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DOCKSIDE
Summer School
Battambang, 2 – 4 October 2018

WORKSHOP 4

Transboundary Resources Management

Trainers:
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This course focuses on environmental governance and management from a multidisciplinary perspective, with special emphasis on social sciences. The course is structured in three blocks. The first one is research capacity, where students will be given guidelines for research projects based on personal experiences and the state of the art. The second one is conceptual and methodological, where research questions on climate change and biodiversity interactions with social systems globally and locally will be discussed. Methodologies will focus on law and international relationships, and tools for social-ecological analysis. The last block will be research planning, where students will learn how to pose a research question and the steps needed to address it.

Keywords: natural resources; Climate change; Biodiversity; International governance; Social-ecological systems.

Content - Key areas:

- Transboundary resource management under climate change and biodiversity loss
- Developing a research project in transboundary resource management:

    1. Research Capacity
    2. Concepts and methodology
    3. Research planning

<u>Topic 1. Research Capacity</u>

This session aims to allow students to frame research questions in the context of transboundary resources. For that, the morning session will first introduce a general view on research in

transboundary resources. Then, we will focus on biodiversity and climate change as cross-national research areas, providing an overview on the state of the art and ongoing scientific discussions around them. Specific examples of research in this area will be also presented. The afternoon session will involve students in a participatory activity directed to frame a research objective over a topic with background, motivation and contribution.

Topic 2: Concepts and methodology

Research questions and objectives on climate change and biodiversity at the global level and their links to local problems will be further discussed. The session aims to allow students to be able to select the methods and tools that will allow them to answer the research questions they have, based on the examples and key materials given. Methodologies will focus on law and international relationships, and tools for social-ecological analysis. Morning session will introduce methods and approaches to transboundary resource management, while on the afternoon section the group activity will be continued.

Topic 3: Research planning

Students will learn how to develop a research proposal and the steps needed to address it. This session aims to allow students to develop a plan for implementing the research question and methods, based on the knowledge acquired and the examples from the researchers during the previous sessions. Morning session includes examples of research proposals on the topics, and the experience in stakeholder involvement, research outreach. Final session will allow students to present their final research proposal and a group discussion will close the course.

Outcome of the course:

This course will train the participants to understand the state of the art in global environmental problems such as biodiversity loss and climate change and develop relevant research objectives for specific case studies.

The sessions are designed to advance on the group proposals such that students will have a joint proposal by the end of the three sessions, so that it will allow students to be able to:

- frame a relevant research question in the overall topics we focus on;
- select the methods and tools that will allow to answer research questions, based on the examples and key materials given;
- develop a plan for implementing research questions and methods, based on the knowledge acquired and the examples from the researchers during the sessions.

Teaching methodologies:

This course focuses on environmental governance and management from a multidisciplinary perspective, with special emphasis on social sciences. The course is structured in three blocks. The first one is research capacity, where students will be given guidelines for research projects based on personal experiences and the state of the art. The second one is conceptual and methodological, where research questions on climate change and biodiversity interactions with social systems globally and locally will be discussed. Methodologies will focus on law and international relationships, and tools for social-ecological analysis. The last block will be

research planning, where students will learn how to pose a research question and the steps needed to address it

Target participants:
We expect participants from a broad range of degrees from social sciences to environmental sciences as well as interdisciplinary profiles. We expect motivated participants aiming to develop research ideas in the future. Stakeholders from NGO, governments and other backgrounds related to social-environmental conflicts, interactions, regulations and policies are welcomed.

Prerequisites:
We expect a basic knowledge of global and transboundary environmental issues such as climate change and the problem of biodiversity loss. Knowledge in law and/or environmental sciences will be helpful but not mandatory.

Reading materials and lesson plan:
Pre-reading materials and the lecture plan will be send to all participants (via email or drop box) prior to the course and will be printed and available during the summer course for consultation in the class. Participants are requested to read the documents before the training.

We here include a broad list of materials that are useful, and we will provide a shorter list for students prior to the course.

