforts <p>Shubhra Bhattacharjee, Solidaridad Network Asia, Bangladesh</p> <ul style="list-style-type: none"> No Open Government Data about Managing Hazardous Chemicals of Ship Breaking Industry of Sitakunda Upazila, Bangladesh <p>Beth Edmondson, Federation University, Australia</p> <ul style="list-style-type: none"> Resilient Adaptive Institutions: Bridging Organisations and Paradigms 	<p>Panel 1B: Transparency in Supply Chains Room: Lijsterbeszaal Chair: Simon Bush</p> <p>Agni Kalfagianni, Utrecht University, Netherlands</p> <ul style="list-style-type: none"> The Cognitive Influence of Private Standards in Fisheries and Aquaculture Governance <p>Isa Elegbede, BTU Cottbus-Senftenberg, Germany</p> <ul style="list-style-type: none"> Transparency and Traceability in the Chain of Valued Fisheries Industry: Tools for Sustainability Standards <p>Ieva Misiune, Mykolas Romeris University, Lithuania</p> <ul style="list-style-type: none"> The Functioning of Transnational Environmental Standards for Transparency and Traceability in Commodity Chains: Empirical Evidence from Certified Companies in Lithuania <p>Caroline Jacques, Universidade do Extremo Sul Catarinense, Julia Guivant, Federal University of Santa Catarina, Brazil</p> <ul style="list-style-type: none"> Transparency and Traceability on Global Commodity Chains: The Case of Fast Fashion Industries in Brazil <p>Moises Covarrubias, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> The Urban Nexus: Disclosing Interdependent Flows of Water, Energy and Food in the City 	<p>Panel 1C: Smart Cities and Transparency of Energy Practices Room: Bosrandzaal Chair: Bas van Vliet</p> <p>Ingrid Foss Ballo, University of Bergen, Norway</p> <ul style="list-style-type: none"> Pioneering Energy Practices: Norwegian Prosumers' Motivations and Alternative Imaginations of 'Smart' Energy Futures <p>Joeri Naus, Bas van Vliet, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> Making Domestic Energy Transparent: The Dynamics of Energy and Information in a Smart Grid Environment <p>Robin Smale, Bas van Vliet, Gert Spaargaren, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> Household participation in the Smart Grid: Transparency and Equity <p>Tomas Moe Skjølsvold, Marianne Ryghaug, William Thronsen, NTNU Trondheim, Norway</p> <ul style="list-style-type: none"> Smart Grid Transitions and Their Many Challenges <p>Yolande Strengers, RMIT University, Australia; Mette Kragh Furbo, DEMAND Centre, Lancaster University, UK</p> <ul style="list-style-type: none"> Governing Energy Through Smart Data in Homes and Workplaces
12:30-13:30	Lunch (restaurant)		

13:30-15:00	<p align="center">Plenary II: Transparency and Empowerment Room: Bosrandzaal</p> <p align="center">Speakers: Susan Park (University of Sydney), Magnus Boström (Örebro University), Simon Marvin (University of Sheffield) Chair: Simon Bush</p>			
15:00-15:30	<p align="center">Coffee break Room: Arboretumzaal</p>			
15:30-17:00	<i>Parallel sessions II</i>			
	<p>Panel 2A: The Geopolitics of Multilateral Climate Transparency: Implications of the Paris Agreement Room: Bosrandzaal Chair: Michael Mason</p> <p>Aarti Gupta, Wageningen UR, Netherlands; Harro van Asselt, Stockholm Environment Institute and University of Finland, Finland</p> <ul style="list-style-type: none"> The Politics of Transparency and Accountability in Multilateral Climate Governance <p>Thapelo Letete, Brian Mantlana, University of Cape Town, South Africa</p> <ul style="list-style-type: none"> How Effective are the Domestic MRV Systems of Developing Countries as Transparency Tools for Long-term Climate Action? <p>Harry Vreuls, Netherlands Enterprise Agency (RVO), Netherlands</p> <ul style="list-style-type: none"> A Common Transparency Framework in the Paris Agreement: an EU perspective <p>Alexandra Deprez, Thomas Spencer, Institute for Sustainable Development and International Relations (IDDRI), France</p> <ul style="list-style-type: none"> Assessing the Transformative Potential of the Post-2020 UNFCCC Transparency System 	<p>Panel 2B: Novel Methodological and Analytical Approaches to Transparency Room: Meidoornzaal Chair: Machiel Lamers</p> <p>Katrine Soma, LEI Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> A Bottom-up Transparency Approach - A Case Study in the Southern North Sea <p>Anastasia Moiseeva, Ingrid Boas, Gert Spaargaren, Bas van Vliet, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> Disclosing the Urban Nexus: Mapping and Visualising Social Practices <p>Maria Rebecca Campos, University of the Philippines Open University, Philippines</p> <ul style="list-style-type: none"> Indigenous Community Monitoring and Feedback on Weather Forecast for the Sustainability of Water Resources in the Banaue Rice Terraces, a World Heritage in the Philippines <p>Meenakshi Sinha Swami, University of Delhi, India</p> <ul style="list-style-type: none"> Through the Looking Glass: Transparency of Sustainable Practices in Ecovillages 	<p>Panel 2C: Transparency and Sustainable Palm Oil Room: Lijsterbeszaal Chair: Lena Partzsch</p> <p>Greetje Schouten, Rory Padfield, Duif Kraamwinkel, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> Media Representations of Palm Oil: A Comparative Study of Dutch and Malaysian Newspapers <p>Elena Degli Innocenti, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> Behind the Bottle-Neck: Transparency, Quality and Sustainability in Indonesian Palm Oil Supply <p>Ernah Ernah, Leibniz University Hannover, Germany; Padjadjaran University, Indonesia</p> <ul style="list-style-type: none"> The Indonesian Sustainable Palm Oil: Stakeholder Assessments and Smallholder Farmer Views <p>Somjai Nupueng, Peter Oosterveer, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> Sustainability on Thai Palm Oil Value Chain: Disclosure and the Role of Private Actors 	<p>Panel 2D: Innovative session on Sustainable Consumption Room: Arboretumzaal Chair: Gert Spaargaren</p> <p>This panel session consists of presentations by two practitioner organisations whose objective is to enhance sustainable consumption through transparency tools.</p> <p>The presentations are by:</p> <p>Joan Reijs, The Sustainability Consortium, Netherlands</p> <ul style="list-style-type: none"> The Sustainability Consortium is an organization of diverse global participants that work collaboratively to build a scientific foundation that drives innovation to improve consumer product sustainability <p>Gustaaf Haan, Questionmark, Netherlands</p> <ul style="list-style-type: none"> Questionmark helps consumers to shop consciously. It assesses the impact of individual supermarket products on four themes: environment, human rights, animal welfare and health
18:00-22:00	<p>Conference drinks and dinner (Arboretumzaal, restaurant), including pre-dinner speech by Martin Herold, Geo-Information and Remote Sensing Group, Wageningen UR</p>			

Saturday 25 June

09:00-10:30	Plenary III: Transparency and Governance Room: Bosrandzaal Speakers: Elena Fagotto (Harvard University), Angel Hsu (Yale University), Phil Macnaghten (Wageningen UR) Chair: Ingrid Boas			
10:30-11:00	Coffee break Room: Arboretumzaal			
11:00-12:30	<i>Parallel sessions III</i>			
	<p>Panel 3A: Innovative Transparency Arrangements: Opportunities, Contradictions, Challenges Room: Meidoornzaal Chair: Sietze Vellema</p> <p>Judith van Leeuwen, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> Moving Sustainable Shipping Forward: Competing Governance Arrangements to Combat Greenhouse Gas Emissions from Shipping <p>Yixian Sun, Graduate Institute of International and Development Studies, Switzerland</p> <ul style="list-style-type: none"> Who Diffuse Transnational Sustainability Governance to China? A Comparative Study Across Commodity Chains <p>Lyndal Hasselman, University of Canberra, Australia</p> <ul style="list-style-type: none"> Overcoming Contradictions Between Adaptive Management and Accountability <p>Hilde Toonen, Simon Bush, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> Exploring the New Informational Frontiers of Fisheries Governance through FADs, Drones and Google 	<p>Panel 3B: Critical Lens on Monitoring and Reporting: Interrogating Diverse Effects Room: Lijsterbeszaal Chair: Kris van Koppen</p> <p>Viktar Kireyeu, NGO Ekapraekt; Anton Shkaruba, Central European University, Hungary; Peter Edwards, University of Wellington, New Zealand</p> <ul style="list-style-type: none"> Monitoring, Reporting and Verification Systems in Biodiversity Governance - Transparent and Accountable <p>Judith van Erp, Utrecht University, Netherlands</p> <ul style="list-style-type: none"> Transparency, Media, and the Threat of Reputational Damage: Potential and Pitfalls for Preventing Corporate Environmental Harm <p>Ludger Niemann, University of Twente, Netherlands</p> <ul style="list-style-type: none"> Clean Air and New Trees as Pledged? Lessons from Local Civil Society Initiatives that Monitor Sustainability and Accountability Issues in Latin American Cities <p>Eugene Kritski, GlobeScan Inc., Canada</p> <ul style="list-style-type: none"> Mining and Corporate Citizenship: Transparency in the Framework of Environmental and Social Expectations 	<p>Panel 3C: The Varied Patterns and Consequences of Transparency in Transnational Private Governance Room: Boomgaardzaal Chair: Luc Fransen</p> <p>Maja Tampe, MIT Sloan, USA</p> <ul style="list-style-type: none"> Sustainable Production in the Blind Spot of Public and Private Governance <p>Marieke Koekkoek, Axel Marx, Jan Wouters, KU Leuven, Belgium</p> <ul style="list-style-type: none"> Transparency in Global Supply Chains: A Comparative Analysis of the California Directive and the EU Directive on Non-Financial Disclosure <p>Luc Fransen, University of Amsterdam, Netherlands</p> <ul style="list-style-type: none"> Beyond certification? The Possible Transformation of Private Sustainability Standard Governance and Its Implications for Transparency <p>Graeme Auld, Carleton University; Stefan Renckens, University of Toronto, Canada</p> <ul style="list-style-type: none"> Organizational Learning Through Transparency: The Internal Role of Information Disclosure in the Evolution of the Marine Stewardship Council <p>Graeme Auld, Carleton University, Canada; Matteo Fiorini, European University Institute,</p>	<p>Panel 3D: The Politics of ICT-enabled Citizen Empowerment in Environmental Governance* Room: Bosrandzaal Chair: Simon Marvin</p> <p>*Innovative session</p> <p>Anne Bruinsma, FarmHack.NL, Netherlands</p> <ul style="list-style-type: none"> Live Streaming of a Hackathon <p>Sanneke Kloppenburg, Ingrid Boas, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> The Environment as a Data Set: Implications for Environmental Citizenship in a Digital Age <p>Dorien Zandbergen, University of Amsterdam, Netherlands</p> <ul style="list-style-type: none"> Conditioning Control: The Politics of Citizen-led Digital Environmental Monitoring <p>Arjan van Timmeren, TU Delft, Netherlands</p> <ul style="list-style-type: none"> Ubiquity and the Illuminative City. From Smart to Intelligent Urban Environments

			Italy; Philip Schleifer, University of Amsterdam, Netherlands <ul style="list-style-type: none"> Disclosing What to Whom? Exploring the Varied Disclosure Practices of Transnational Private Governance 	
12:30-13:30	Lunch (restaurant)			
	<i>Parallel session IV</i>			
13:30-15:00	<p>Panel 4A: Transparency and Accountability in Global Environmental Governance: Exploring the Links</p> <p>Room: Boomgaardzaal Chair: Virginia Haufler</p> <p>Susan Park, University of Sydney, Australia</p> <ul style="list-style-type: none"> The Good Hegemon: How the United States Helps People to Hold the Multilateral Development Banks to Account <p>Kyla Tienhara, Australian National University, Australia</p> <ul style="list-style-type: none"> Transparency in and of the Trans-Pacific Partnership (TPP): A Neo-Gramscian Analysis <p>Lena Partzsch, University of Freiburg, Germany</p> <ul style="list-style-type: none"> Transparency and Due Diligence: A New Norm of Foreign Accountability <p>Sina Leipold, University of Freiburg; Christine Moser-Priewich, Leuphana University of Lüneburg, Germany</p> <ul style="list-style-type: none"> From Empowerment to Accountability: Analysing Transparency in the Global Governance of Forests and Biofuels 	<p>Panel 4B: Transparency as Governance Frontier: Illustrations from Arctic Governance</p> <p>Room: Bosrandzaal Chair: Jan van Tatenhove</p> <p>Coco Smits, Royal HaskoningDHV; Jan van Tatenhove, Judith van Leeuwen, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> Oil and Gas Development in Greenland: A Social License to Operate, Trust and Legitimacy in Global Environmental Governance <p>Natalia Loukacheva, University of Northern British Columbia, Canada</p> <ul style="list-style-type: none"> Governance in the Arctic: Addressing Transparency and Sustainability <p>Linde van Bets, Machiel Lamers, Jan van Tatenhove, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> Expedition Cruise Tourism at Svalbard: Collective Self-Governance as Driver for Change <p>Machiel Lamers, Paula Duske, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> The Role of Climate-related Information in Arctic Expedition Cruising: Practices, Needs and Implications 	<p>Panel 4C: Parting the Veil: Environmental Disclosure and Traceability Practices</p> <p>Room: Lijsterbeszaal Chair: Esther Turnhout</p> <p>Margreet Brinxma, Esther Turnhout, Simon Bush, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> The Science Fiction of Traceability in Global Value Chains <p>William Cook, Esther Turnhout, Severine van Bommel, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> Performing an FSC Audit <p>Mandy Doddema, Simon Bush, Gert Spaargaren, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> Traceability Challenges in Indonesian Small-scale Tuna Fisheries <p>Patricio Mena, Jeroen Vos, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> Rose Certification, Transparency and Water Questions 	<p>Panel 4D: Assessing The Transformative Potential of Transparency</p> <p>Room: Meidoornzaal Chair: Elena Fagotto</p> <p>Kris van Koppen, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> Transparency's Hidden Half. Citizen Education and Learning as Key Components of Democratic Informational Governance for Sustainable Development <p>Sietze Vellema, Wageningen UR, Netherlands</p> <ul style="list-style-type: none"> Beyond the Checklist: a Critical Analysis of the Design Principles Underlying Sustainability Standards <p>Marije Louwsma, Kadaster/Wageningen UR; Raoul Beunen, Open University, Netherlands</p> <ul style="list-style-type: none"> Transparency and Trust in Sustainable Land Governance <p>Mark Buntaine, University of California; Brigham Daniels, Brigham Young University, USA</p> <ul style="list-style-type: none"> Does Transparency Mobilize Citizens and Decrease Corruption? A Field Experiment with Revenue-Sharing Funds in Bwindi National Park, Uganda

15:00-15:30	Coffee break Room: Arboretumzaal
15:30-17:15	Closing Plenary: Reflections and Future Directions Room: Bosrandzaal Speakers: Virginia Hafler (University of Maryland), Gert Spaargaren (Wageningen UR), Graham Smith (University of Westminster) Chair: Bas Arts Closing remarks: Conference Chairs Transparency Summer School Infographic Award
18:00-00:00	Social Programme: Trip to Amsterdam For participants who indicated their interest in participating in the social programme, travel to and back from Amsterdam by bus is arranged and free of charge. Dinner and activities in Amsterdam are at participants' own expense. More information and a city map will be provided in the bus.

Sunday Social Programme

On Sunday, a trip into the forested nature area, the [Hoge Veluwe](#), and to the [Kröller-Müller Museum](#), is organized for participants who indicated their interest in joining. The whole trip, including travel and food/drinks, is free of charge.

