Mobilizing Community Assets in Rural Coastal Regions: Analysis of Asset Mapping Initiatives in Rural Newfoundland and Labrador

Brennan Lowery

The proposed paper presentation will examine sustainability and well-being in coastal communities, considering how the use of locally-crafted indicators can enhance governance for sustainable development in these contexts. This paper considers how rural coastal regions which depend on fisheries and other primary sectors are often overlooked in traditional conceptualizations of sustainable development, which often focus on large cities or global implementation. Furthermore, in coastal areas where significant declines have occurred in fisheries and related industries, socio-economic trends such as out-migration are over-emphasized to tell a story of decline about these regions. These narratives dominate discourse about rural Newfoundland and Labrador, a region still recovering from catastrophic groundfish collapses almost three decades ago. In contrast, this paper considers how rural coastal regions can offer their own alternative narratives about the vitality of their communities while offering novel approaches to implementing sustainable development. The research shared in this paper focuses on the use of sustainability indicators – tools used around the world at scales from the neighbourhood to the Sustainable Development Goals – to define sustainability in context and chart a path to its implementation. It considers how rural coastal regions can embrace the use of such indicators as an action-oriented way of knowing their communities, their environment, and their unique relationship with related human and ecological systems. The paper will share findings from research in rural Newfoundland on local initiatives where communities have sought to create indicators to measure well-being and sustainability. These findings will highlight how these initiatives came about, how they integrated various kinds of knowledge on interrelated dimensions of coastal community sustainability, to what extent diverse stakeholders were engaged in their development, and what outcomes they ultimately had on local governance.

Harnessing individual and collective action towards empowered marine conservation: determinants and implications

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Calls for community involvement in marine conservation and community-led measures recognize the
major role that local communities can play in terms of driving change, championing for sustainable practices and leading robust pathways for interventions that have local buy-in and consider local needs and priorities. Empowerment must, thus, be an integral part of the process preceding and facilitating implementation of these measures. However, relatively little attention has been paid to understanding what factors are important for individual and community empowerment. This paper identifies and characterizes key determinants of empowerment towards marine conservation, and provides a better understanding of potential implications for resource management. Using small-scale fisheries and marine conservation in the island of Príncipe (São Tomé and Príncipe, Gulf of Guinea) as a case study, we undertook 14 focus group discussions and household surveys (N=869 respondents) with fishers and fish traders (traditionally women). We developed a framework using context-specific indicators tailored to assess potential linkages among poverty, resource use and respondents’ perceived individual and collective ability to influence marine protection in the island of Principe. We found that perceived state enforcement of fishing laws, collective influence, freedom of choice and action and condition of local marine environment were key variables for understanding variation in respondents’ perceived individual ability to influence marine conservation in Principe. When assessing perceptions about potential management measures, creating no-fishing areas and raising awareness about sustainable practices were particularly supported by those with higher empowerment levels. This information is essential for both addressing potential factors that facilitate empowerment as well as laying robust foundations for co-management of natural resources. These findings are particularly relevant given the key role of communities as enforcers of regulations and supporters of management measures in face of limited state capacity and enforcement.

Using game-based learning to understand fisheries: The Case of the Overnight Closure of the Norwegian Inshore Cod Commons in 1989.

Jørn Weines

The closing of the inshore cod fishery in Norway on April 18, 1989, is a monumental event in the governance of Norwegian fisheries. This moratorium was a shock for the fishers, and a turning point: from 1990 onwards, the historical open fishery commons was managed by quotas. This change resulted in great and lasting impact on the social, economic and geographical structure in the Norwegian coastal fishing communities. As a result, the event has also been an important topic in scholarship on Norwegian fisheries management.

