

The Complexity of Climate Change and Conflict Resolution: Are We up to the Challenge?

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Introduction

Some scientists predict that global temperatures could rise more than 11°F over the next 100 years (The National Academies, 2008). The consequences, complexities and conflicts associated with such changes demand our attention. Responses to a host of environmental problems, especially climate change, require a capacity for understanding and managing complexity like we have never seen before. Those who are charged with solving these problems must consider the biological, ecological and socio-economic dimensions within the context of multiple stakeholders negotiating for their respective needs. This problem-solving process requires collaboration across multiple sectors outside one's own area of expertise and priorities, and can lead to intense conflict among stakeholders.

While there has been much discussion about climate change and strategies to mitigate negative impacts, little attention has been paid to understanding the mental complexity of those who negotiate solutions to these complex problems and engage the conflicts inherent in the process. Collaboratively negotiating such solutions requires a complexity of reasoning that can attend to and coordinate competing value systems, perspectives and stakeholders' needs.

Empirical research from the field of adult developmental psychology suggests that not all negotiators have the complexity of reasoning that allows them to understand, much less manage and engage, the multiple and competing task demands and the inevitable conflicts that arise. Several studies (McGuigan, 2006, *The Disputant's Creation of Meaning in a Conflict*; McGuigan and Popp, 2007, *The Self in Conflict*; Ross, 2006, *Perspectives on Troubled Interactions*) highlight this crucial linkage between successfully managing the task demands of complex environmental problems and the complexity of reasoning of those who negotiate the solutions. The authors present a unique case-study of environmental negotiators in action that illustrates this link., and consider the implications of these data for multi-party process design and facilitation.

The Implications for Designing and Facilitating Multi-Stakeholder Processes

Environmental problems and conflicts are rapidly becoming more complex, requiring an evermore complex approach to multi-party decision-making processes. When the complexity of climate change problems exceeds our capacity to make sense of it, we find ourselves “in over our heads,” (Kegan, 1994; *In Over Our Heads*) unable to effectively engage and respond to the risks that face our planet and its inhabitants. To address these challenges effectively, we must design decision-making processes that reflect the unique demands of climate change issues and attend to our growth as meaning-makers.

The designing of effective multi-stakeholder decision-making processes must address the following:

- A developmentally informed understanding of the meaning-making and perspective-taking capacities of each participant,
- Climate change problems and their inherent task complexity,
- The complexity demands on the facilitator.

Developmentally informed design considers the unique demands and powerful challenges that climate change decision-making processes already pose to civil society; many urgent and practical problems must be solved in multi-stakeholder processes to balance the diversity of needs around the table. Climate change decision-making processes present unique challenges to the conflict resolution field because stakeholders are confronted with many uncertainties: What will the character and magnitude of climate changes be? When and where will they occur? What are the risks of these changes? Who will be impacted most? Who is responsible for our adaptation? Many decisions associated with climate change cannot wait until all the data are in and analyses finished, putting decision makers in the difficult position of needing to make highly complex and contentious decisions with incomplete knowledge and a deep sense of urgency. If the diverse worldviews, capacities and complexities represented by each participant are not taken into consideration by process designers and facilitators, many stakeholders will feel excluded from the process. They will disengage, rendering the process incomplete and ineffective. Such marginalization of any part of the stakeholder community risks the foundations of truly democratic processes themselves.

This year, the National Research Council published *Informing Decisions in a Changing*

Climate in which it noted that, “climate change will create a novel and dynamic decision environment” (NRC 2009: S-1) due to the severe uncertainties involved in understanding climate change-related hazards and the likely harm those hazards will create. Decision-making under uncertainty (DMUU) is a new dynamic for the conflict resolution community, both in terms of the complexity of the multi-stakeholder negotiations and the mental complexity of the stakeholders themselves.

Design Tip

- Educate yourself – as a beginning, read the articles referenced in this essay
- Stay abreast of research – DMUU process design has been the focus of a recent National Science Foundation request for proposals

Climate change problems and their inherent task complexity. Every climate change related problem has an inherent task complexity (Commons & Pekker, 2008; *Presenting the Formal Theory of Hierarchical Complexity*), and yet every *problem-solver* may not have the complexity of reasoning and critical thinking ability to adequately attend to, collaboratively negotiate, and engage in highly charged, conflictual multi-party decision-making processes around it (Rosenberg, S. W., 2004; *Reconstructing the Concept of Democratic Deliberation*). A developmental approach to decision-making processes illuminates the complexities of meaning-making by which stakeholders weigh the concerns and priorities in complex decisions (Commons and Pekker, *ibid*; Ross, *ibid*), thus optimizing process effectiveness.