Conference Panels by Theme

Theme 1: Transparency, accountability and empowerment in global environmental governance

Theme coordinator: Aarti Gupta

Panel 1A	Transparency in the Making: Assessments, Scorecards and Open Government Practices	Chair: Judith van Leeuwen
Panel 2A	The Geopolitics of Multilateral Climate Transparency: implications of the Paris Agreement	Chair: Michael Mason
Panel 3A	Innovative Transparency Arrangements: Opportunities, Contradictions, Challenges	Chair: Sietze Vellema
Panel 4A	Transparency and Accountability in Global Environmental Governance: Exploring the Links	Chair: Virginia Haufler
Panel 4B	Transparency as Governance Frontier: Illustrations from Arctic Governance	Chair: Jan van Tatenhove

Theme 2: Transparency and traceability in commodity chains

Theme coordinator: Peter Oosterveer

Panel 1B	Transparency in Supply Chains	Chair: Simon Bush
Panel 2C	Transparency and Sustainable Palm Oil	Chair: Lena Partzsch
Panel 3B	Critical Lens on Monitoring and Reporting: Interrogating Diverse Effects	Chair: Kris van Koppen
Panel 3C	The Varied Patterns and Consequences of Transparency in Transnational Private Governance	Chair: Luc Fransen
Panel 4C	Parting the Veil: Environmental Disclosure and Traceability Practices	Chair: Esther Turnhout

Theme 3: Citizen generated (and citizen-centred) transparency

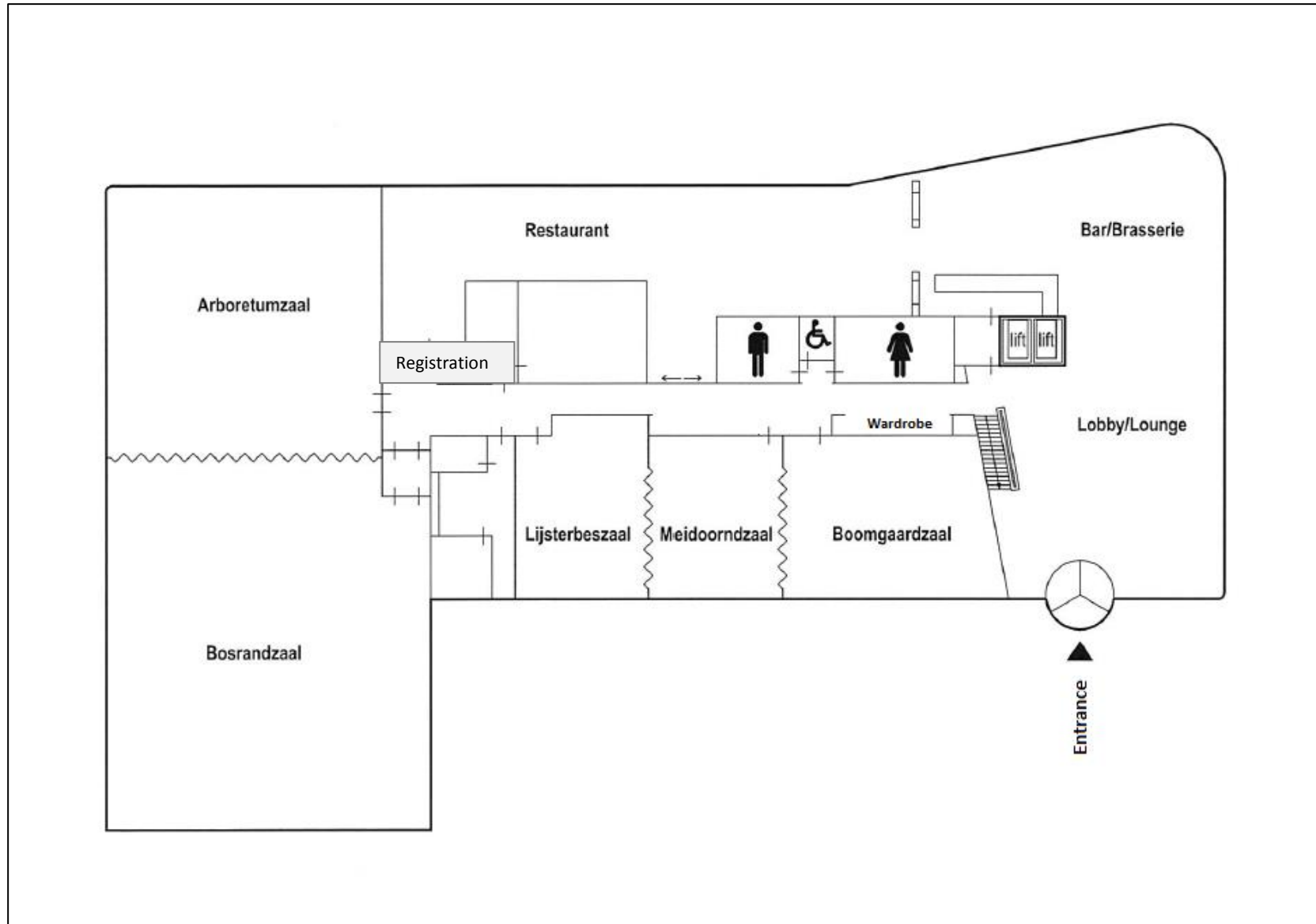
Theme coordinator: Ingrid Boas

Panel 1C	Smart Cities and Transparency of Energy Practices	Chair: Bas van Vliet
Panel 2B	Novel Methodological and Analytical Approaches to Transparency	Chair: Machiel Lamers
Panel 3D	The Politics of ICT-enabled Citizen Empowerment in Environmental Governance (innovative session)	Chair: Simon Marvin
Panel 4D	Theorizing the Transformative Potential of Transparency	Chair: Elena Fagotto

Cross-cutting Innovative Session

Panel 2D	Innovative Session on Sustainable Consumption: The Sustainability Consortium and Questionmark	Chair: Gert Spaargaren
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Floorplan of the Conference Venue (Hotel De Wageningsche Berg, ground floor)



Presentation and Chairing Guidelines

- Presenters are requested to bring their presentation in PowerPoint-format on a USB-stick.
- You will then be able to upload your presentation on pre-set-up laptops connected to projectors. Please do so before the panel starts.
- Presenters are allocated 12 to 15 minutes maximum per presentation. If you are in a panel with 5 presenters, please limit your talk to 12 minutes.
- Chairs are encouraged to enforce time limits and ensure that there is sufficient time for audience discussion.

Full Programme

Friday, 24 June

8.00 - 8.45

Registration and coffee (Arboretumzaal)

9.00 – 10.30

Opening Plenary (Bosrandzaal)

Welcome, and Introduction to Conference Aims and Themes

AARTI GUPTA

Environmental Policy Group, Wageningen UR, The Netherlands

Demands for transparency are everywhere, and assumptions about its power and promise abound. Yet the aims of transparency, its diverse practices, its dysfunctionalities and limitations, and its potential transformative effects, all remain under-scrutinized, particularly in the sustainability realm. In these opening remarks, we introduce the conference theme and sub-themes, touch upon the varied meanings of transparency, and elaborate on the rationale and objectives of the conference. We also outline how we envision the discussions in the next two days to enhance our current understanding about the transparency-sustainability relationship, and aid in outlining a future research agenda on this topic.

Keynotes

Transparency and Sustainability in Smart Metropolitan Areas

ARTHUR MOL

Rector Magnificus of Wageningen UR, The Netherlands

Transparency has gained in prominence and power since the 1960s, especially in holding economic and political powers accountable for unsustainable practices and institutions. The ICT revolution only strengthened and internationalized the countervailing potentials of transparency. But with increasing power, transparency and information disclosure have also become instruments of these powers; sometimes in favour of a sustainability agenda, sometimes for reaching other goals. As such, transparency has lost its innocence of only being of undisputable value for civil society. The question then emerges how to organize transparency so that it can live after its 'emancipatory' and sustainability promises. This becomes especially relevant in metropolitan areas, where 'smart cities' offer the infrastructure for far-reaching transparency in all kinds of (food, mobility, energy, water, waste) systems, but their transparency scapes do not necessarily enable and empower 'smart citizens'.

Environmental Knowledge and Transparency in EU Environmental Policy Making: an EEA Perspective

HANS BRUYNINCKX

Executive Director of the European Environmental Agency, Denmark

The EU in general, and EU environmental policy making more specifically, devote much attention to transparency in the processes, the underlying information, the involvement of different actors, and the follow-up of policy processes. Numerous formal procedures exist which are implemented and adapted to the various forms and stages of environmental policy making. These are in line with general EU policy principles embedded in e.g. the EU treaties, but also an implementation of international obligations under for example the Aarhus convention. As a body of the EU, the European Environment Agency provides "reliable, relevant, targeted and timely information to policy making agents." Transparency is a major guiding principle for the Agency in delivering on its mandate. Several examples illustrate this: The EEA ensures full traceability of data, methods, and indicators for its publications; 'conflict of interest' statements are regularly updated by staff; inputs into reports are fully transparent when it comes to the involvement of actors other than staff members. In addition, the EEA contributes to several international processes in full transparency, and in support of MRV dynamics, such as the annual reporting to the UNFCCC, UNECE, UNEP processes, etc. In other words, the EEA both adheres to general principles of transparency, and contributes through its activities to increased transparency in Europe's environment and climate policies. The contribution will reflect on the importance of transparency in the EU's environmental policies and the role the EU can play in a broader context based on 40 years of experience in this domain.

10.30 – 11.00

Coffee break (Arboretumzaal)

Panel 1A: Transparency in the Making: Assessments, Scorecards and Open Government Practices

Room: Meidoornzaal

Chair: Judith van Leeuwen

Transparency: A Tool for Effective Environmental Governance in Nigeria

SAHEED MATEMILOLA, ISA ELEGBEDE
Brandenburg University of Technology, Cottbus

In the recent past, there have been calls for transparency in governance from different quarters. These calls testify to the importance of transparency to the overall social welfare. There is virtually no aspect of contemporary life that is unaffected by the system of governance, but governance today is almost entirely devoid of transparency. Transparency mechanisms encourage public officials to act in the interest of the public. Corruption has real political, economic, and social costs and as researched in Columbia University and analysed by Transparency international perhaps the more expensive cost is the environmental damage often suffered either directly or indirectly from bribery, extortion, unfair policies, and other forms of corruption. Thus, it has been widely acknowledged that increased transparency and public participation significantly enhances the quality of decisions impacting the environment. These findings offer an intervention opportunity in the shape of conservation, preservation, and environmental justice – through the tool of transparency. One of the apparatus developed to avert environmental degradation is the 'Environmental Impact Assessment' system. Though, a lot of progress has been recorded in some countries, EIA, since its inception has struggled to make the desired impact in most countries, largely owing to malpractice and poor or lack of transparency amongst government officials and industries. Resurgent interest in the evaluation of development implications on the environment is not usually accompanied with requisite transparency to address longstanding effectiveness problems. In order to sharpen the effectiveness, this paper critically examines the transparency and accountability instruments of impact assessment. Analytical examples are used to explore the nature and significance of transparency in the EIA system. This paper will heighten the discursive consciousness of the transparency instrument which in itself will catalyse the journey to effectiveness.

The Materiality Balance Scorecard- Linking Sustainability to What Matters: Informing Strategy, Practices and Reporting Efforts

MIREIA GUIX
Leeds Beckett University, United Kingdom

This paper advances the theoretical knowledge of how a company can define, operationalize and communicate sustainable strategic objectives that create value through the company operations. The paper proposes a conceptual framework; the Materiality Balance Score-

card (henceforth MBSC) as a suitable instrument to manage that value creation. The MBSC positions at its core values of inclusivity, materiality and responsiveness -critical links between transparency and accountability. The pressure is growing to answer stakeholders' increasing expectations on the responsible behaviour of companies in a transparent way. Here, the paper explores the integration of the Balance Scorecard as a well-established performance management system with the Materiality analysis as a sustainability reporting method. The MBSC assists a company in adapting its management system (Balance Scorecard) to stakeholder expectations (Materiality Analysis) across the critical processes in the company. As an outcome, stakeholders can play active roles in the strategy development, implementation, measurement and validation, which enforce transparency and accountability. The framework results in a systemic, structured and integrated approach to sustainable value creation. Materiality bridges the gap between operational management accounting and thinking about sustainability strategy. Companies can use the material issues to integrate better sustainability into their corporate strategy, enabling them to leverage their business model for sustainability value creation. Accordingly, the company can gain a competitive advantage by improving the quality, transparency and consistency of its sustainability response, becoming part of the solution to the global challenges without undermining the viability of the business. The MBSC allows companies to capitalise on the opportunity to gain more strategic value and to reap the benefits of collecting, managing, and sharing key sustainability data with its stakeholders. In this way, the MBSC aligning sustainability reporting with the management reporting for the company and its stakeholders. The paper concludes by addressing anticipated shortcomings and discussing implications for research.

No Open Government Data about Managing Hazardous Chemicals of Ship Breaking Industry of Sitakunda Upazila, Bangladesh

SHUBHRA BHATTACHARJEE
Solidaridad Network Asia, Bangladesh

Open Government Data (OGD) refers as public stored data which could be made easily accessible through a platform to public without any restriction. This data may in form of statistics, geo data, map and plan about economic, weather, environment and social. Bangladesh has not yet introduced OGD thus, public are not aware about environmental health risk due to nature of pollution caused by industrial activities. Like as other industries, ship breaking industry is mushrooming in this country as a result; pollution level mounts remarkably in surrounded area. Sitakunda upazila is considered as main hub of this industry which witnesses rapid industrialization mostly ship breaking facilities in recent years. With population density of approximately 692 inhabitants per square kilo meters, this upazila faces unplanned and improper hazardous waste management procedures as harmful chemicals like as Polychlorinated Biphenyl Compounds (PCBs), Dioxins, Polyvinyl Chloride (PVC), Asbestos and other heavy metals generate due to ship breaking. However, no pollution level status is disclosed by Government to aware public. As a consequence, it is found that inhabitant of Sitakunda Upazila is not informed about the concentration of pollutants and also unprepared for unsolicited environmental health risk due to absence of OGD.

Resilient Adaptive Institutions: Bridging Organisations and Paradigms

BETH EDMONDSON
Federation University, Australia

This paper examines a move towards more systematic and integrated approaches to climate change governance through resilient adaptive institutions. It establishes links between collaborative policy networks and institutional responsiveness toward human and environmental interfaces, political and economic sectoral challenges, and systems wide interplay. Institutions with extended adaptive capacities make use of more direct forms of monitoring and accountability and shift away from risk avoidance approaches in favour of approaches that emphasise the benefits of change. They show fuller and more nuanced attention towards complex notions of 'positive' change and are sensitive to changes that might be positive for the most vulnerable. Resilient adaptive institutions are responsive to multilevel interplay dynamics that benefit from the adaptive capacities of bridging organisations. This paper argues that adaptive capacity and resilience are linked for climate change governance mechanisms. Adaptive capacity is a source of institutional and regime flexibility and durability that enables iterative adjustments to change, responding to fluid problems and changing structural contexts (Berkes et. al. 2003). It also examines the contributions of 'incremental and iterative learning-by-doing process[es]' in framing heightened institutional capacities to accommodate new information and develop flexible adaptation strategies without undermining overarching international climate change agreements (Tschakert and Dietrich 2010: 17). It employs the six dimensions of adaptive capacity identified by Gupta et al. to examine links between resilient institutional structures, iterative review and monitoring mechanisms, autonomy over projects and programmes, formal and informal leadership, and institutional parameters (Gupta et. al. 2010). It argues that resilient institutional frameworks enable simultaneous local, regional and international responsiveness to individual and system sensitivities and towards non-linear adaptation and mitigation approaches. Each of these is relevant to the roles of policy networks, including discourse coalitions that bridge science and social science paradigms and enable knowledge communities to intersect with policy networks.

Panel 1B: Transparency in Supply Chains

Room: Lijsterbeszaal

Chair: Simon Bush

The Cognitive Influence of Private Standards in Fisheries and Aquaculture Governance

AGNI KALFAGIANNI
Utrecht University, The Netherlands

This paper analyses strategies on the basis of which private standard-setting organizations try to generate cognitive influence, i.e. influence on societal knowledge and understanding of sustainability challenges in the fisheries and aquaculture sectors. Cognitive influence is extremely relevant as it has the potential to transform the way key actors think about sustainability challenges and prioritize them. On the basis of strategies to generate cognitive influence private standard-setting organizations can reach a broader audience and shape norms and understanding beyond their own boundaries. The paper evaluates cognitive influence on the basis of perceived and reported impact of the five biggest private standard-setting organizations in fisheries and aquaculture governance, namely the Marine Stewardship Council, Friend of the Sea, Aquaculture Stewardship Council, Global Aquaculture Alliance and GlobalGAP. The paper tries to explain such influence by examining three different strategies, namely the: (a) creation and organization of information and knowledge on sustainability challenges facing fisheries and aquaculture; (b) interpretation and attribution of meaning to information in ways that orient action; and (c) dissemination of knowledge and information within and outside the standard-setting organizations on the basis of different communication channels. The analysis is based on major annual reports, publications and official papers by the five standard-setting organizations under study, and seven in-depth interviews with representatives from these organizations and the FAO.

Transparency and Traceability in the Chain of Valued Fisheries Industry: Tools for Sustainability Standards

ISA ELEGBEDE
Brandenburg University of Technology, Germany

Fisheries industries have significantly contributed to the socio-economic status at all levels in the world. These opportunities are attributed to the abundance of valued fisheries products from aquatic environment and farmed fish products with associated chains. Most of the fisheries practices in the world are unsustainable due to uncoordinated traceability systems which give doubt to the transparency level of fish products. Transparency and adequate traceability mechanisms are essential for resource management and conservation of the aquatic resources including green consumption which are major requisite of the recent Sustainable Development Goals (SDGs) aimed to be transformed in 2030. Voluntary Sustainability Standards (VSS) appreciably recognizes traceability in the life cycle of fish products with labels and highly coordinated and sustainable certification process. This paper evaluates the transparency in both value and supply chains in the fisheries industry, adopting the portal value chain model analysis approach and the WWF traceability principles as a tool to analyse the transparency in the fisheries industry chain. The transparency in the chain analysis was also determined based on the costs analysis of various segments, customers' perception and need, cost advantages in relation to competitors, value-added

products for consumer's appreciation and satisfaction. Transparency assessment in the traceability of fish product was also considered based on access to information, complete chain traceability, tracking of records and activities, standardization of data, verification of components in the system, accessibility of the public to requested information within the complete chain of the fish product. This paper identifies various challenges in the transparency of the chains and issues affecting traceability of fisheries products. This paper recommends various sustainable solutions and models for both developing and developed countries across various scales.