R#1. Biodiversity:

- Bennett, E. M., Cramer, W., Begossi, A., Cundill, G., Díaz, S., Egoh, B. N., ... & Lebel, L. (2015). "Linking biodiversity, ecosystem services, and human well-being: three challenges for designing research for sustainability". Current Opinion in Environmental Sustainability, 14, 76-85.
- Díaz, S., Demissew, S., Carabias, J., Joly, C., Lonsdale, M., Ash, N., ... & Bartuska, A. (2015). "The IPBES Conceptual Framework—connecting nature and people". Current Opinion in Environmental Sustainability, 14, 1-16.

R#2. Transboundary marine resources:

- Tullio Scovazzi, "The negotiations for a binding instrument on the conservation and sustainable use of marine biological diversity beyond national jurisdiction", *Marine Policy*,
- Volume 70, 2016, Pages 188-191.
- Song, A. M., Scholtens, J., Stephen, J., Bavinck, M., Chuenpagdee, R. (2017) Transboundary research in fisheries. Marine Policy, 76, 8–18.

R#3. On Climate Change:

- Annalisa Savaresi (2016) « The Paris Agreement: a new beginning? », Journal of Energy & Natural Resources Law, 34:1, 16-26, DOI: 10.1080/02646811.2016.1133983
- Carlarne, C. P., Gray, k. R., and Tarasofsky, R.: "International Climate Change Law: mapping the field", Carlarne, C. P., Gray, k. R., and Tarasofsky, R., *The Oxford Handbook of International Climate Change Law*, Oxford University Press, 2016, pp. 3-25.
- Roberts, C. M., O'Leary, B. C., McCauley, D. J., Cury, P. M., Duarte, C. M., Lubchenco, J., & Worm, B. (2017). "Marine reserves can mitigate and promote adaptation to climate change". Proceedings of the National Academy of Sciences, 114(24), 6167-6175.

- Whitney, C. K., N. J. Bennett, N. C. Ban, E. H. Allison, D. Armitage, J. L. Blythe, J. M. Burt, W. Cheung, E. M. Finkbeiner, M. Kaplan-Hallam, I. Perry, N. J. Turner, and L. Yumagulova. 2017. "Adaptive capacity: from assessment to action in coastal socialecological systems". Ecology and Society 22(2):22.

R#4. Resilience:

- Biggs, E., Schlüter, M., Biggs, D., Bohensky, E., BurnSilver, S., Cundill, G., Dakos, V., Daw, R., Evans, L., Kotschy, K., Leitch, A., Meek, C., Quinlan, A., Raudsepp-Hearne, C., Robards, M., Schoon, M., Schultz, L., West, P. (2012). "Toward principles for Enhancing the Resilience of Ecosystem Services". Annual Reviews Environmental Resources, 37: 421-48.
- Folke, C., Carpenter S.R., Walker B., Scheffer M., Chapin T., Rockström J. (2010). "Resilience Thinking: Integrating Resilience, Adaptability and Transformability". Ecology and Society 15(4):20.
- Quinlan, A., Berbés-Blázquez M., Haider L. J., Peterson G. D. (2016) "Measuring and assessing resilience: broadening understanding through multiple disciplinary perspectives". Journal of Applied Ecology, 53, 677-687.

R#5. On social research and methods:

- Page, S.E., 2015. What Sociologists Should Know About Complexity. Annual Review of Sociology 41, 21–41. doi:10.1146/annurev-soc- 073014-11223026-FB3335644C7E
- Azuur, A., Leno, E., Elphick, C. (2009) protocol for data exploration to avoid common statistical problems. Methods in ecology and evolution.
- Epstein, J.M., 2008. Why model? Journal of Artificial Societies and Social Simulation 11, 12.