Constructive-developmental theory, a theory of lifespan development and our primary theoretical foundation, brings together two potent and helpful ideas: *constructivism*, i.e., the ways individuals construct or make meaning through their experience; and *developmentalism*, i.e., the ways in which meaning-making becomes increasingly complex through interaction with one’s social environment. As one’s meaning-making becomes more complex, one’s perspective-taking capacity increases, allowing a more complex understanding of and engagement with the climate change data, the decision-making process around it, and the ambiguity in both.

Design Tips

- During the assessment and design phase of a DMUU process, consult with a developmentally informed practitioner,

- Complex scientific information should be developmentally mediated so that all participants can understand and speak to their perspective,

As the complexity of any conflict increases, so do the mental demands placed upon the facilitator. Not only are climate related DMUU conflicts complex, the negotiation process itself is compounded by the varying mental complexities of the stakeholders. In such a challenging negotiating environment, climate change adaptation decision-making processes must be led by a facilitator who can balance the multiple psychological demands of the process as described– lest she find herself, “in over her head.” The authors believe that many senior level practitioners who successfully lead complex multi-party processes are already implicitly balancing the demands of the process. The authors’ work here is to make explicit what may be implicit for some practitioners and to open new pathways for learning for those who wish to facilitate/mediate these types of conflicts.

Design Tip

- Increase your complexity of mind and meaning making through attending developmentally informed professional development workshops,
- Know when you are in over your head and ask a more experienced facilitator to co-mediate with you

The Massachusetts Ocean Partnership Case-Study

The case study presented here focuses on meaning-making in action in the Massachusetts Ocean Partnership (DeLauer, 2009, *The Mental Demands of Marine Ecosystem-Based Management*). The Massachusetts Ocean Partnership (MOP) is a broadly representative public/private partnership, whose goal is to create a multi-stakeholder decision-making mechanism representative of a wide range of ocean interests including local, state and federal government, marine-dependent business and industry, conservation organizations, educational/scientific research institutions and others. The state of Massachusetts is now in its first phases of comprehensive, integrated ocean management. MOP participants are just beginning to grasp integrated management and to weigh its benefits and limitations with the interests of the individual, the collective group, the public, and the ecological systems being managed for public use. In this case study, DeLauer interviewed MOP participants and assessed their interview transcripts for meaning-making complexity.

A multi-stakeholder collaborative decision-making group such as MOP will inevitably bring together individuals whose orientation to their tasks as decision-makers varies widely. The authors refer to the *complexity* of stakeholders' orientations rather than the *content* of their particular affiliations. Some participants will orient to the very concrete aspects and solutions of climate change. Others will orient toward falling in line behind the most influential expert/authority; still others will orient toward teasing apart the gross and subtle distinctions between interpretations, perspectives, risks and solutions. Facilitating a group of diverse meaning-makers is a challenge in the most benign circumstances. With the vulnerabilities, fears, competing commitments and passions that get stirred up in the contentiousness and uncertainty of climate change decision-making, facilitating a democratic decision-making process becomes even more challenging. What follows is a guide through the meaning-making continuum, how to recognize it and work with stakeholders toward their own individual growth as well as effective decision-making processes.

The Mindsets in Collaboration

Six milestones or “mindsets,” each with a distinct meaning-making complexity, define the continuum of lifespan development. There are *three mindsets that are most common in adulthood*, as illustrated by the MOP process. (The evolution from one mindset to the next involves four transitional phases that are as identifiable as each mindset, however space constraints do not allow a full discussion of the transitions.) Each mindset has inherent and unique strengths and limitations, and therefore requires unique and distinct kinds of support to fully participate in such a process.

Concrete Mindset

Participants with a *concrete mindset* think in concrete terms—concrete rules, data, and a dualistic sense of the right versus the wrong way to approach climate change. Those with this mindset have difficulty with abstract ideas, and given the complexity of climate change problems, are limited in the ways they are able to participate in decision-making processes. The process of deliberation will seem to a person with this mindset to be only making things too complicated.

These meetings are a waste of time. Why all this talking? We know we have to eliminate greenhouse gases. The Kyoto Accord told us how, so why don't we just do it? It's really not that complicated. You just get rid of greenhouse gases and we fix the problem. Period.