The Functioning of Transnational Environmental Standards for Transparency and Traceability in Commodity Chains: Empirical Evidence from Certified Companies in Lithuania

IEVA MISIUNE
Mykolas Romeris University, Lithuania

During the last few decades, many labelling and certification schemes were developed to enhance transparency and traceability within commodity chains. The phenomenon is that a majority of them are transnational schemes, which means that they were created by non-governmental organizations and/or the private sector, independently from the governments. However, how the functioning of certification is assessed by the local certified companies? This paper presents the results of an empirical research which seeks to answer the question about the expectations and satisfaction of certified companies in Lithuania. Three literature-based views about the functioning of certification were identified by previous research conducted. Thus, certification can function as a market-based mechanism that provides market benefits, or as a signal of sustainable characteristics and practices, or as a learning and technology transfer mechanism (Overdevest & Rickenbach, 2006). A quantitative research method was employed to investigate how the functions of certification are assessed by the local certified companies in Lithuania. Empirical data was collected by the survey conducted during July and September 2013. Respondents (N=90) were the companies which are certified against one of the three transnational environmental standards: FSC for the forestry and logging, MSC for fishing and aquaculture, and OekoTex for the production of textiles. The research revealed that a majority of companies have adopted these standards quite recently, which means that it is generally a new trend in Lithuania. The findings suggest that the overall expectations are higher than satisfaction in all cases. Companies expect that certification will operate best as a market-based mechanism, however most satisfactory performance were accredited to the signalling mechanism.

Transparency and Traceability on Global Commodity Chains: The Case of Fast Fashion Industries in Brazil

CAROLINE JACQUES¹, JULIA GUIVANT²
¹Universidade do Extremo Sul Catarinense, ²Federal University of Santa Catarina, Brazil

Sociological studies on corporate governance and soft regulation policies (like "corporate social responsibility" and "environmental risk management") highlight the social construction of markets, in particular the role that institutions and individuals (the agency) holds in economic sphere. The Modern Slavery Act of 2015 for transparency in supply chains is the latest example of how power relations in rational capitalism depend on socio-political dynamics. The question that drives this paper is: how tools on transparency through tracea-

bility are applied in developing countries? Specially, Brazil's insertion in global commodity chains is followed by the existence of transparency and traceabilities tools? These managerial technologies can guarantee decent employments and respect to ambiental legislation? Taking the notion of social construction of markets (White, 1981; Granovetter, 1985), we collected data in field research – interviews with social and economic agents through textile and garment's commodity chains (Jacques, 2015). We focus on: 1) retailers, international buyers, subcontracted enterprises, sweatshops, international trade union networks, human rights activist, garment workers and Brazil's public authorities. Results were analysed with the support of NVivo Software. The qualitative research shows that there is transparency through traceability tools in Brazil - namely, in the case of "fast fashion industry", "the International Framework Agreement for Decent Work and Environmental Impacts". However, decent work in global supply chains depends above all dynamics that promote political consumption (in the sense proposed by Spaargaren and Oosterveer, 2010) in particular the role that international trade union networks and NGOs has to produce information (mapping the production chain) and report the existence of sweatshops in developing countries like Brazil.

The Urban Nexus: Disclosing Interdependent Flows of Water, Energy and Food in the City

MOISES COVARRUBIAS

Wageningen UR, The Netherlands

Cities are becoming increasingly more populated and rapid urbanization is taking place all around the world. This requires larger supplies of input and output resources to sustain human and urban needs. Water, Energy and Food (WEF) have long been acknowledged as essential inputs to feed cities. Urban planners have, however, often treated water, energy and food as separate domains. What is missing is an 'Urban Nexus' perspective which assumes that WEF flows interact and relate to one another in achieving urban sustainable development. This paper seeks to contribute to identifying and analysing this urban nexus, which thus far remains quite obscure and complex to policy-planners and users. It will offer an analytical framework to study the urban nexus of water, energy and food resources through a material and non-material environmental flow analysis. The material analysis will examine and show the interconnected processes and flows of WEF systems: (1) resources inputs, (2) production, (3) distribution, (4) consumption and their (5) final disposition. The aim is to visualize these flows in a conceptual flows diagram in which the nexus is spotlighted. Thereafter, the non-material analysis will focus on how (1) actor networks (including users and policy planners) (2) power relations, (3) and information flows come together in the scene of WEF nexus. By drawing on novel visualisation techniques, this analytical framework will help to disclose the still obscure WEF nexus in cities.

Panel 1C: Smart Cities and Transparency of Energy Practices

Room: Bosrandzaal

Chair: Bas van Vliet

In this panel, we bring together social-scientific understandings of what so often labelled “smart” in contemporary urban innovation projects: from smart cities, to smart grids, smart homes, meters and devices. Relevant questions are what is actually meant by the adjective “smart”; can things be smart, or are they supposed to enhance the “smartness” of other things, or users or practices? And what are the implications of “smartness” in cities, or homes for social practices around energy? In general the smart concepts promise efficiency, transparency, convenience, and sustainability from city to household levels, but there is a lot more that they affect and which often remains undiscussed: Who is addressed? And what kinds of power relations, governance models and domestic consumption practices come to the fore in the common representations of smart cities, grids and homes?

The panel brings together the disciplines of political science, environmental sociology, and science and technology studies. The papers discuss concepts of energy infrastructures, local governance, community energy, and social practices. Empirical studies include smart grid pilots, smart cities, or smart meters/ home automation technologies. Leading questions in the papers deal with social scientific understandings of smartness, its implications for the transparency of (urban) governance or for domestic social practices.

Pioneering Energy Practices: Norwegian Prosumers’ Motivations and Alternative Imaginations of ‘Smart’ Energy Futures

INGRID FOSS BALLO

University of Bergen, Norway

‘Smart’ electricity meters are being introduced in many countries, as a ‘first step’ towards sociotechnical imaginaries of a future ‘smart’ grid; a set of particular promises and agendas for societal changes which includes solutions to most current challenges in the electricity grid. In Norway, as in many other countries, the introduction process lack public participation and transparency. Yet implicit assumptions of what counts as ‘smart’ and framings of ‘smartness’ as something inevitable and normatively unproblematic underpins this dominant future vision. Imaginations of the future Smart Grid also include conceptualizations and framings of users or consumers ‘from above’, which does not necessarily do justice to the complex ways in which people imagine and position themselves in relation to ‘smart’ agendas and infrastructures. In many countries, it is envisioned that the future Smart Grid will entail an increase in the number of prosumers: Consumers that produce decentralized renewable electricity at the household level and can send excess electricity back to the grid. In a Norwegian context, prosumers are rarely mentioned in descriptions of the future Smart Grid, partly based on top-down framings of users as quite passive and disinterested non-experts. Being among the very few prosumers in Norway hence means being a ‘bottom-up’ pioneer for a change in energy practices, relations and infrastructures, in a national energy context characterized by institutional and economical barriers. What are the Norwegian prosumers’ motivations, for pioneering such change? Prosumer households are places where energy futures become spatially embedded, meeting social practices and lived experience. But what are the alternative visions, narratives and imaginations from prosumers of ‘smartness’ and ‘smart’ energy futures, which become substantiated in such material commitments? In what ways do these imaginations interact with, deviate from or potentially challenge the dominant Smart Grid vision? Can such alternative imaginations open up a space for critical deliberations of dominant framings of ‘smartness’?

Making Domestic Energy Transparent: the Dynamics of Energy and Information in a Smart Grid Environment

JOERI NAUS, BAS VAN VLIET
Wageningen UR, The Netherlands

With electricity demand continuing to rise and the effects of climate change becoming increasingly apparent, there is mounting pressure to rethink conventional modes of energy production and consumption. A sustainable energy transition presents a vision of the future that is more sustainable and decentralised than the carbon-intensive and centralised system that is dominant today. Smart energy meters and smart grid infrastructures are expected to contribute to this sustainability transition, inter alia, by making energy flows visible to householders and by enabling the two-way exchange of energy and information flows between households, service providers and new intermediaries. With the help of new partners, technologies and information flows householders can start to reduce their carbon footprint. However, far from a simple question of technical implementation, the advent of smart grid systems raises important questions regarding the 'optimal' and 'effective' use of information, and around the privacy and autonomy of households vis-à-vis service providers. This paper presents a concise overview of the work that has been conducted as part of a PhD research on households and smart grids, and seeks to answer the overarching research question: How can smart grid systems support a low-carbon transition in and around the home? Using theories of Social Practices and the concept of Informational Governance the paper explicates (and invites discussion on) three core elements of the thesis: the interconnections between smart grids and domestic energy practices, the role of information flows in shaping energy practices, and the modes of governance that come along with smart grid systems. The resulting paper will 1) provide conceptual tools for understanding the dynamics of energy and information in a smart grid environment, and 2) help identify ways of (further) engaging householders in a sustainable energy transition while also addressing the 'dark' sides of energy transparency.

Household participation in the Smart Grid: Transparency and Equity

ROBIN SMALE, BAS VAN VLIET, GERT SPAARGAREN
Wageningen UR, The Netherlands

The renewable energy transition drives the development and roll-out of smart domestic energy technologies. These digital innovations make transparent to households both their own energy consumption and production, and the energy system behind the meter. The envisioned smart grid empowers householders to respond to two key system-needs which accompany the integration of renewable energy into the energy grid: demand-side flexibility and energy storage. Currently, households can reduce their energy bill in two established ways: energy conservation (retrofitting and active energy saving), and decentralized renewable energy generation (PV via feed-in tariffs). In the emerging smart grid, time-of-day dynamic energy tariffs, which more closely reflect the real system costs of energy provision, will incentivize householders to time-shift their energy consumption to when (renewable) energy is abundant and cheap. Domestic energy storage will enable householders to self-consume or locally exchange renewable energy, or sell energy storage capacity to the grid. This paper proposes that householders are varyingly capable of participating in the smart grid 'regime' and its incentive structures. An energy system which increasingly rewards 'smart energy management' (involving active demand-response, monitoring and smart retrofitting) is at risk of producing inequitable distributional effects. The paper argues that the valuation of demand-side timing-of-use and energy storage in the energy market resonates in domestic energy culture; new energy management practices emerge, and the practical sensibilities, rationalities and affectivities which govern the (smart) domestic en-

ergy practices are transformed. Initial findings, based on case study work in the Netherlands and the UK, suggest that fuel poor households have less flexibility to supply to the grid and are less likely to. Domestic energy storage has the potential to relieve (smart) fuel poverty due to its lower 'barrier for entry' and opportunities for government intervention. If the societal costs of the renewable energy and smart grid transitions are to be equitably distributed, and if these transitions themselves are to be inclusive, far-reaching and rapid, it is necessary to critically evaluate 'what it takes' for householders to participate in a transparent and smart energy system.

Smart Grid Transitions and Their Many Challenges

TOMAS MOE SKJØLSVOLD, MARIANNE RYGHAUG, WILLIAM THRONDSSEN
NTNU Trondheim, Norway

The transition to the so-called smart electricity grid is a process which includes cross-sectorial and cross-industrial challenges at, what has traditionally been dubbed, the supply and the demand side of the electricity sector. It is a process involving a countless number of potential actors with diverging interests that may consequently produce a vast number of controversies. The result is a variety of different transition processes which points towards very different smart energy futures across Europe and beyond. This paper aims to synthesize from a number of studies conducted over the last five years on such smart grids transitions; processes dealing with policy making, the development of research and demonstration processes, design processes and user perspectives. Mobilizing concepts from science and technology studies, the key goal of the paper is to identify and illustrate key arenas and processes where smart grid transitions are enacted, some of the different ways that this is done, as well as to illustrate some of the challenges involved in the translation work needed to engage actors across these arenas and processes. The identified arenas are a) the policy arena, b) the R&D arena, c) the design arena, and d) the arena of use. As an example of the dynamics involved, the paper discusses how designers of smart grid interfaces engage in the scripting of technologies through the inscription of expected competences, interests, and limitations of future technology users in a design arena. Such design practice can be seen as an attempt to translate the designers' interests to future technology users. Studies of how users engage such technologies, and ways to engage them in the electricity system, however, illustrate that the technology is often domesticated differently from what designers hoped, pointing towards future challenges for design. Through a focus on distributed agency across arenas, the paper illustrates many similar challenges, controversies and conflicts.

Governing Energy through Smart Data in Homes and Workplaces

YOLANDE STRENGERS¹, METTE KRAGH FURBO², GORDON WALKER²
¹Centre for Urban Research, RMIT University, Australia; ²DEMAND Centre, Lancaster University, UK

The 'smart' tag is increasingly applied to all scales of everyday life, from cities and big infrastructures through to homes and personal devices. Across all these domains, advocates of these smart technologies position the collection, transparency, dissemination and utilisation of data as key strategies by which they will achieve their stated goals. In this paper we are interested in how these data-centric ideas constitute forms of energy governance across two domains: homes and workplaces. Drawing on two content analyses conducted in the Australia and the UK, we discuss the ways in which the marketing and advertising of smart technologies in homes and workplaces position data in new (and old) governance

practices. In particular, we show how ideas of smart or advanced data management attempt to enlist householders and professional energy managers in three forms of governance: monitoring, minimising and targeting energy 'waste' and inefficiencies; optimising systems and services; and automating practices and services. In the home these strategies position householders as energy managers or 'resource men', or alternatively they delegate responsibility for governing energy to a smart technology or external provider who automatically controls the use of certain appliances. In the workplace, energy management becomes an issue best solved with automated monitoring and targeting solutions that promise to give energy managers knowledge of exactly when, where and how energy is used. Both approaches effectively channel energy governance into a narrow range of strategies and approaches by prioritising a limited type of 'legitimate' data; namely those which can be captured and counted by smart devices. We conclude by reflecting on what the data-centric governance strategies embodied in smart energy projects ignore or side-line, and whether these can be accounted for in a 'smart' world.

12.30-13.30

Lunch (restaurant)

Transparency and Empowerment

Chair: Simon Bush

This plenary session discusses transparency in relation to questions of accountability and empowerment. Does disclosure make opaque practices more visible? How do diverse logics of control promote or limit the empowerment potential of transparency? The plenary speakers will reflect on these questions by discussing global, supply chain and urban contexts.

Transparency and Accountability in Global Governance

SUSAN PARK
University of Sydney, Australia

Accountability has become a buzzword with various actors invoking it as a mean of finding answers for a range of maladies including problems of governance. Global governance has attempted to incorporate accountability mechanisms and processes in order to provide checks on actions with far-reaching consequences. Transparency is a vital component the provision of accountability. This presentation identifies the ways in which accountability is used in global environmental governance with the aim of interrogating its normative content. Governors of the global environment, across of range of institutions must agree on fundamental questions of accountability (of what, for whom, by whom, including how to identify, measure and sanction). For these accountability processes to be legitimate they must also be transparent. Yet the decisions over what is to be held to account and which governance decisions and outcomes are transparent is highly political. Stepping back from the immediate aims of global environmental governance accountability processes can shed light on the normative use of accountability: beyond accountability as monitoring and evaluation to viewing accountability as control or accountability as justice. Revealing the normative basis for the ways in which accountability is used by governors of the global environment will cast new light on the proliferation of accountability tools in global environmental governance.

The Opaque Global Supply Chain: Any Hope for Transparency and Extended Responsibility?

MAGNUS BOSTRÖM
Örebro University, Sweden

Globalization of trade have resulted in very complex and opaque global commodity chains, with lack of effective and legitimate environmental and social regulation. Citizens around the world enjoy the growth of inexpensive products and buy items produced in far-distant places. While having price, taste, fashion, comfort and pleasure in mind when buying their goods, how could they have any clue about how and by whom the products were made?

Some environmental and anti-sweatshop movements make their efforts to disclose problematic circumstances in production countries. Multi-national companies and governance actors are accordingly held accountable for unsustainable and unethical production and pressured to extend their responsibility beyond their national mindset and organizational borders. This talk will address various challenges in this development towards extended responsibility along global supply chains. These challenges concern geographical distances, information asymmetries, communication barriers, issues of monitoring and trust along supply chains, and power asymmetries. The talk will discuss ways in how various actors along supply chains and networks can be empowered and build capacity to address such challenges.

Managing Urban Turbulence: Atmospheric Control and the Modulation of Infrastructure

SIMON MARVIN
University of Sheffield, United Kingdom

Digital control systems enable the unpredictable ecology of the atmosphere - and its interconnections with urban infrastructures to be “unblackboxed” by being made visible, calculable and actionable in a pre-emptive manner. These systems provide new logistical capacities that enable more calibrated responses that render the turbulence of disruptive events to be more effectively managed and modulated without closing down the whole city. This new strategic control capability for urban contexts has three distinctive features that render atmospheric turbulence and potential responses as visible and actionable. First, there is the capacity to anticipate events before they occur. Key to this is managing the boundary between the normal and the emergency. Nowcasting enhances urban authorities’ capacity to accurately predict the timing and location of an extreme weather event and avoid or even postpone the need for a generalised shutdown. Second, new control capabilities enable the development of standardised procedures for managing and withstanding events with much reduced operational disruption. Rather than a whole system closure only specific parts of an infrastructure may need to be temporarily closed, resources rerouted and the wider network stays open. Third, there is the development of new social capacity to respond more rapidly to ensure turbulence can be more effectively managed. Workers can work from home, citizens know how to respond in an emergency and infrastructure providers follow operating procedures to maintain circulation. The paper critically reflects on the wider consequences of this emerging logic of urban control for transparency and empowerment. What is now rendered visible and actionable under conditions of atmospheric and infrastructural unblackboxing – and what is now reblackboxed? Also what does it mean for the re and dis empowerment of users to incorporate the city into a new operational logic of control designed to render the turbulence as manageable resource?