R#6 Social-ecological systems

- Fischer, J., Gardner, T. A., Bennett, E. M., Balvanera, P., Biggs, R., Carpenter, S., ... & Luthe, T. (2015). Advancing sustainability through mainstreaming a social–ecological systems perspective. Current Opinion in Environmental Sustainability, 14, 144-149.
- Ostrom, E. (2009). "A General Framework for Analyzing Sustainability of Social-Ecological Systems". Science, vol35, 419-422pp.
- Binder, C., Hinkel, J., Bots, P., Palh-Wostl, C. (2013). Comparison of Frameworks for Analyzing Social-ecological Systems. Ecology and Society, 18(4):26.
- Schlüter, M., Baeza, A., Dressler, G., Frank, K., Groeneveld, J., Jager, W., Janssen, M.A., McAllister, R.R.J., Müller, B., Orach, K., Schwarz, N., Wijermans, N., 2017. A framework for mapping and comparing behavioural theories in models of social-ecological systems. Ecological Economics 131, 21–35.

R#7. On vulnerability assessments

- Cinner, J. E., Huchery, C., Darling, E. S., Humphries, A. T., Graham, N. A., Hicks, C. C., ... & McClanahan, T. R. (2013). Evaluating social and ecological vulnerability of coral reef fisheries to climate change. PloS one, 8(9), e74321.

TOPIC 1: RESEARCH CAPACITY				
Date	**Time**	**Activities**	**Lead person**	**Readings**
October 2, 2018 (Tuesday)	**MORNING SESSION** **Research on Transboundary Resources and their contribution to science & Policy**			
	8:15-8:45	Welcome and introductions. Brief presentations. Research in environmental and social sciences	Elena Ojea	
	8:45-9:15	Climate change research in environmental, social sciences and international law	Elena Ojea & Laura Movilla	R#3
	9:15-9:45	Biodiversity research, wellbeing and the International law approach	Elena Ojea & Laura Movilla	R#1 and R#2
	9.45-10.15	Tea-break		
	10:15-11:15	Transboundary Management and Sustainability through the Resilience approach	Diego Salgueiro	R#4
	11:15-11:30	Work-groups design	Diego Salgueiro, Elena Ojea & Laura Movilla	
	AFTERNOON SESSION **Frame a research objective over a topic with background, motivation and contribution**			
	13.45-15h15	Setting a research objective in groups.	Diego Salgueiro, Elena Ojea & Laura Movilla	Group work
	15.15-15.45	Tea-break		
	15.45-17.00	Presenting a research idea: background, motivation and contribution. Group presentations.	Diego Salgueiro, Elena Ojea & Laura Movilla	Group work

TOPIC 2: CONCEPTS AND METHODOLOGY				
Date	**Time**	**Activities**	**Lead person**	**Readings**
October 3, 2018 (Wednesday)	**MORNING SESSION** **Methods for multidisciplinary science on Transboundary Resources and Sustainability**			
	8.15-9.00	Social-Ecological Systems	Diego Salgueiro	R#6
	9.00-9.45	Vulnerability Assessment	Elena Ojea	R#7
	9.45-10.15	Tea-break		
	10.15-11.30	Law research methods	Laura Movilla	
	AFTERNOON SESSION **Identify methods for your research objectives and design work plan**			
	13.45-15h15	Available methods to develop in the group research proposal	Diego Salgueiro, Elena Ojea & Laura Movilla	R#5 Group work
	15.15-15.45	Tea-break		
	15.45-17.00	Selection of methods and application to case studies.	Diego Salgueiro, Elena Ojea & Laura Movilla	Group work

TOPIC 3: RESEARCH PLANNING				
Date	**Time**	**Activities**	**Lead person**	**Readings**
October 4, 2018 (Thursday)	**MORNING SESSION** **Complementing your research proposal on transboundary resources**			
	8.15-9.45	Research Planning. Career path and outreach, publications and funding, communication and networks	Diego Salgueiro, Laura Movilla & Elena Ojea	
	9.45-10.15	Tea-break		
	10.15-11.30	Designing your research proposal	Diego Salgueiro, Laura Movilla & Elena Ojea	Group work
	AFTERNOON SESSION **Final research proposal**			
	13.45-15h15	Presentations of group work	Diego Salgueiro, Laura Movilla & Elena Ojea	Group work
	15.15-15.45	Tea-break		
	15.45-17.00	Preparation of Friday Session	Diego Salgueiro, Laura Movilla & Elena Ojea	Group work