Individuals with this mindset orient only to the concrete characteristics of a problem and the concrete actions associated with it. They relate to scientific information as uncontested facts, and see debate over interpretations as making things too complicated.

Facilitator tip: encourage these participants to try to consider another's point of view by linking it to something important to the participant, thus finding commonalities with each other, identifying common problems and working out a solution that attends to both participants' needs. The requirement to consider another's point of view stretches one with this mindset to go beyond the concrete problem and solution, and begin to identify the other as an ally rather than an obstacle.

Affiliative Mindset

Individuals with an *affiliative mindset* have a larger capacity to work with abstract ideas than those with the concrete mindset; however, ambiguity, difference and conflict pose significant problems for them. Their orientation is toward consensus, minimizing difference, and getting everyone on board behind one authority. Implementing a mandate from someone in authority whom they trust is what makes most sense to them.

I like the concept of democracy but it is very inefficient, but I am attracted to the whole autocratic approach. We need this person to just come in and be like, this is the way it is going to happen. Whoever writes the bill or passes it through the legislature – nothing is going to happen until they tell us to do it.

Those with an *affiliative mindset* need permission and motivation from an authority they trust, to embrace difference and face ambiguity in decision-making contexts. If this support does not exist for them, they may well disengage, feeling that the process is out of control and overwhelming. This participant notes that she looks to an authority figure in the room to understand what is going to happen next.

Facilitator tip: support these participants as they begin to develop their own “internal compass” by explicitly creating an environment where disagreement is not only permissible, but encouraged, to sift through the opinions and perspectives of others to distinguish parts that they agree with and parts that they disagree with and why. In doing so, the facilitator suggests, then supports, a shift in these participants from looking to an

external authority for the answers toward developing an internal authority that guides choice making in a conflict.

Self-Authoring Mindset

Participants with a *self-authoring mindset* orient toward their own internally generated authority, values, standards and interpretation of data. They welcome ambiguity, difference and conflict as a way to understand climate change data, integrate the perspectives of others, and create a more robust decision-making process. Those with this mindset easily make sense of the temporal and spatial relativity of different climate change contexts.

You try to make everyone understand the basis for decisions and you try to make the best social decisions possible and the ones you make today are not the same as the decision you would come to five years from now. Even with the same knowledge, society is changing so you can look at the same system and the same information at two different points in time and there you will come up with two different answers.

This participant demonstrates the capacity to see that one solution at one point in time might not work at another point in time or within another context. He understands how discrete issues may change the whole dynamic. Participants with this mindset often assume that every other participant can engage in a conflict resolution process the way they do, and become impatient with those who cannot.

Facilitator tip: encourage these participants to look for and draw out the unique contribution of each participant's perspective on the problem, thus tempering their own impatience while modeling the explicit acceptance of, reflection on and consideration of many diverse opinions, perspectives, interpretations and needs for the rest of the group.

Understanding these differences in mindsets is essential to reframing our expectations of and support for negotiators in the complex DMUU processes we entrust to them. Deliberative process design and facilitation must be sensitive to the different capacities that participants have with regard to how they think and collaboratively problem-solve, and requires that participants be actively involved in the development of scenarios, and the design of the decision-making process (Webler, et al 1995, *"Right" Discourse in Citizen Participation*). Scientific data must be presented in ways that makes the data accessible to all stakeholders. "Useable knowledge" can be created through clear conceptual frameworks that inform the elaboration of scenarios and models in a way that encourages decision makers to

focus on relationships between critical variables, consider potential management interventions, identify linkages to people's valuation of outcomes, be comprehensive regarding the outcomes that people care about, and suggest relevant indicators that can be used in assessments and evaluations (Asher, 2005, *In Decision-making for the Environment: Social and Behavioral Research Priorities*).

Conclusions

The authors' intention is to introduce the reader to the unique complexity of climate change DMUU processes, and to assert that the design of these processes, if they are to be truly collaborative and democratic, must consider the complexity of the meaning-making capacities of the decision-makers themselves. Only when we have grasped the evolutionary nature of adult psychological growth will we be able to convene more effective multi-stakeholder processes to develop optimal responses to climate change.

Optimal climate change adaptation requires the active participation of community members, which can be enhanced through a better understanding of the complexity of their perceptions of the threats and constraints they face, and by elaborating their ideas and insights in a manner that is responsive to a wide range of mindsets. Using this developmental perspective, we can create a model of human systems interaction that can serve as the foundation for deep democracy and true collaboration in the midst of transforming ourselves and our relationship with the natural world.

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