15.00-15.30

Coffee break (Arboretumzaal)

Panel 2A: The Geopolitics of Multilateral Climate Transparency: Implications of the Paris Agreement

Room: Bosrandzaal

Chair: Michael Mason

This panel brings together academics and policy makers to debate the challenges of making multilateral climate actions transparent. It includes presentations on the new transparency requirements included in the post-2020 climate agreement under the United Nations Framework Convention on Climate Change. To what extent, and under what conditions, can transparency (and measuring, reporting and verification (MRV) systems) enhance compliance, trust, accountability and ambition, as it is widely assumed to do?

The Politics of Transparency and Accountability in Multilateral Climate Governance

AARTI GUPTA¹ and HARRO VAN ASSELT²

¹Wageningen UR, The Netherlands; ²Stockholm Environment Institute, Oxford, United Kingdom and University of Finland, Finland

This article analyses the geo-politics of transparency and accountability in multilateral climate governance. The global climate agreement adopted in Paris in December 2015 calls for a bottom-up 'pledge-and-review' approach to climate action, with an 'enhanced transparency framework' envisioned to be a key pillar of the agreement. Through making visible who is doing what, transparency is assumed to be fundamental to holding countries to account, enhancing trust, and furthering fair and ambitious climate action. This article explores whether transparency is indeed generating such transformative effects. We examine the workings of transparency in the existing pre-2020 climate regime. Our analysis shows that the scope, practices and effects of current multilateral transparency systems are inextricably tied to first-order conflicts over *who should be accountable to whom, and for what*, in this global context. We argue therefore that, rather than mediating or standing apart from such conflicts, transparency becomes a site wherein long-standing, contested aspects of collective action on climate change are negotiated, reinterpreted and operationalized.

How Effective are the Domestic MRV Systems of Developing Countries as Transparency Tools for Long-Term Climate Action?

THAPELO LETETE and BRIAN MANTLANA
University of Cape Town, South Africa

One of the key principles of the United Nations Framework Convention on Climate Change (UNFCCC) is that of transparency, through "Measurement, Reporting and Verification" (MRV). While "domestic MRV" is a term that was first introduced under the UNFCCC in the

context of domestically-supported mitigation actions by developing countries as part of the Cancun Agreements in 2010, its usage has since expanded, with the UNFCCC MRV framework defining a domestic MRV system as a set of institutional arrangements and processes that are set up in a country to support transparency objectives of the Convention. As part of fulfilling their obligations under the UNFCCC, many developing countries have been setting up domestic MRV systems in response to the various decisions under the UNFCCC. In parallel, developing countries have also been developing domestic legislations, policies and strategies (herein after referred to as Policies) to respond to climate change. These Policies usually serve as the countries' guiding documents for all climate change related action and decisions by those countries; they inform the countries' long-term climate action. But to what extent are the domestic MRV systems designed and implemented such that they support the implementation of these domestic climate change Policies over and above being compliance mechanisms under the UNFCCC? Unlike with developed countries where emphasis is on mitigating climate change, adaptation to climate change in developing countries is as much a priority, if not more of a priority, as climate change mitigation and this is usually visible in their domestic climate change Policies; but do their domestic MRV systems also put emphasis on adaptation? What about climate finance? This paper looks at the domestic MRV systems of ten developing countries and assesses the extent to which they are designed and implemented as effective transparency tools to support sustainable domestic climate action.

A Common Transparency Framework in the Paris Agreement: an EU perspective

HARRY VREULS

Netherlands Enterprise Agency (RVO), The Netherlands

The Paris Agreement establishes an "enhanced transparency framework for action and support" in its Article 13. This framework is established in order to build mutual trust and confidence and to promote effective implementation. Action is related to information to track progress and to inform about national greenhouse gases emissions. Support is related to information on financial, technology transfer and capacity-building support provided, as well as support needed and received. This enhanced transparency framework has also a built-in flexibility which takes into account Parties' different capacities, but the transparency framework shall provide (only) flexibility in the implementation of the provisions of this article 13 to those developing country Parties that need it in the light of their capacities. This is a clear break with the present system that holds a differentiation between developed and developing countries. In the future there is only flexibility for those developing countries that really need it. What this flexibility or flexibilities will be is under negotiations. The latest round of negotiations in May 2016 reveal that the majority of Parties link flexibility to existing capacities, while it is expected that this capacity will increase over time (and so the need of flexibility should decrease). Information submitted by each Party shall undergo a technical expert review and in addition, each Party shall participate in a facilitative, multilateral consideration of progress with respect to efforts, and its respective implementation and achievement of its nationally determined contribution. How this process will be organized is unclear. But it has to be a process that is cost-efficient and robust for its purpose. A scale up of the present system of reviews and assessment is no option.

Assessing the Transformative Potential of the Post-2020 UNFCCC Transparency System

ALEXANDRA DEPREZ and THOMAS SPENCER
Institute for Sustainable Development and International Relations (IDDRI),
France

A robust transparency system has the potential to play a critical role in the post-2020 global climate governance regime, by helping to achieve its dual objectives of enabling the implementation of countries' UNFCCC commitments, and of raising collective climate ambition. Indeed, a system that collects, processes, and shares information on countries' progress toward achieving their commitments can create accountability and spur policy learning. Importantly, it can also build trust in collective action, a critical precondition for countries to overcome various barriers they currently face to greater climate action. How well this transparency system fulfils its transformative potential is contingent on the provisions countries establish in the Paris Agreement. Based on a close reading of the Agreement and interviews with experts, and drawing from our previous research on the topic, this paper will analyse how and to what an extent the transparency system that will be developed from the bases set out in the Paris Agreement may contribute to the climate regime's dual goals. Elements assessed will include the implications of the consensus countries reach at COP21 on differentiation (notably whether they decide on universal or bifurcated reporting and review processes), and how the information the transparency system generates could be employed throughout the climate regime (this being dependent notably on the Agreement's 'rounds of contributions' and 'global stock-take' provisions). It will also explore how civil society might complement the UNFCCC's transparency process, for example by undertaking assessments of country and collective progress toward the transformations needed to transition toward a very low-emissions economy. This analysis of transparency's transformative potential in the emerging climate regime aims to be of use to negotiators who in 2016 will embark on developing the system's technicalities, as well as to contribute to the broader literature on transparency, accountability and empowerment in global environmental governance.

Panel 2B: Novel Methodological and Analytical Approaches to Transparency

Room: Meidoornzaal

Chair: Machiel Lamers

A Bottom-Up Transparency Approach - A Case Study in the Southern North Sea

KATRINE SOMA
LEI Wageningen UR, The Netherlands

Ecosystem based management (EBM) is apprehended as a future governance arrangement which can deal with new developments across European waters. The EBM is taking a marine region as a reference point instead of addressing sectors separately, taking into account ecosystems including humans. Such a shift from a sectoral governance arrangement to an ecosystem based one requires bottom-up stakeholder involvement by coordinating activities and policies at regional level. Still, it remains unclear how to ensure transparency of information in such a bottom-up public involvement. In this article the main aim is therefore to present a bottom-up transparency approach. The concept is based on a process oriented multicriteria approach, which illustrates a step by step procedure to take into account the gathering of information about context specific issues. We show its contribution by presenting a case study in the North Sea involving the Netherlands, Denmark and Germany. Not only is the approach based on the thought that every context has its particular peculiarities that need attention through public engagement. It also suggests how to map-out the different issues, and identifies and presents relative importance of each issue by each stakeholder group. This information is further used as a basis to assess different future policy scenarios. The exploration of effects on critical context specific issues in future policy scenarios are thus facilitated throughout these processes. This study illustrates that while coordination of sectors and policies is a challenge to EBM, methodological approaches which can ensure transparency and assist throughout these processes exist. It also appears that there is a link between increased transparency and levels of trust. The links between public engagement, transparency and trust deserve more attention in future research.

Disclosing the Urban Nexus: Mapping and Visualising Social Practices

ANASTASIA MOISEEVA, INGRID BOAS, GERT SPAARGAREN, BAS VAN VLIET
Wageningen UR, The Netherlands

An integrated approach to the provisioning of water, energy, food services and involved infrastructures in urban areas has for long been recognized and promoted but is gaining increasing traction in recent years through the concept of the 'urban nexus'. Its central message is that food-water-energy services are interdependent. This makes a nexus approach central to promote synergies and avoid trade-offs in service provisioning to better address and tackle social and environmental vulnerabilities produced and reproduced around the urban nexus, including questions of access and dependence on scarce and interdependent resources. A key problem, however, is that there is only limited insight into, and understanding of, these social vulnerabilities associated with the urban nexus. How are they produced and reproduced and how can these vulnerabilities be overcome? To help disclose these social vulnerabilities associated with the urban nexus, this paper sets out a methodology that maps and visualises interconnectedness across multi-level actors and users of

urban nexus in space and time. Social practice theory provides a framework to understand the ways in which providers, policy-makers and marginalized communities as the final users experience the urban nexus and how their social practices reinforce or possibly challenge the social vulnerabilities at play. We aim to use a mental map visualisation technique as a tool to map and understand these social practices. The gathered maps, through interviews and participatory vision-building workshops, represent visual and textual portraits of social practices across actors and users. Our central thesis is that mapping and visualisation of social practices will bring transparency to the complex dynamics of the urban nexus.

Indigenous Community Monitoring and Feedback on Weather Forecast for the Sustainability of Water Resources in the Banaue Rice Terraces, a World Heritage in the Philippines

MARIA REBECCA CAMPOS

University of the Philippines Open University, Philippines

The Banaue Rice Terraces, a UNESCO World Heritage in the Philippines, was built by the Ifugao indigenous upland communities 2,000 years ago. The rice terraces show their engineering skills and ingenuity. Irrigation is by means of mountain streams and springs that have been tapped and channelled to canals that run downhill through the terraces. However, climate change has affected the Banaue Rice Terraces as manifested by droughts triggered El Nino that led giant worms to erode the soil. To protect their livelihood from the impacts of extreme weather conditions intensified by climate change is exhibited by how they have adjusted their farming systems to adapt to the effects of constrained water resources by a community monitoring system to get information on weather and climate changes through text messaging where information and feedback is faster. This is enhanced by the central role of their traditional literary arts and beliefs in the form of songs, dances, folklore, spiritual beliefs, ecological wisdom, kinship orientation, sense of tribal awareness and artistic temperament. The study concludes that human and cultural adaptation involves factors relating to ideology, techno-economy and social organization, in addition to biophysical/environmental impacts. Drawing lessons from community based adaptation, planned interventions should also be based on practices that are already being implemented well by indigenous communities like the Ifugaos. Moreover, since water is the most vital constituent in rice terraces farming, most of the activities being held by the farmers are concentrated on water/irrigation management. The documented water management strategies are 1) repair and maintenance of dikes, 2) use of PVC pipes to convey water from source to the terraces, and 3) use of irrigation canals. Thus, both indigenous practices and modern technology are imbibed in the current management of the rice terraces in order to mitigate the impacts of climate change.

Through the Looking Glass: Transparency of Sustainable Practices in Ecovillages

MEENAKSHI SINHA SWAMI

University of Delhi, India

Sustainable practices can be transformed from translucency to transparency in ecovillages and parameters can be formed for their assessment. Wealth lying in ecovillage practices can be beautifully summed up, with due pardon to Alexander Pope, Nature's and community's laws lay hid in night, God said ecovillages be and all as light. Ecovillages are modern communities intentionally formed for enhancing social and environmental sustainability.

Ecovillage as a community is at the crux of sustainable practices and transparency in achievements though exists is not firmly grounded, on the basis of comparative parameters. A clear and transparent analysis of the sustainability aspects by exploring former studies on ecovillages, for forming parameters, is imperative. Parameters should be formed to analyse sustainability and it is important that it should be above bias since some parameters may vary from ecovillage to ecovillage due to geographical or social considerations. Parameters for sustainable practices in ecovillages must be governed not by achievements alone on the scientific front but by ecovillage practices leading to social and environmental sustainability. The paper tries to explore the myriad ways in which transparency in ecovillages can be increased through the efforts of ecovillagers. The paper further examines sustainability aspects by grouping them under qualitative and quantitative aspects along with the processes of quantifying and analysing these aspects for assessing sustainability. The paper tries to form parameters which ecovillages can draw on, as a step towards transparency and sustainability. Finally the paper explores the possible impact on future dynamics of such parameters in the sustainability arena. Visible and accountable improvement towards sustainable practices, with the positive involvement of the residents, inclusive of children, and elders can go a long way towards climate change policies.

Panel 2C: Transparency and Sustainable Palm Oil

Room: Lijsterbeszaal

Chair: Lena Partzsch

Media Representations of Palm Oil: a Comparative Study of Dutch and Malaysian Newspapers

GREETJE SCHOUTEN, RORY PADFIELD, DUIF KRAAMWINKEL
Wageningen UR, The Netherlands

In the past decade palm oil has become the largest produced and consumed vegetable oil in the world. A variety of governance arrangements has been initiated to address sustainability concerns associated with palm oil production. However, these attempts have at best been limited in succeeding to govern the industry. The most prominent governance arrangement in this issue field is the Roundtable on Sustainable Palm Oil, which developed a standard for sustainable palm oil through a multi-stakeholder process in which a wide range of actors were included. Members involved in this process include commodity chain actors (from upstream to downstream) and several types of CSOs (development or environment oriented, from local to global). Decision-making processes are based on the principles of consensus and transparency. Despite this approach, a variety of stakeholder groups – predominantly from producing countries – are unsatisfied with the outcomes. This discomfort seems to stem from a fundamentally different understanding of the palm oil industry among different stakeholder groups. Whilst the development of the palm oil industry is associated with economic and societal benefits to the major producing countries, namely Indonesia and Malaysia, a number of environmental and social sustainability challenges have been raised by NGOs and companies from European consumer countries. To better understand this cognitive divide, this paper compares the media coverage of palm oil in Dutch and Malaysian newspapers over a fifteen year time period and aims to examine the similarities and differences in media framing as a means to analyse conceptualisations of sustainable development in contrasting geographies. What do these frames say about interpretations of sustainability, the politics of development, responsible production, and/or ethical supply chains? Moreover, the paper analyses the knowledge authority associated with these frames; i.e. whose and what type of knowledge is being referred to and whose knowledge is being challenged?

Behind the Bottle-Neck: Transparency, Quality and Sustainability in Indonesian Palm Oil Supply

ELENA DEGLI INNOCENTI
Wageningen UR, The Netherlands

Increasingly under the spotlight for causing massive deforestation and loss of both vegetal and animal biodiversity, the sustainability of oil palm production is considered one of the most urgent environmental issues to be tackled. Palm oil production is being scrutinized by several scholars in terms of environmental impact and agricultural practices, while less has been said about the specificity of its upstream market and the related socio-economic context affecting sustainability. This paper addresses the dynamics of market for certified palm oil as a quasi-monopsonistic one and the consequential impacts on sustainability at the production stage. Building on a case study in Indonesia, the paper analyses how the monopsony context of a palm oil RSPO certified scheme affects transparency and information

on price and quality of Fresh Fruit Bunches (FFBs)', and how this in turn reflects on smallholders' approach towards compliance with such sustainability standards. As being involved in the same supply chain, suppliers and buyers have to share the burden of fluctuations in the international palm oil price. However, provided that in the Indonesian plantation scheme structure the buyer is also responsible for land preparation, the price is calculated on the basis of the age of the oil palm trees as a parameter to determine the quality of oil that will be derived from it, depriving the producers from quality incentives as well as withholding more precise quality information more generally. This study attempts to show the skewed dynamics of trust and interdependence between different actors in a certified Indonesian Palm Oil supply chain, assessing the extent to which the current market structure affects sustainability initiatives like the RSPO. Smallholders know that more attention to sustainable practices would not necessarily translate in higher prices for their produce. Policy makers should therefore not overlook the consequence of local dynamics in commodity chains when addressing global sustainability concerns.

The Indonesian Sustainable Palm Oil: Stakeholder Assessments and Smallholder Farmer Views

ERNAH ERNAH

Leibniz University Hannover, Germany; Padjadjaran University, Indonesia

In this paper, we analyse the views of five stakeholder groups in the oil palm industry in Indonesia and confront these with the reality of smallholder oil palm farming in three villages in Jambi province, Sumatra. The data used in this study include formal personal interviews with representatives of different stakeholders using a questionnaire. Furthermore, focus group discussions with representatives of smallholder oil palm farmers in three villages were carried out. Data were analysed using descriptive statistics and non-parametric tests to identify differences among stakeholder views as well as analysis of key statements derived from the focus group discussions. The results show that stakeholder views differ significantly regarding the practicality and economic feasibility of ISPO standards to be implemented by smallholder oil palm farmers. Representatives from the oil palm industry are most optimistic about the feasibility of ISPO standards, while researchers tend to be most critical. Focus group discussions with small scale farmers in oil palm villages revealed that farmers recognize the benefits of the standards but are also very concerned about their costs. Confronting stakeholder and farmer views shows compatibility and differences underlining the need for more specification of guidelines and a clear strategy to implement them.