This paper deals with two topics. First, it is about the use of game-based learning and serious games in teaching about historical events. Second, it deals with exploring the roles of stakeholders involved
in resource crises. Combined, these two topics illustrate how games are particularly useful for dealing with historical turnings points. As public understanding and perceptions on complex topics change over time, past opinions can seem unreasonable to present learners. When judged by today’s standards for sustainable resource management, the decision to close the inshore fishery comes across as the sensible solution to an impending crisis. However, the social dimension of sustainability can be lost or distorted if the account focuses only on the state of the fish stock. Presenting the depth of how marine governance is entangled with society requires a well-stocked toolbox. Using serious games when teaching about complex cases with many stakeholders makes it possible to present both historical events, promote historical empathy, and facilitate deeper learning about complex topics such as sustainability.

**The different ways in deriving wellbeing from the coast and its implications for stewardship**

*Tomas Chaigneau*

This paper posits that the ways we as humans derive wellbeing from the coast, (e.g. by harvesting mangrove firewood, selling fish or enjoying natural beauty) can affect environmental stewardship and how we behave towards the environment.

We begin by presenting insights from a recently finished project (SPACES) that investigates the multiple links between coastal ecosystem services and multidimensional wellbeing in coastal Mozambique and Kenya. This contributes to a growing body of empirical work seeking to describe and explain the complexities of the environment and wellbeing relationship. However, rather than just focusing on these linkages and their strength, we focus on the pathways through which wellbeing is derived from the environment and the mechanisms through which ecosystem services are converted into wellbeing. The implications of considering these different pathways for sustainable development and conservation interventions are then discussed.

Whilst there has been research into how changes to ecosystem services can affect human wellbeing, there has been little investigating how consequent changes in wellbeing (and more specifically the ways through which wellbeing is shaped by the environment) can affect stewardship. We present a conceptual model towards a dynamic and reciprocal understanding of the feedbacks between human well-being and ecosystems. The conceptual model highlights three mechanisms through which people derive benefits from ecosystems (use, money and experience), and illustrates how they can affect values, attitudes and actions towards ecosystems.
Furthering our understanding of the different ways through which well-being can be derived from interactions with ecosystems, as well as the processes through which well-being in turn shapes values and behaviour towards the environment, can highlight potential points of intervention and governance arrangements that lead to virtuous cycles with positive outcomes for both human well-being and ecosystem health through the promotion of environmental stewardship.

The world turned upside down: Socio-economic impacts of a negotiated transition to an alternative mussel production system in the Dutch Wadden Sea

Dr. Nathalie A. Steins, Dr. Hans van Oostenbrugge, Arie Mol & Sarah Smith

The mussel fishery in the Dutch Wadden Sea witnessed significant changes. In the 1990s, the seed fishery transitioned from open access to a fishery regulated under co-management. In 2008, a covenant was signed between industry, NGOs and government. It was agreed to gradually phase out the traditional seed fishery in favour of harvesting from innovative spat collectors. Covenant objectives are to stimulate on-going recovery of nature values while at the same time allowing room for mussel cultivation as an important traditional economic use. A period characterised by legal disputes ended, and a period of 'peaceful cooperation' began. Between 2008-18, 40% of seed fishing grounds were closed. Our research shows that the transition to a new type of harvesting had profound socio-economic impacts, including decreasing profitability, increase in workload, stronger cooperation between farmers, and changes in their way of life. Current covenant discussions are dominated by the question whether or not there is still enough socio-economic stretch to cope with further closures. The covenant is up for renewal in 2019. Encouraged by the success of the alternative seed harvesting technique, NGOs have already made clear that they see no further room for traditional mussel farming: all seed harvesting has to be relocated to the North Sea, and eventually also the cultivation of seed into marketable mussels should disappear from the Wadden Sea. The industry points out that further closures can only take place on the condition that better cultivation parcels become available and argue that they are a legitimate user working in balance with the ecosystem. Whether these conflicting opinions will be reconciled to allow for a continuation of the covenant is yet unclear. It is evident that the transition to a different type of mussel production with associated socio-economic impacts will continue in future.