Sustainability on Thai Palm Oil Value Chain: Disclosure and the Role of Private Actors

SOMJAI NUPUENG, PETER OOSTERVEER

Wageningen UR, The Netherlands

This paper assesses the roles of private actors in the governance of palm oil supply in Thailand by comparing non-certified palm oil (NCPO) and certified sustainable palm oil (CSPO) through the Roundtable on Sustainable Palm Oil (RSPO). We compare the CSPO and NCPO value chains with respect to input supply and production; collection and sales; processing and storage; and distribution. In addition, we explain the governance dimensions expressed in contracts and agreement; collection and sales; (lack of) trust in transactions; the relative power of various actors; and the mechanisms by which millers and refineries control smallholder farmers' access to the market. The primary data were collected from all

actors in the network through in-depth interviews in the Surat Thani and Krabi provinces in Southern Thailand. Overall, we conclude that the RSPO certified value chain was driven top-down by private actors. RSPO-certification is promoted by the crushing mills to strengthen their reputation, improve their relationship with farmers, increase the quality of oil palm fresh fruit bunch (FFB) and have better access to the global market. The government only gives general policy support and does not implement any action. The certified palm oil chain is shorter, more transparent and receives higher prices than for non-certified palm oil. Non-certified palm oil is sold on the (spot) market where the fresh fruit bunch collectors have more power because they control access to the crushing mills. These supply chains are less transparent and therefore offer less opportunities for improving sustainability. Increased collaboration between the government and all private actors in the value chain and improved transparency within the supply chain are necessary to develop sustainable palm oil supply in Thailand.

Panel 2D: Innovative Session on Sustainable Consumption

Room: Arboretumzaal

Chair: Gert Spaargaren

This panel session consists of presentations by two practitioner organisations whose objective is to enhance sustainable consumption through transparency tools.

Presentations by:

JOAN REIJS

The Sustainability Consortium, The Netherlands

The Sustainability Consortium is an organization of diverse (companies, NGO's & Universities) global participants that work collaboratively to build a scientific foundation that drives innovation to improve consumer product sustainability. For this purpose, the most important social and environmental sustainability issues were identified for the supply chains of 110 product categories worldwide. Subsequently, indicators were developed to enable suppliers and retailers to exchange information on these sustainability issues in a consistent and efficient way and to develop plans for improvement. TSC toolkits are based on scientific literature and developed in a transparent stakeholder process with members. Wageningen UR is one of 4 universities participating in the consortium. Wageningen UR is mainly involved in the development and implementation of toolkits in the Food categories.

GUSTAAF HAAN

Questionmark, The Netherlands

Questionmark helps consumers to shop consciously. Questionmark is an independent not-for-profit organisation. It assesses the impact of individual supermarket products on four themes: environment, human rights, animal welfare and health. The results are made available for consumers through web and several mobile phone apps (free of charge). NGO's use Questionmark's research for their campaigns, the food industry uses it to make their production methods more sustainable.

18.00-19.00

Drinks and Pre-dinner Speech (Arboretumzaal)

Advancing Transparency of Land-Based Mitigation in the Paris Agreement?

MARTIN HEROLD

Wageningen UR, The Netherlands

Mitigation options in the land use sector relevant for the Paris Agreement can only be realized when there is a better understanding of mitigation potentials, trust by donors, especially in the private sector, and guided implementation at local and landscape scale. More and more tools and datasets exist that potentially provide this information to stakeholders. But more data does not necessarily increase accuracy or transparency. Stakeholders need better guidance on which approaches to pursue for different use cases and what is “good enough” monitoring for various stakeholders. The term independent monitoring is mentioned as a key issue for the implementation of the Paris Climate Agreement for improving transparency and accuracy of national and landscape-scale measuring, reporting and verification (MRV) and supporting the assessment of mitigation options in the land sector. Key focus needs to be on addressing both agriculture and forest-related activities and a more spatially explicit provision of information to increase stakeholder confidence and underpin the assessment of landscape-scale solutions. The talk will introduce and exemplify some of the related issues and end with a very big number that will surprise you.

19.00-22.00

Conference dinner (restaurant)

Saturday, 25 June

9.00-10.30

Plenary III (Bosrandzaal)

Transparency and Governance

Chair: Ingrid Boas

This plenary session discusses transparency in relation to questions of governance. Does transparency transform institutions and practices of governance towards sustainability? Does it foster more legitimate and effective decision-making and actions across public and private domains? The plenary speakers will reflect on these questions by discussing insights from past, present and emerging domains of sustainability governance.

Putting Transparency to Work: What Have We Learned about the Effectiveness of Disclosure as a Regulatory Tool?

ELENA FAGOTTO

Harvard University, United States of America

Recent decades have seen an expansion of government reliance on transparency to regulate certain risks to the public. From nutritional labels, to water quality reports, hospital report cards and restaurant hygiene grades, the examples of legislated transparency abound. These disparate policies are founded on the premise that injecting more information in the market can empower the public to make better choices, reduce certain risks, and in turn create incentives for information disclosers to improve the safety of their products and the quality of their services. However, research on the effectiveness of transparency has produced a more nuanced understanding of this tool and of the obstacles it can encounter. We have learned that information does not always empower the public, and that in some cases transparency may even exacerbate inequality. We also know that transparency can be revealing for disclosers, who sometimes react by controlling risks they were unaware of. We have a better understanding of the unintended consequences of transparency. The field of behavioural economics has also been tremendously influential, offering new insights on how individuals interpret and act on new information. But the ecosystem in which transparency operates is rapidly evolving. Richer information environments and a more active role of citizens as producers and users of information delineate new opportunities and challenges for the future of transparency.

From Citizens to Satellites: "Third-Wave" Data Approaches in Environmental Policy

ANGEL HSU
Yale University, United States of America

When it comes to our most pressing environmental challenges, much of the data needed to take effective action are missing. Water quality, recycling rates, toxic chemical exposures, land degradation – assessing these environmental issues is hampered by the lack of consistent, global information pathways. Where data exist, they are often incomplete, erratic or untrustworthy. Even if accurate, data may be based at a resolution or scale inapplicable to the policy question at hand. The flood of information poses new problems of its own, often creating more noise than clear signals. In China, recent announcements by the government have signalled a new opportunity to scope the potential for novel data approaches, including big data (e.g., satellite data) analysis as well as bottom-up methods (e.g., citizen science) to help address these data challenges, utilizing a mix of inventive and cutting-edge techniques we call "third-wave data." "Third-wave data" has the potential to engage new actors (e.g., citizens and technologists) and audiences in environmental data collection, improve linkages between policy-making and monitoring, and facilitate collaboration across private and public sectors. The presentation discusses the application of third-wave data approaches in China, with a particular focus on how these new data methods may work to address intractable gaps in China's existing environmental monitoring and how they may also inform new policy developments on green finance in China. What frameworks, institutions, and policies will be needed to facilitate and govern a transition to third-wave data in China? What challenges and larger lessons can be learned from China's experience?

Governance by Transparency and Governance by Responsible Innovation

PHIL MACNAGHTEN
Wageningen UR, The Netherlands

In this talk I wish to draw out some comparisons between debates on governance by transparency and governance by responsible innovation. Taking science and technology governance as a domain, I argue that frameworks of responsible innovation provide at least partial answers to three problems surrounding the information provision in regulatory policy: (a) people's routine skepticism towards information provided by industry and government sources; (b) the truism that information providers tend to disclose known information rather than areas of uncertainty or scientific ignorance; and (c) that the types of one-way information provided by providers may not align to the kinds of information sought by wider public groups and civil society. These points will be illustrated through deliberative research with publics on geoengineering and on genetically modified foods and crops. Following up on experiments on responsible innovation I argue that the transparency community can take forward such insights in the pursuit of authoritative governance.

10.30 – 11.00

Coffee break (Arboretumzaal)

Panel 3A: Innovative Transparency Arrangements: Opportunities, Contradictions, Challenges

Room: Meidoornzaal

Chair: Sietze Vellema

Moving Sustainable Shipping Forward: Competing Governance Arrangements to Combat Greenhouse Gas Emissions from Shipping

JUDITH VAN LEEUWEN
Wageningen UR, The Netherlands

Competition in terms of who governs shipping to become more sustainable is growing. The one-size-fits-all approach of governing shipping through international environmental agreements and conventions of the International Maritime Organization (IMO) is under pressure. Regional coalitions of states and non-state actors try to overcome the limits of the IMO in developing and implementing ambitious environmental standards. Not only do regional, territorial-based arrangements compete with IMO, also information and market-based initiatives to stimulate green shipping practices are proliferating. The shipping industry increasingly has to account for its environmental impact to the port it visits and to the cargo-owners whose goods it is transporting. Market- and information based initiatives are taken from a value chain perspective but create tensions and competition with the territorial model of regulation. The preference of the shipping industry for international environmental standards to ensure a level playing field in a highly competitive market is increasingly compromised. This tension also comes to the fore when considering the greenhouse gas emissions of shipping. No formal regulatory framework exists as the UNFCCC delegated this task to IMO who has not been able to adopt any international agreement on this issue yet. While the shipping industry advocates regulatory action from IMO, the EU as well as non-state actors are no longer willing to wait. They are developing informational and market-based initiatives to increase the transparency of CO₂ performance of the shipping industry and to provide economic incentives to reduce CO₂ emissions. This paper will evaluate to what extent such non-state, informational and market-based mechanisms compete with (regional) state-based governance arrangements and whether this competition supports a move to sustainable shipping.

Who Diffuse Transnational Sustainability Governance to China? A Comparative Study across Commodity Chains

YIXIAN SUN
Graduate Institute of International and Development Studies, Switzerland

Originating from developed countries, various private regulatory programs promoting sustainability in global commodity chains are gradually introduced to producers in developing

countries. While global production has been increasingly consolidated in large emerging economies, research still needs to be carried out to uncover whether or not these private rules are able to lead these countries to “trade up” their environmental standards. The paper seeks to bridge this gap by examining factors which determine the uptake of transnational private governance in the environmental realm by firms located in China. Drawing upon theories of political economy and institutional analysis, the paper develops an analytical framework which identifies economic benefits and social-political incentives as two major types of forces driving firms in China to participate in private environmental programs, and infers some possibilities of interaction between state regulation and private governance. Building on this framework and using original firm-level data, the paper compares the uptake of private governance programs in different commodity chains, such as forest and palm oil, in order to uncover key constituencies of different programs in China. My network analysis shows that the type of ties linking firms certified by different programs varies remarkably, and therefore implies that different driving forces determine varying uptake patterns across issue areas. This preliminary result is helpful to generating important hypotheses for further research about influential actors in commodity chains to promote related sustainability standards in developing countries.

Overcoming Contradictions Between Adaptive Management and Accountability

LYNDAL HASSELMAN
University of Canberra, Australia

Effective environmental governance needs to address the uncertainty inherent in ecosystems and society to provide long term sustainability of natural resources, such as water, soil, biodiversity and the atmosphere. This uncertainty presents as imperfect knowledge, incomplete knowledge, unpredictability and unforeseen changing societal objectives and preferences. Addressing uncertainty can require small incremental improvements to policy or more significant reframing of policy objectives. Adaptive management, variably referred to as experimental management, learning by doing and structured decision making, has been widely proposed as the panacea to these uncertainties. Effective environmental governance also requires accountability for legitimate decision making and use of natural resources. However, there are contradictions between adaptive management and accountability that can prevent achieving both of these two normative values of environmental governance. First, the meaning of adaptive management is confused. In the absence of common understanding and interpretation of adaptive management, it is not possible for governance to be held accountable for doing adaptive management. Secondly, the shifting decisions and shared decision making that occurs with adaptive management weakens the demarcation of responsibilities. This limits accountability as who can be held to account, by whom and for what becomes obscured. Thirdly, in the context of increasing empowerment of community in natural resource decisions and implementation, the role of community in adaptive management and their accountabilities requires clarification. Water management in the Murray-Darling Basin, Australia has been used as a case study to investigate the relationship between adaptive management and accountability. The case confirms the contradictions between adaptive management and accountability in a conflicted community and political context. This paper presents the prescriptive insights. These insights can guide governance to achieving both adaptive management and accountability through a new mode of governance that systematically integrates adaptive management across polity, politics and policy.

Exploring the New Informational Frontiers of Fisheries Governance through Fads, Drones and Google

HILDE TOONEN, SIMON BUSH
Wageningen UR, The Netherlands

High-seas fisheries remain one of the least transparent global production practices. The distant nature of fishing activities from shore, coupled with the highly mobile nature of fish stocks, has led to a pressing need for new monitoring, reporting and verification (MRV) efforts that can address the rise of illegal, unreported and unregulated (IUU) fish production. Stimulated by growing political awareness of IUU fishing, there has been a boom in the use of new technologies to collect, store and use information relevant to improved MRV activities in oceanic fisheries. These technologies are diverse, but focus on the collection of spatially referenced data on the location of fishing vessels, gears and even fish stocks. Until now, research focus has been rather technocratic, exploring new applications for these technologies. However, few questions have been asked about how these technologies are reconfiguring the roles and responsibilities of public and private actors involved in fisheries management, including who collects and controls fisheries related information. In this paper we use the sociology of environmental flows to compare three specific MRV technologies that are gaining traction in fisheries; the use of private fish attraction devices (FADs) in oceanic tuna fisheries, unmanned public drones for marine surveillance and Google coordinated global satellite monitoring of fishing vessels. In doing so we question how different configurations of actors are structuring interrelated flows of information, regulation and finances related to fishing management, and with what effect on raising sustainability performance of fisheries. We also explore how these technologies configure new (and imagined) geographies of fisheries regulation which challenge existing modes of fisheries management. The paper concludes with a call for improved theorisation on the role of these technologies in responding to claims for greater transparency and disclosure of information in distant and largely illegible resources and practices.

Panel 3B: Critical Lens on Monitoring and Reporting: Interrogating Diverse Effects

Room: Lijsterbeszaal

Chair: Kris van Koppen

Monitoring, Reporting and Verification Systems in Biodiversity Governance - Transparent and Accountable?

VIKTAR KIREYEU¹, ANTON SHKARUBA², PETER EDWARDS³
¹NGO Ekapraekt, ²Central European University, Hungary; ³University of Wellington, New Zealand

We investigate the monitoring, reporting and verification (MRV) systems in the biodiversity governance of Belarus, which are associated with international state-led and public-private-hybrid environmental governance arrangements applying to Belarusian protected areas: the Aarhus Convention, forest certification schemes (FSC and PEFC) and the European Diploma of Protected Areas (EDPA) of the Council of Europe. Based on a review of regulations, status reports, media contents, on-line discussions, and empirical data, we compare institutional MRV arrangements in terms of their effect on transparency, accountability, empowerment, and sustainability performance of Belarusian protected areas. Despite a top-down approach to governance, there are signs that MRV systems in Belarus increase transparency. In the case of EDPAs, monitoring and reporting by NGOs about conditions in Biarezinski Biosphere Reserve and Bielaviežskaja Pušča National Park forced the government to develop appropriate management plans in the face of potential withdrawal of the diploma, allowing non-state actors to enter into monitoring, management and strategic planning spheres. The efficiency of tools provided by the Aarhus Convention has significantly decreased with state actors adapting to the new reality by finding new legal means for restricting access to information and decision making. Forest certification of protected areas was a part of a national strategy to increase competitiveness of forest industry by certifying all state forests. In principle, it supports transparency and empowers non-state actors; however, there are serious concerns about the lack of national standards and practices that disregard core FSC principles. By engaging in a comparative study of successes and failures in MRV systems in Belarusian protected areas, we hope to draw attention to the systems that work in centralised states. We seek to improve understanding of these “west-designed” institutions and their associated MRV systems so that they can strengthen transparency and accountability, empowering non-state actors in Belarus.

Transparency, Media, and the Threat of Reputational Damage: Potential and Pitfalls for Preventing Corporate Environmental Harm

JUDITH VAN ERP
Utrecht University, The Netherlands

Disclosure of environmental offenses naming the offender, is often perceived as a powerful governance tool in the prevention of corporate environmental offenses. The wish to maintain a good reputation with clients, local communities, NGOs, and the media is a major motive for compliance and even for beyond-compliance investments by firms that depend on their reputation. Likewise, it is assumed that the threat of reputational damage through adverse publicity deters firms from engaging in environmentally harmful behaviour. Increasingly, environmental inspectorates disclose or ‘name and shame’ offenders in the ex-

pectation that this will increase the impact of formal legal enforcement. This paper investigates these assumptions by studying the process through which regulatory disclosure generates negative publicity and/or reputational damage for environmentally harmful corporate activities. It focuses in particular on the role of the media, who as intermediaries between disclosed information and the public, determine whether 'naming' becomes 'shaming'. This analysis identifies several obstacles to effective 'reputational regulation'. First of all, disclosed information is only selectively picked up by the media, as a result of a lack of media attention for corporate environmental harm in general and for less well known firms in particular; and of the absence of identifiable victims of environmental harm. Second, only a particular type of firms depend on their social license, and therefore the threat of reputational damage is not a credible deterrent in many cases. Those firms that do depend on their reputation, increasingly try to prevent negative media publicity by using a variety of legal instruments, such as injunctions and slapp orders. Since existing research has mainly focused on the role of traditional media, the last part of the paper explores the potential of social media and the internet to break through corporate efforts to control negative publicity.

Clean Air and New Trees as Pledged? Lessons from Local Civil Society Initiatives that Monitor Sustainability and Accountability Issues in Latin American Cities

LUDGER NIEMANN

University of Twente, The Netherlands

Local initiatives aimed at monitoring sustainability issues in cities – sometimes labelled 'community indicator projects' – are thriving in several parts of the world. In Latin America, BogotáCómoVamos has gained fame forms part of a network with about 75 member initiatives between Mexico and Argentina. This "Latin American Network of Just, Sustainable and Democratic Cities" (RedLA) has the shared, declared purpose of disseminating environmental and quality of life indicators, promoting participation, influencing local policies, and defending transparent access to information. We set out to learn from the RedLA network through a study of effects: Do participating initiatives achieve their aims, and how do they do this? A document review, online questionnaire (response rate: 57 %) and interviews with activists and government representatives showed a wide range of working arrangements; some initiatives are NGOs with staff and funding (e.g. from businesses, donors) while others rely on volunteers; some disclose official data while others produce own quality of life surveys. In terms of effects, there is varying success in influencing local sustainability agendas, as is evident from local government references, media reports, and civic participation in events. In some cases, repeated information requests led to improved responsiveness and quality of official information systems. However, the relationship between civil society organizations and governments differs markedly between countries and cities, ranging from collaborative to very antagonistic. Based on these evaluative research findings we developed an analytical model in which perceived "accountability gaps" represent a factor explaining the use of various types of strategies. Further, we found that monitoring efforts directed at sustainability and accountability can create synergies but also choices and tensions: In some cities, the public discourse is about sustainability outcomes (e.g. air quality) but in others about the accountability issue of local government inputs (e.g., have trees been planted as pledged).

Mining and Corporate Citizenship: Transparency in the Framework of Environmental and Social Expectations

EUGENE KRITSKI
GlobeScan Inc., Canada

GlobeScan Inc. is an international public opinion and stakeholder research consultancy, specializing in diverse areas of corporate reputation, stakeholder engagement, sustainable development, and social and environmental responsibility. Over the past 10-15 years, we have observed an increase in social expectations of the corporate world. Not surprisingly, these expectations more often than not are 'unmet'. The question is whether unmet expectations on transparency are merely a cultural discourse, e.g. 'there's never enough transparency', or they are functional in shaping social perceptions and corporate strategy. The paper addresses the role transparency plays in public expectations of the mining industry, building on the international survey data collected in 2015 in select developed and developing countries. It compares public perceptions across the countries, and between national populations and populations of mining communities. Using Structural Equation Modelling, the paper explores causal relationships between such concepts as transparency, governance, environmental stewardship, community engagement and distributive fairness in building trust in the mining industry and its social acceptance. The transparency concept is analysed from two perspectives: transparency through disclosure and transparency through stakeholder engagement and collaborative action. The findings prove that transparency is the corner stone of the public perceptions of mining and transformative force in building effective partnerships between the industry and the public.

Panel 3C: The Varied Patterns and Consequences of Transparency in Transnational Private Governance

Room: Boomgaardzaal

Chair: Luc Fransen

Transparency as a mechanism of transnational private governance operates in myriad ways, affecting the small day-to-day decisions of individuals working in organizations and transacting in markets to the larger contractual and stakeholder relations of companies operating along global supply chains. The papers in this panel offer a range of perspectives on these diverse roles of transparency in governance. From Brazil, we learn about the role of transparency in commodity supply chain relations as it affects and is affected by a country that is theoretically strong but that has been practically absent from certain areas of governance. Comparing the EU and the US, we explore what implications recent transparency legislation has had for how and what private actors have disclosed about their policies and practices to do with risks to human rights. Turning our lens to emerging private governance initiatives, we probe the possible mechanisms linking information created by fisheries certification audits to institutional learning ongoing within the Marine Stewardship Council. Related, but at a population level, we examine the diverse logics of disclosure adopted across voluntary standards setting initiatives and the implications this has for field-level learning and competition. Finally, challenging a dominant paradigm of private governance, we explore how certification institutions might be re-oriented away from a regulatory focus to a developmental one, and what role transparency might play in such a process. Together, we offer new insights into the multi-levelled and variegated ways the calls for and the practice of transparency operate in contemporary global governance, including its potential as a transformative force.

Sustainable Production in the Blind Spot of Public and Private Governance

MAJA TAMPE

MIT Sloan, United States of America

Sustainability standards, such as Fairtrade, Rainforest Alliance or UTZ, promise sustainable agriculture and better livelihoods for producers through higher prices, farmer organization, and compliance with improved practices. They are also meant to increase transparency through conveying information to consumers about socially and environmentally responsible production practices. Yet actual improvements occur inconsistently, and the role of public and private governance for these uneven outcomes is not well understood. Drawing on six-month long participant-observation and more than 80 interviews in the cocoa sector in Brazil where strong laws and a functioning private governance apparatus should encourage improvements, I show that sustainable production takes place in a blind spot because public law enforcement is unlikely for most cocoa producers and because sustainability standards control, but do not support standard implementation. Yet a blind spot on how to make sustainability standards effective extends to producers themselves. I find that they are often stymied because they come up against a 'rule-to-practice-gap' between rule requirements and organizational practices where many muddle through or give up. In contrast, others discover how to adapt rules into practices based on two conditions: They draw on organizational practices of discovery; and they perceive external reinforcement for putting rules into practice. In sum, I put forth that we can understand standard implementation and governance outcomes more accurately when adopting a practice lens from organization studies. In doing so, this study contributes a new angle to private governance research that is well suited to theoretically explain variation in standard implementation and to empirically offer pathways to higher standard effectiveness and more transparency in supply chains.

Transparency in Global Supply Chains: a Comparative Analysis of the California Directive and the EU Directive on Non-Financial Disclosure

MARIEKE KOEKKOEK, AXEL MARX, JAN WOUTERS
KU Leuven, Belgium

Companies are increasingly obliged to offer more transparency with respect to the production process of goods and the way these goods are brought into the domestic market. These transparency measures aim to contribute to the governance of social and environmental issues through the supply chain: they enable consumers to understand the production process of a good better by obliging companies to make this publicly available. In enabling awareness, it is hoped that a gradual change in company policies is brought about through consumer demand. This development is a relatively new regulatory approach to governing sustainability. The paper aims to provide a better understanding of these regulatory measures. On the basis of a comparison between the California Act on Transparency in Supply Chains and the EU Directive on Non-Financial Disclosure (2014/95). This paper will analyse the main differences and similarities between these two regulatory transparency measures.

Beyond Certification? The Possible Transformation of Private Sustainability Standard Governance and its Implications for Transparency

LUC FRANSEN
University of Amsterdam, The Netherlands

Over the last half decade agribusinesses have rushed to support compliance with private sustainability standards in their supply chains. While some would view this trend as a result of an increasing awareness among consumers and/or businesses to Corporate Responsibility and environmental and social justice, many observers point to a different driver for the popularity of these standards. In agribusiness, many firms worry that they cannot meet future demand for their products if their supplying farmers in developing countries move to different crops than those preferred by agribusiness, abort farming altogether, or farm in ways that degrades the soil. Private standards are a tool to secure the supply chain of agribusinesses, as these improved farmer practices, potentially increase farmer income and lock farmers into export market production. While literature recognizes this driver as significant for the increasing success of private standards in terms of business uptake and scope of impact, few studies deal with the important implications this may have for private governance in the long run. If supply chain considerations play a considerable role in driving standard endorsement, then private standard organizations have a more conflicted basis for exercising authority in global production chains than their current design assumes. Moreover, an increasing importance of supply chain considerations is likely to lead to changes in the policies of private standard organizations. This paper analyses the supply-driven dynamics of private sustainability governance in agricultural commodities, and develops propositions on its longer-term implications for the institutional design and governance of private standards, with particular emphasis on transparency policies and requirements. Finally, it takes stock of ongoing changes in the governance of sustainable agriculture that highlight the dilemmas that result from a more supply-driven support for private sustainability standards.

Organizational Learning through Transparency: The Internal Role of Information Disclosure in the Evolution of the Marine Stewardship Council

STEFAN RENCKENS¹, GRAEME AULD²,
¹University of Toronto, ²Carleton University, Canada

Transnational private governance programs generate and disclose information about the social and environmental practices of companies and producers across a host of economic sectors. Much attention has been given to the external consequences of these disclosure practices for the legitimacy and accountability of programs (Auld & Gulbrandsen, 2010) and the empowerment of stakeholders (Dingwerth & Eichinger, 2010). Little attention, however, has been given to the internal consequences of information disclosure practices for organizational learning and change. In this paper, we build from previous work detailing the nature and logic of information disclosure in the Marine Stewardship Council's (MSC) auditing process to specify and test mechanisms through which internal-program learning may be occurring. In particular, we focus on compliance verification by third-party auditors and evaluations of the functioning of the MSC by academics, fisheries experts, and affected stakeholders. Our analysis uses two original databases. The first comprises 289 fisheries that have engaged with the MSC program since 1999, and includes details on when fisheries sought certification, the organization performing the audit, the composition of the assessment team, and the individuals/organizations engaged in an objections procedure against a fishery to be certified by the MSC. The second dataset comprises all evaluations of the MSC in academic journals, and identifies the authors and their organizational affiliation, and the specific focus and tone of the evaluation (e.g. criticizing a lack of stakeholder involvement). Using network analysis, the information in these datasets allows us to examine the flows of information across members of the audit teams and audit organizations, the structure of the community of evaluators and objectors, and pressure points for change within this community, while linking this to the evolution of the MSC and its compliance process. As such, we contribute a micro-level analysis of the ways by which different forms of information disclosure contributes to organizational learning and change.

Disclosing What to Whom? Exploring the Varied Disclosure Practices of Transnational Private Governance

GRAEME AULD¹, MATTEO FIORINI², PHILIP SCHLEIFER³
¹Carleton University, Canada; ²European University Institute, Italy; ³University of Amsterdam, The Netherlands

Voluntary sustainability standards (VSS) have proliferated widely in recent decades, making them an important instrument of global value chain governance. A central part of the governing logic of these standards is the creation, control, and dissemination of information – information about, among other things, appropriate business practices, the performance of audited companies and producers, and the flow of certified goods through global supply chains. Our knowledge of the varying disclosure practices of VSSs is however piecemeal, built from a handful of individual and comparative case studies (Dingwerth & Eichinger, 2010; Haufler, 2010). Studies thus far have identified the differing roles information plays in the practices of VSSs. Sometimes information practices align with democratic norms where informing stakeholders is an end unto itself (e.g., the Forest Stewardship Council) and in other cases these practices are more rooted in the norms of scientific expertise and instrumental knowledge as means to credible standards, assessments, and performance evaluations (e.g., the Marine Stewardship Council). Identified differences in practices also have profound importance for the theory and practice of field-level learning, as postulated by various scholars. To address these current gaps in our knowledge of disclosure practices,

we report the details of 180 standards recorded in the International Trade Centre's standards map dataset (www.standardsmap.org). The unparalleled coverage of the standards and their attributes provides a rich and comprehensive window into the differing logics of disclosure adopted across VSS and the implications this has for theories of field-level learning and competition identified in existing research.

Panel 3D: The Politics of ICT-enabled Citizen Empowerment in Environmental Governance*

Room: Bosrandzaal

Chair: Simon Marvin

**Innovative session with live streaming of a hackathon*

Rapid developments in information technologies have created opportunities for participation of citizens in knowledge production about sustainability issues. The use of digital tools, including smart phones, cameras, sensors, and toolboxes, enables new practices of collecting, analysing, interpreting, communicating, and visualising data about the environment. In this panel, we seek to interrogate the politics of ICT-enabled citizen empowerment in environmental governance with a focus on questions of inclusion and transparency. The panel will bring together a range of disciplines, including political science, environmental sociology, and science and technology studies.

Topics include:

- Transparency and inclusion in the design and development of the tools: Who participates in deciding what is measured and how? How do norms about transparency and inclusion play a role in the design process?
- Transparency and inclusion in practices of data collection: Who participates in data collection, what skills and expertise are required?
- Transparency and inclusion in analysing, representing and using the produced data: How and by whom are the data sets used? Who and what does the data monitor? In what ways are these data sets actually used to support environmental policy-making?

Live Streaming of a Hackathon

ANNE BRUINSMA
FarmHack.NL, The Netherlands

Farmers are generating ever more data. Smart sensors, drones and robots have become an integral part of farming businesses, but the potential of data and technology in the agricultural sector remains underused. The mission of FarmHack.NL is to build a rich and diverse ecosystem around the farmer, consisting of coders, hackers, developers, planners, designers, experts, and policy makers. This summer, FarmHack.NL organises four hackathons at different farms in the Netherlands. The challenges for the hackathons are defined by the farmers themselves and include issues around the re-organisation of local food supply chains, transparency and monitoring in livestock farming, and precision farming. During this session, we will make a live connection with a hackathon at a farm in Groningen to talk with Anne Bruinsma about the potentials and challenges of hackathons for creating transparency and sustainability in the agricultural sector.

The Environment as a Data Set: Implications for Environmental Citizenship in a Digital Age

SANNEKE KLOPPENBURG, INGRID BOAS
Wageningen UR, The Netherlands

Rapid developments in ICT, including the internet, social media, big data, and smart sensor, allow for new ways of collecting, sharing, and using data about our environment. In this article we critically explore some epistemological and political aspects of the use of ICT in governing sustainability issues. While concepts such as informational governance (Mol 2008) have emphasised how ICT is fundamentally restructuring power relations, processes, institutions and practices, we argue that the use of ICT is also transforming our understanding of the environment as such. First, we discuss how the connecting and integrating of real-time data from multiple sources affords new ways of knowing the environment as a dynamic information system. Next, we argue that when the environment is increasingly understood and acted upon through digital technologies, an important political and ethical question becomes who has the power and skills to design and develop these technologies. Following Muki Haklay's 'hierarchy of hacking' -the ability to alter and change the meaning and use of a specific technological system- (Haklay 2013, p. 55), we analyse different levels of 'environmental hacking' by citizens: from contestations over the visualisation of environmental degradation, to the creation of open hardware for biodiversity monitoring, and 'sustainability hackathons' organised by city administrations. We suggest that environmental citizenship and activism in the digital age may well entail significant technical skills (programming, coding) as well as the ability to translate (Callon 1986) issues through tools and visualisations and to make data matter. This also means that claims about the empowering potential of ICT need to be nuanced. We conclude that what is needed is reflexivity on the normativity and values embedded in technologies for monitoring, measuring and visualising environmental issues.

Conditioning Control: the Politics of Citizen-Led Digital Environmental Monitoring

DORIEN ZANDBERGEN
University of Amsterdam, The Netherlands

Worldwide, ICT-enabled citizen science projects tend to take place in the context of public-private partnerships that operate both at local and international levels. As a result, the discourses and practices of such projects are governed by multiple goals, agendas and ideologies: they simultaneously testify to the promise of decentralized, bottom-up citizen power; function as market research for corporate R&D trajectories; enable citizens' curiosity for techno-scientific tinkering; and provide new methods of data aggregation and analysis and forms of public dissemination to scientists. In this paper, discussing ICT-enabled citizen science projects as shaped in this multi-varied context, I want to move away from generalizing equations of citizen-science with citizen-power and towards a more contextualized and precise understanding of the politics of ICT-enabled citizen science. I will base my discussion on insights derived from two multi-sited projects that I studied from 2011-2014: the Air Quality Egg and the Smart Citizen Kit. Both projects centred on an air quality monitoring digital device and both projects tapped into and sought to illustrate the power of citizen-based bottom-up Environmental monitoring. I will show how, throughout different stages of these projects the imagined configuration of the data-power relationship oscillated between two poles. On the one end air-quality data was celebrated for its scientific representation of reality, on the other for its affective capacity to bind people together in communal arrangements. The question which of these understandings ultimately prevailed, I show, depended largely on the interests of the institutions and corporations involved,

through their conditioning of time, technical resources and outward representations. As a result, while both understandings have very different repercussions for the type of power gained by the data-gathering citizens, citizens themselves lacked the capacity to control what type of power they could make their own.

Ubiquity and the Illuminative City. From Smart to Intelligent Urban Environments

ARJAN VAN TIMMEREN

Delft University of Technology, The Netherlands

Humanity was once dispersed and dislocated on a planet to be so mysterious and unfamiliar, but through ingenuity and technical prowess we have created a globalized society, integrated by ubiquitous infrastructures that now find itself on the precipice of concurrent crises. Cities have become the stage of modernity as the realities of resource scarcity, climate change, stiff global competition and technologically-led austerity are forcing us to adapt to ever changing, economic, environmental and socio-political conditions. IT companies, politicians and technologists claim they have exact the remedy to urban ills: the Smart City. For them, smart sensors and sophisticated algorithms can be used to optimize urban space and make our cities more efficient, environmentally sustainable, economically attractive and socially inclusive. Seeing as information and communications technologies have disrupted so many other industries in the last 20 years, can it actually be used to solve age-old urban problems and take us into the future? Does the Smart City illuminate the intricate complexities of urban life, the reciprocities between cities and their hinterlands, and empower individuals and communities? Or are there elements of urbanity and the human condition that lie beyond the purview of data collection alone?

12.30-13.30

Lunch (restaurant)

Panel 4A: Transparency and Accountability in Global Environmental Governance: Exploring the Links

Room: Boomgaardzaal

Chair: Virginia Haufler

This panel explores the challenges and prospects for securing greater accountability of governance processes, practices and outcomes in the global sustainability realm. The papers explore the changing nature of accountability relations in an increasingly fragmented and complex governance landscape, and the role that transparency is assumed to play in enhancing accountability.

The Good Hegemon: How the United States Helps People to Hold the Multilateral Development Banks to Account

SUSAN PARK
University of Sydney, Australia

In 1994 the World Bank created a precedent under international law, opening itself up to being held to account by people negatively affected by the projects it finances in developing countries. It was the first time that a universal international organisation (IO) recognised that it had a non-contractual relationship with individuals. The creation of the World Bank's Inspection Panel and its Information Disclosure policy has been sufficiently covered in the academic literature. What remains unexplained is why, within a decade of the Inspection Panel, the other Multilateral Development Banks (MDBs) created similar accountability mechanisms and transparency policies. This norm of 'accountability as justice' has since spread to other development financiers including bilateral development agencies, export credit agencies and private banks. Although international law scholar/practitioners have expended considerable effort mapping the differences among the accountability mechanisms no explanation has been provided for their creation, for why they function the way they do, or why there are no assessments of their effectiveness in helping people hold the Banks to account. The paper tackles all three questions and makes three central arguments: first, that the United States used its power and influence to push the MDBs to create accountability mechanisms against the interests of the Banks and the Banks' borrowers; second, that the US used the same levers to demand the accountability mechanisms be reformulated when they proved to be dysfunctional; and third, the article reveals the limits of US power and influence in the ensuring the effectiveness of the mechanisms it created because it relies on proxy indicators of effectiveness backed by bureaucratic oversight procedures and NGO scrutiny.

Transparency in and of the Trans-Pacific Partnership (TPP): a Neo-Gramscian Analysis

KYLA TIENHARA
Australian National University, Australia

The negotiations for the Trans Pacific Partnership (TPP) occurred entirely behind closed doors. Paradoxically, now that the text has been released we know that one of the chapters that remained under a veil of secrecy for that five-year period is entitled 'Transparency and Anti-Corruption'. Modern trade agreements frequently include provisions on 'regulatory transparency', also referred to as 'transparency disciplines'. The investment chapters of trade agreements and stand-alone bilateral investment treaties (BITs) have also been interpreted by arbitral tribunals (typically operating behind closed doors) as requiring governments to be transparent in their dealings with foreign corporations. Some experts argue that transparency is emerging as a key principle of international economic law. How do we reconcile the lack of transparency in the processes of treaty making and dispute settlement with the concomitant rise of transparency as an important substantive trade principle? This paper employs a Neo-Gramscian framework to highlight how transparency is both part of the dominant ideology of neoliberalism and an important rallying point for the counterhegemonic movement challenging trade and investment deals such as the TPP. Hegemonic blocs of powerful actors determined not only what got disclosed to whom and when in the TPP negotiations, but also how the term 'transparency' was defined in the final text. However, the long-term secrecy of the negotiations has substantially undermined public support for the deal and may impact on its passage through the United States Congress. The analysis also indicates that the general assumption that transparency will facilitate accountability is not always borne out in practice. In some contexts transparency will instead facilitate surveillance. 'Transparency washing' may also be used to placate opposition and distract the public from an absence of accountability and other systemic deficiencies in governance.

Transparency and Due Diligence: a New Norm of Foreign Accountability

LENA PARTZSCH
University of Freiburg, Germany

During the past few years, the EU and the US have imposed a number of legally binding 'transparency' and 'due diligence' regulations for commodities chains, in particular, in the fields of timber (US Legal Timber Protection Act, EU Timber Regulation) and minerals (US Dodd-Frank Act Section 1504, EU draft guideline on conflict raw materials). So far, scholars have mainly explained the emergence and design of respective policies with domestic dynamics, such as the 'Baptist and bootlegger' coalition which shared interests of the timber industry and environmental groups to ban illegally logged (low-cost) wood from the US market. The aim of our paper is to demonstrate global dynamics beyond these policies that currently diffuse on a world-wide scale. First, we argue that these new regulations concerning the import of natural resources are the product of a new global norm of greater foreign accountability. Companies need to disclose the circumstances under which resources were exploited, and they are held accountable for non-sustainable practices in countries of consumption. Second, the emergence of this norm is the result of strategic framing, especially by moral entrepreneurs. International NGOs (e.g. Global Witness) have successfully advocated the new norm by framing it within already existing norms instead of provoking an open norm confrontation. Third, agency has also been crucial in the current phase of norm cascade. 'Fair business' entrepreneurs benefit from new markets for certified products, such as 'fair' phones, and their marketing enhances the norm cascade. In empirical terms,

we test our hypotheses by conducting an in-depth analysis of the cases of illegally logged timber and 'conflict' minerals, based on primary and secondary literature, participation in practitioners meetings, and semi-structured expert interviews.

From Empowerment to Accountability: Analysing Mandatory Policies of Transparency in the Global Governance of Forests and Biofuels

SINA LEIPOLD¹, CHRISTINE MOSER-PRIEWICH²

¹University of Freiburg, ²Leuphana University of Lüneburg, Germany

Recently, we witness a shift from purely voluntary to mandatory transparency instruments in various fields of global environmental governance. With the European Timber Regulation (EUTR) and the European Renewable Energy Directive (EU-RED), the EU introduced two instruments that make transparency of respective commodity supply chains a (quasi-) mandatory requirement. This shift seemingly answers the call of many scholars for the "inclusion of (powerful) private entities and state institutions in mandatory—rather than voluntary—information disclosure" (Mol 2014, also cf. Lambin et al. 2014; Esty 2004; Florini 2010). Yet, we know little about the way these new policies affect global governance arrangements and actual practices of disclosure (Leipold/Winkel 2015; Moser/Bailis 2015). In particular, it has not been analysed to what extent these policies fulfil the promise of securing accountability of state and private actors. To answer this question, we examine (1) how the EUTR and EU-RED aim to ensure accountability across the globe, and (2) which practices of transparency and accountability can be found on the ground. Our analysis is based on 50 expert interviews, over 120 documents and participant observation data. We compare both regulations' specific approach to making transparency mandatory, provide exemplary case studies of their transnational implementation, and critically discuss implications for sustainability governance. Analytically, we combine elements of institutional analysis and polycentric governance (Ostrom 2005) with discursive policy analysis (Hajer 2006). Our results show that this paradigm shift from the empowerment of civil society towards industry accountability has important consequences for both policy fields. While both regulations hold companies responsible for keeping their supply chain either legal (wood trade) or "sustainable" (biofuels), their design and implementation practices fundamentally shift the focus towards more narrow and less transparent forms of accountability (Moser/Bailis 2015). In particular, our results highlight that the understudied role of certification and verification is a pressing issue.

Panel 4B: Transparency as Governance Frontier: Illustrations from Arctic Governance

Room: Bosrandzaal

Chair: Jan van Tatenhove

Oil and Gas Development in Greenland: a Social License to Operate, Trust and Legitimacy in Global Environmental Governance

COCO SMITS^{1,2}, JAN VAN TATENHOVE², JUDITH VAN LEEUWEN²

¹Royal HaskoningDHV, ²Wageningen UR, The Netherlands

Offshore Arctic oil and gas activities are subject to public and political debate. The economic opportunities in this region draw the attention of oil companies, investors and non-Arctic States. In addition, they attract the attention of environmental NGOs and climate activists. In the case of Arctic oil and gas activities these discussions are not only held at a national level, but also at an international level. The concept Social License to Operate fits within trends of globalisation, political modernisation, and multi-level governance. Empowered citizens and civil society organisations are not satisfied with how national governments and (multinational) private companies are implementing industrial projects and require more transparency about intended activities and their environmental and social risks. Legal requirements are not sufficient to meet stakeholders' expectations. And stakeholders in society have lost their trust in the legal and the political systems to adequately deal with their concerns. On a national level this is already a difficult phenomenon for governments and companies to deal with, let alone when a range of international stakeholders is involved – as is the case with offshore oil and gas development in Greenland. This manuscript presents the Social License to Operate of oil and gas development in Greenland as a nested governance arrangement in an Arctic Sphere of Authority. The authors explore the role of trust and legitimacy in the context of this multi-level arena, and elaborate upon the interaction between the social license and the political and legal licenses for Greenlandic offshore oil and gas. How do the national government and local indigenous communities experience opposing views by empowered global citizens? How is trust ensured between national government, local indigenous communities and oil companies? And who is legitimate to decide on whether and under what conditions oil and gas may be developed in Greenland?

Governance in the Arctic: Addressing Transparency and Sustainability

NATALIA LOUKACHEVA

University Of Northern British Columbia, Canada

The increasing significance of the Arctic in global affairs particularly in respect of environmental change, its shifting geo-political importance, and the growing number of actors desiring meaningful voice in decision-making processes affecting the region, have each prompted further inquiries into the nature of governance in the Arctic, including the connection between good governance, transparency and sustainability. Governance can be understood as a process in which political power is exercised by different players with due consideration to the principles of legitimacy, accountability and transparency. By looking at governance in the Arctic and the main aspects of good governance which aims to ensure sustainable development and is influenced by the principles of human rights, the rule of law

and democracy, and by using examples from Canada's Eastern Arctic, this paper explores the issues connected with the implementation of good governance practices in the North and governance challenges in attaining sustainability and transparency.

Expedition Cruise Tourism at Svalbard: Collective Self-Governance as Driver for Change

LINDE VAN BETS, MACHIEL LAMERS, JAN VAN TATENHOVE
Wageningen UR, The Netherlands

Cruise tourism development has stirred societal and academic debates about its environmental impact and under-regulation. Svalbard, a group of Norwegian islands in the Arctic Ocean, is such an area that experienced emerging popularity of expedition cruise tourism, next to impacts of global environmental change, oil and gas, fisheries and shipping. Increased cruise tourism in Svalbard calls therefore for more knowledge to meet governance challenges. Cruise tourism is challenged by a conglomeration of several national and international state initiatives (such as the Pilot Act, Heavy Fuel Oil Act, and the Polar Code of IMO) as well as industry guidelines of the Association of Arctic Expedition Cruise Operators to achieve sustainable cruise tourism. To account for the multiplicity of actors and the interdependency between cruise tourism and the marine ecosystem, we introduce the social scientific concept of marine community which encompasses a user and policy community. This paper studies how this marine community makes use of collective self-governance to understand processes of implementation within the marine community based on the actors' objectives, information and resources to regulate environmental impacts of expedition cruise tourism at Svalbard. Although collective self-governance ties the marine community together through access to multiple types of knowledge, transparency and rule compliance based on social control and site-specific guidelines, at the same time it creates tension between the user and policy community. Svalbard is becoming over-administered by the accumulation of (in) formal rules and reporting duties which compromises legitimacy of the policy community. This paper will show how collective self-governance challenges the marine community's capacity to achieve sustainable cruise tourism at Svalbard.

The Role of Climate-Related Information in Arctic Expedition Cruising: Practices, Needs and Implications

MACHIEL LAMERS, PAULA DUSKE
Wageningen UR, The Netherlands

Climate change is making navigation in Arctic waters more unpredictable, for example when it comes to sea ice conditions, wind and waves. To enable responsible and safe expedition cruise practices a range of climate information sources and systems are currently available, and there is a continuing drive of public and private sector institutions to further develop higher resolution and instant environmental information services (e.g. SAON, YOPP). However, what and how information sources and systems are currently used by expedition cruise operators in various decision-making contexts (e.g. planning, operations) is not known, let alone what the climate information needs of operators are to continue satisfying customer expectations in a responsible and sustainable way in the future. Further, little is known about the climate information supply side, its actors, the production and distribution processes of this climate information. Based on a series of interviews with relevant staff from expedition cruise operators and providers of climate related information services, as well as a review of literature and documentation, this paper will explore the role of climate related information and information systems in expedition cruise practices in the Eu-

ropean Arctic and the climate information supply network. The aim is to obtain a sound understanding of which weather, climate and biophysical information sources and systems are used, why and how. Based on this analysis we argue that the increased transparency of economic sectors regarding biophysical and climatic conditions resulting from the development of these information systems seems to play a double role. While making the Arctic more controllable and predictable, it also enlarges the potential risks and hazards associated with increasing activity. Next to exploring these implications suggestions will be made for enhancing the effectiveness of climate information services provision.

Panel 4C: Parting the Veil: Environmental Disclosure and Traceability Practices

Room: Lijsterbeszaal

Chair: Esther Turnhout

Traceability systems of varying depth and complexity have risen around environmental management as demand for environmental disclosure has increased. Commercial enterprises, government systems, and citizen initiatives all exist in order to address the shifting landscape of environmental governance. While many examine how such systems are established and what it implies about particular groups or management types, there is still a blind spot when discussing the topic of disclosure and traceability in the environment.

Traceability and disclosure is being explored in many different environmental fields including forestry, agriculture, fisheries, energy, and water management. This wide range of research topics is matched by a range of methodologies and theories. Because of this, answering the question "How are disclosure and traceability practiced?" is, at very least, problematic. In this panel, we will take the opportunity for researchers early in their careers to briefly present their research results alongside their methods and theory. Thus, the presenters can discuss the articulation between method, theory, and practice.

The result will be a discussion between beginner researchers and experienced researchers about the strengths and weaknesses of different methods and theories, and the impact of each aspect on future research.

The Science Fiction of Traceability in Global Value Chains

MARGREET BRINXMA, ESTHER TURNHOUT, SIMON BUSH
Wageningen UR, The Netherlands

Increasingly market transparency is believed to be key to align both public and private interest in sustainable agriculture. The identification and traceability of sustainable products is one way to develop this market transparency. The practices of design and use of these systems influence the political and economic relations in global value chains. These socio-political dynamic results in a competitive and innovative field of traceability initiatives. Control over traceability is a valuable good in itself. New information frontiers arise: traceability programs such as book and claim or identity preserved aim to reach out to smallholders and technological innovations, such as drones, satellite technology or big-data, change traditional ways to control information production, use and ownership. This study aims to understand how traceability aims to influence the relation between stakeholders both through traceability programs (e.g. Identity preserved), as well as technology (e.g. Software, user interfaces). Taking a look at the practice of innovation will emphasize how the technical builds on normative perspective on how socio-political relations should best be organized. This research builds on socio-technical imaginaries (Jasanoff & Kim, 2015) and questions: How do dreamscapes of traceability define future global value chain governance?, Data is collected through interviews, observations and three 'Hackaton' workshops with sustainable-traceability innovators, which are organizations such as voluntary certification initiatives (e.g. UTZ Certified, FSC), information intermediaries such as (e.g. Geotrace) and private stakeholders (Unilever). By looking at dreamscapes as a practice of innovation this study identifies which socio-technical characteristics and practices of traceability needs critical scrutiny as a first step towards the development of integer traceability and transparency.

Performing an FSC Audit

WILLIAM COOK, ESTHER TURNHOUT, SEVERINE VAN BOMMEL
Wageningen UR, The Netherlands

While there have been extensive studies of environmental certification from an organisational, political, and structural perspective, there is a lack of grounded close-up examinations of the motor that drives the certification machine: the field audit. In this article we cast aside the structuralist approach to understanding certification in favour of close observation and dramaturgical analysis of how auditors perform audits during actual audits. By drawing on examples from Spain and the Netherlands, we demonstrate how Forest Stewardship Council (FSC) auditors and auditees construct and negotiate the role of auditor and auditee through use of props and demonstrations of embodied mastery through the strategic use of props, scripts, and gestures. The end result of this construction and negotiation is an auditor, and by extension an audit, vacillating between a protest or professionalism orientation, which in turn lends insight into the values inherent in a specific audit.

Traceability Challenges in Indonesian Small-Scale Tuna Fisheries

MANDY DODDEMA, SIMON BUSH, GERT SPAARGAREN
Wageningen UR, The Netherlands

In the Western and central Pacific Ocean little is known about the health of tuna stocks and in the light of increasing demand for tuna for domestic consumption and international trade, these informational uncertainties threaten the sustainability of tuna stocks and the livelihoods of fishing communities dependant on them. At the same time market access, particularly to the EU and US is controlled through information requirements on Illegal, Unreported and Unregulated (IUU) fishing, food health and safety, sustainability and traceability. The call for disclosure has implications for relationships and practises in fisheries value chains, particularly in small-scale fisheries which are characterised by remoteness, poor information literacy, and complex informal trade relationships. The 'Improving fisheries information and traceability for tuna' (IFITT) project is implementing enumeration and traceability systems in small-scale tuna fisheries in Indonesia. Using the IFITT case, this paper explores the challenges and opportunities of introducing enumeration and traceability systems in small-scale tuna value chains in Indonesia. Instituting traceability systems provides insights into how informational processes and tuna value chain actor capabilities act as barriers or bridges for transparency as well as the implications of transparency for relationships, practises and capabilities in these value chains.

Rose Certification, Transparency and Water Questions

PATRICIO MENA, JEROEN VOS
Wageningen UR, The Netherlands

Water has become an increasingly contested resource in the semi-arid rose production region of Cayambe in Ecuador. During the last two decades Ecuador has grown to become the third export country of roses worldwide. In Cayambe, large part of the scarce irrigation water is used by the about fifty large flower producers in the region. The remainder is used for subsistence agriculture and cattle breeding by indigenous communities. The increasing flower export production has led to many conflicts over the water and contamination of the water resources. The large rose producers have environmental, fair trade and CSR certifications that are required by the export companies and supermarket chains. Those stand-

ards impose technocratic, de-contextualized and de-socialized mechanisms of traceability and transparency based on presumed universal values of justice and sustainability. However, the smallholders have very little benefit from these certification mechanisms, that rather reinforce the legitimacy of water accumulation by the flower business. Smallholders do defend their water, not articulating with the certification mechanisms, but instead mobilizing community organization to increase their control over the water according to their own ideas of water justice and food sovereignty.

Panel 4D: Assessing the Transformative Potential of Transparency

Room: Meidoornzaal

Chair: Elena Fagotto

Transparency's Hidden Half. Citizen Education and Learning as Key Components of Democratic Informational Governance for Sustainable Development

KRIS VAN KOPPEN

Wageningen UR, The Netherlands

Transparency is often associated with empowerment and democratic control, but as several authors have shown (e.g. Mol and Ehresman & Stevis in Gupta & Mason, 2014) the association is complex and disputable. This paper argues that education and learning are key parameters in this debate. It starts with exploring the links between democracy and transparency, explicating the social mechanisms that govern the access of citizens to disclosed information, and articulating the concept of democratic informational governance. Then it takes up key elements in debates on education and learning (Rosenau's skill revolution and network governance, and recent views on social learning for sustainability, among others) and brings them to bear on the position of education and learning in informational governance. Drawing on Habermas' concept of rationalization of the lifeworld, the paper argues that political learning of citizens in everyday life is of central importance to democratic informational governance, rather than natural science education or advancing critical reflection. The argument is illustrated with cases from climate policy and biodiversity management.

Beyond the Checklist: a Critical Analysis of the Design Principles Underlying Sustainability Standards

SIETZE VELLEMA

Wageningen UR, The Netherlands

Standards and the associated monitoring, auditing and certification procedures are widely adopted as a set of instruments to enhance sustainability in cross-border commodity chains. Lead firms and salient NGO's negotiate long lists of indicators and prescribed practices. Consequently, practitioners and researchers tend to concentrate on the technical content of standards, and assess the performativity of these standards and procedures by checking compliance. This distracts from analysing the intended and unintended managerial and political consequences of standard-setting and these practices of control. Plausible implications of such global governance modalities are limited capacity to manage (unanticipated) risks, to tailor solutions to specific conditions, to use embedded problem-solving capabilities, and to achieve scale. The paper contrasts the predominant design principles of sustainability standards in global commodity chains, in particular in coffee and cocoa, with an experimental design based on risk assessments and delegated autonomy for controlling these risks to actors positioned closer to the actual risk. The alternative design principles build on the original idea underlying a monitoring procedure based on critical control points used in the food safety (HACCP) and complements this with the option for negotiated theories of change. The risk-based and change-oriented procedure was tested in the context of an accreditation organisation and a private investment fund aiming for societal impact. The paper ends with a discussion on how the processes arranging accountability on the basis of monitoring, auditing and certification constraints the capacity of companies, NGOs and

partnerships to improve sustainability performance, and whether the alternative governance process enables partners to jointly manage unanticipated and contingent risks threatening the envisioned transformation.

Transparency and Trust in Sustainable Land Governance

MARIJE LOUWSMA¹, RAOUL BEUNEN²

¹Kadaster/Wageningen UR, ²Open University, The Netherlands

Following a bottom-up approach, land owners in the rural area are involved in the sustainable development of their environment. This integral development encompasses several aims. Apart from the aim for sustainable food production in the agricultural sector, several aims with a more public character are to be realised such as nature conservation and water management. In this paper we address the transformative power of transparency for the land owners on the development of land consolidation processes and their outcomes. We study this based on voluntary re-allotment in the Netherlands, which involves the exchange of land rights among land owners to allocate land as desired for sustainable development. We analyse two different approaches: one whereby land owners together discuss the development, and another whereby land owners individually discuss the development with a facilitating coordinator. The facilitating coordinator draws a plan on delivered input from land owners. The first approach follows an open procedure that gives land owners access to all information presented and discussed among land owners. The second approach is less transparent, with only the facilitating coordinator having access to all information. The case study shows that tension between entire transparency and individual interest may arise. Entire transparency does not necessarily lead to a better process or more sustainable outcomes, because it puts individual land owners in a vulnerable position that can be misused by others. Transparency can hamper negotiations between land owners due to a lack of trust. The study shows that trust relations between the actors involved as well as trust in the wider institutional setting are important. We conclude that land owners look for a balance between transparency on the one hand and possible outcomes of the negotiations on the other hand. We put forward some conclusions for the design of land consolidation processes.

Does Transparency Mobilize Citizens and Decrease Corruption? A Field Experiment with Revenue-Sharing Funds in Bwindi National Park, Uganda

MARK BUNTAINE, BRIGHAM DANIELS

¹University of California, ²Brigham Young University, United States of America

This randomized controlled trial in Bwindi National Park, Uganda offers a strong test of the proposition that transparency causes better governance. In cooperation with the Uganda Wildlife Authority, we test whether transparency in a national park revenue-sharing program promotes participation by residents in local governance, decreases funds lost to corruption, and improves the quality of community-level development projects. Although Bwindi National Park has long had a revenue-sharing program with frontline communities from the funds derived from gorilla tourism, many of the funds that are intended to benefit these communities are misdirected or misappropriated when they pass through local governments. We test whether providing residents in communities with key information about the revenue-sharing program, including disbursement dates and amounts, proposed dates of implementation by local governments, and the contact information for responsible local officials, causes more funds to reach the intended beneficiaries. We also test whether this type of information drives participation in local governance and engagement in decision-

making with park management. To pursue this policy experiment, we collected the mobile phone numbers of approximately 4,000 local residents in all 98 frontline communities near Bwindi National Park. During the first year of this transparency program, which launches in December 2015, the residents of half of the communities are provided with information about the revenue-sharing program by SMS on their own mobile phone. We hypothesize that this information allows these residents to advocate for themselves with local governments. If the program proves successful, we have plans to facilitate the rollout to all communities near Bwindi National Park and other protected areas in Uganda that generate revenue from tourist visits.

15.00-15.30

Coffee break (Arboretumzaal)

15.30-17.15

Closing Plenary (Bosrandzaal)

Reflections and Future Directions

Chair: Bas Arts

In this closing session, three invited speakers will reflect on discussions during the conference, and outline what they see as elements of a future research agenda in the field of transparency and sustainability.

Speakers

VIRGINIA HAUFLER
University of Maryland, United States of America

GERT SPAARGAREN
Wageningen UR, The Netherlands

GRAHAM SMITH
University of Westminster, United Kingdom

Closing remarks by Conference Chairs

Transparency Summer School Infographic Award

18.00-00.00

Social Programme

Trip to Amsterdam

For participants who indicated their interest in participating in the social programme, travel to and back from Amsterdam by bus is arranged and free of charge. Dinner and activities in Amsterdam are at participants' own expense. The bus departs from the hotel at 18:00 (arrival in Amsterdam around 19:00), and returns from Amsterdam at 23:00 (arrival at the hotel around midnight). More information and a city map will be provided in the bus.

Sunday, 26 June

10.00-16.15

Social Programme

Trip to the Hoge Veluwe and the Kröller-Müller Museum

National Park De Hoge Veluwe's different landscapes are home to a wide diversity of plant and animal species. These include the rare fritillary, the red deer, the alcon blue, and the dwarf viper's-grass. The Park is also home to dozens of Red List species, such as the wheatear, the wryneck, the moor frog and the grass snake.

The Kröller-Müller museum boasts almost 90 paintings and more than 180 drawings, making it the second largest collection of Van Goghs in the world. In addition, the museum is home to top works by modern masters including Claude Monet, Georges Seurat, Pablo Picasso and Piet Mondriaan.

- 10.00 Departure by bus from Hotel De Wageningsche Berg
- 10.45 Arrival at the National Park The Hoge Veluwe and the Museum Kröller-Müller
Time to visit [The Hoge Veluwe](#) and the [Museum Kröller-Müller](#), as you prefer
- 13.00-14.00 Lunch in Restaurant Monsieur Jacques
Time to visit the Museum and the environment, as you prefer
- 15.30 Departure by bus from The Hoge Veluwe
- 16.15 Arrival at Hotel De Wageningsche Berg

List of Participants (alphabetical)

	Name (last, first)	Institutional affiliation	Country of residence
1	Arts, Bas	Wageningen UR	The Netherlands
2	Anastasiou, Angela	Wageningen UR	The Netherlands
3	Anastasiou, Georgios	Wageningen UR	The Netherlands
4	Anyango-Van Zwieten, Nowella	Wageningen UR	The Netherlands
5	Auld, Graeme	Carleton University	Canada
6	Bah, Moussa	Institut d'Etude et de Recherche Sur le Développement Durable - IERDD	Mali
7	Ballard, Rachel	Palgrave Publishers	United Kingdom
8	Barirani, Dona	University of Hyderabad	India
9	Barnes-Dabban, Harry	Wageningen UR	The Netherlands
10	Bets, Linde van	Wageningen UR	The Netherlands
11	Bhattacharjee, Shubhra	Solidaridad Network Asia	Bangladesh
12	Biermann, Frank	Utrecht University	The Netherlands
13	Boas, Ingrid	Wageningen UR	The Netherlands
14	Boström, Magnus	Örebro University	Sweden
15	Brinxma, Margreet	Wageningen UR	The Netherlands
16	Bruyninckx, Hans	European Environment Agency (EEA)	Denmark
17	Buntaine, Mark	University of California	United States of America
18	Bush, Simon	Wageningen UR	The Netherlands
19	Campos, Rebecca Maria	University of the Philippines Open University	The Philippines
20	Cholakkathodi, Jawhar	University of Hyderabad	India
21	Cook, William	Wageningen UR	The Netherlands
22	Covarrubias, Moises	Wageningen UR	The Netherlands
23	De Feijter, Frank	Wageningen UR	The Netherlands
24	De Hoop, Myrna	Utrecht University	The Netherlands
25	De Wilde, Mandy	Wageningen UR	The Netherlands
26	Degli Innocenti, Elena	Wageningen UR	The Netherlands
27	Dehban, Somaye	Wageningen UR	The Netherlands
28	Deprez, Alexandra	Institute for Sustainable Development and International Relations (IDDRI)	France
29	Doddema, Mandy	Wageningen UR	The Netherlands
30	Edmondson, Beth	Federation University	Australia
31	Elegbede, Isa	Brandenburg University of Technology	Germany
32	Ernah, Ernah	Leibniz University Hannover, Padjadjaran University	Germany, Indonesia
33	Erp, Judith van	Utrecht University	The Netherlands
34	Fagotto, Elena	Harvard University	United States of America
35	Floor, Judith	Wageningen UR	The Netherlands
36	Foss Ballo, Ingrid	University of Bergen	Norway
37	Fransen, Luc	University of Amsterdam	The Netherlands

38	Giardullo, Paolo	University of Padua	Italy
39	Guix, Mireia	Leeds Beckett University	United Kingdom
40	Gupta, Aarti	Wageningen UR	The Netherlands
41	Haan, Gustaaf	Questionmark	The Netherlands
42	Hasselmann, Lyndal	University of Canberra	Australia
43	Haufler, Virginia	University of Maryland	Australia
44	Hauser, Leon	Vietnamese Academy of Science and Technology	Vietnam
45	Hekman, John	Carbon Disclosure Project	United Kingdom
46	Herold, Martin	Wageningen UR	The Netherlands
47	Hsu, Angel	Yale University	United States of America
48	Jacques, Caroline	Universidade do Extremo Sul Catarinense	Brazil
49	Kalfagianni, Agni	Utrecht University	The Netherlands
50	Kamil, Nila Siti	Wageningen UR	The Netherlands
51	Kamondetdacha, Rungroge	Thai Ministry of Science and Technology	Thailand
52	Kapetanaki, Pinelopi	Wageningen UR	The Netherlands
53	Kinnas, Ioannis	AFES PRESS NGO	Germany
54	Kloppenburger, Sanneke	Wageningen UR	The Netherlands
55	Koekkoek, Marieke	KU Leuven	The Netherlands
56	Koppen, Kris van	Wageningen UR	The Netherlands
57	Kritski, Eugene	GlobeScan Inc.	Canada
58	Kutlu, Kutay	Marmara University	Turkey
59	Lamers, Machiel	Wageningen UR	The Netherlands
60	Leeuwen, Judith van	Wageningen UR	The Netherlands
61	Leipold, Sina	University of Freiburg	Germany
62	Letete, Thapelo	University of Cape Town	South Africa
63	Loukacheva, Natalia	University of Northern British Columbia	Canada
64	Louwsma, Marije	Kadaster/Wageningen UR	The Netherlands
65	Macnaghten, Phil	Wageningen UR	The Netherlands
66	Maesano, Guila	University of Catania	Italia
67	Mantlana, Brian	University of Cape Town	South Africa
68	Marvin, Simon	University of Durham	United Kingdom
69	Mason, Michael	London School of Economics and Political Science	United Kingdom
70	Matemilola, Saheed	Brandenburg University of Technology	Germany
71	Meenakshi, Swami Sinha	University of Delhi	India
72	Mengistie, Belay	Wageningen UR	The Netherlands
73	Misiune, Ieva	Mykolas Romeris University	Lithuania
74	Moiseeva, Anastasia	Wageningen UR	The Netherlands
75	Mol, Arthur	Wageningen UR	The Netherlands
76	Moser-Priewich, Christine	Leuphana University of Lüneburg	Germany
77	Munthali, Nyamwaya	Wageningen UR	The Netherlands
78	Naus, Joeri	Wageningen UR	The Netherlands
79	Niemann, Ludger	University of Twente	The Netherlands

80	Nupueng, Somjai	Wageningen UR	The Netherlands
81	O'Connor, Tracey	University College Dublin/Teagasc	Ireland
82	Oosterveer, Peter	Wageningen UR	The Netherlands
83	Park, Susan	University of Sydney	Australia
84	Partzsch, Lena	University of Freiburg	Germany
85	Reijs, Joan	The Sustainability Consortium	The Netherlands
86	Renckens, Stefan	University of Toronto	Canada
87	Samerwong, Phatra	Wageningen UR	The Netherlands
88	Schleifer, Philip	University of Amsterdam	The Netherlands
89	Schouten, Greetje	Wageningen UR	The Netherlands
90	Shkaruba, Anton	Central European University	Hungary
91	Skjølsvold, Tomas Moe	NTNU Trondheim	Norway
92	Smale, Robin	Wageningen UR	The Netherlands
93	Smith, Graham	University of Westminster	United Kingdom
94	Smits, Coco	Royal HaskoningDHV, Wageningen UR	The Netherlands
95	Smits, Mattijs	Wageningen UR	The Netherlands
96	Soma, Katrine	LEI Wageningen UR	The Netherlands
97	Spaargaren, Gert	Wageningen UR	The Netherlands
98	Strengers, Yolande	RMIT University	Australia
99	Sun, Yixian	Graduate Institute of International and Development Studies	Switzerland
100	Tahmassebi, Hamoon	Sharif University of Technology	Iran
101	Tampe, Maja	MIT Sloan	United States of America
102	Tatenhove, Jan van	Wageningen UR	The Netherlands
103	Tienhara, Kyla	Australian National University	Australia
104	Timmeren, Arjan van	Delft University of Technology	The Netherlands
105	Toonen, Hilde	Wageningen UR	The Netherlands
106	Turnhout, Esther	Wageningen UR	The Netherlands
107	Vellema, Sietze	Wageningen UR	The Netherlands
108	Vliet, Bas van	Wageningen UR	The Netherlands
109	Vos, Jeroen	Wageningen UR	The Netherlands
110	Vreuls, Harry	Netherlands Enterprise Agency (RVO)	The Netherlands
111	Wainwright, Laurence	University of Gothenburg	Sweden
112	Walther, Anne	Wageningen UR	The Netherlands
113	Wang, Dan	University of Nottingham	United Kingdom
114	Yechao, Fan	Wageningen UR	The Netherlands
115	Yeeting, Agnes	Wageningen UR	The Netherlands
116	Zandbergen, Dorien	University of Amsterdam	The Netherlands
117	Zulfa Utami, Adiputri	Kyoto University	Japan