

Michelle Sullivan Govani's Commentary on "Case Study: Climate Change Adaptation and Public Participation in Yuma, AZ"

Commentary On

Case Study: Climate Change Adaptation and Public Participation in Yuma, AZ

The ethical issues at stake regarding climate change include, but are not limited to, questions of risk and uncertainty, allocation of responsibility for emissions and their impacts (i.e., equity), and deliberation on policy options including mitigation, adaptation, and inaction (Gardiner 2004; Grubb 1995). Because climate change causes and impacts are distributed around the planet (though unevenly), many such discussions and questions are framed in terms of global and generational scales of space and time. For example, responsibility for the causes and effects of climate change could be discussed in terms of justice or equity among nations. Certain countries, including the United States, have been responsible for a disproportionate share of emissions, and yet the impacts of climate change will be distributed globally, and often felt by nations where emissions are relatively low or even absent (Grubb 1995). Should the US be considered responsible for assisting in adaptation and mitigation efforts in other countries given the disproportionate share of historic emissions driving climate change? What is the basis for deciding? Who decides? Which countries should or should not be favored in such discussions? Who mitigates and how much? Who adapts and how much? With what funds? And how should impact, adaptation, and mitigation be defined? (Paavola 2008). Regarding time-scales, responsibility allocation could be discussed in terms of the impact on present vs. future humans (and nonhumans). How can the interests of future generations be accounted for in decision making? (Paavola 2008; Grubb 1995).

Though these are worthwhile questions and conversations to explore on the global scale, this case study frames such questions at the local scale in Phoenix and Yuma, AZ. As mentioned in the case, climate change impacts in those places include

extreme heat, prolonged drought, and diminished water supply from the CO River. Who is responsible for causing and responding to these challenges? And Callie wonders, what are the options for response, and who decides among them? Will competing communities in Yuma city and county reach an understanding? One issue that emerges is whether the urban population benefits more than they realize from the agricultural uses of water; do they acknowledge that they may benefit from the agricultural uses of water in an indirect way (i.e., food supply) even as they focus on more direct uses of water (e.g., for showering, watering lawns, washing cars, etc.)? The answers to these and other ethical questions are context specific, depending on a locality's unique physical features, demographic distribution, politics, and leadership (Rosenzweig 2011). For example, the climate challenges faced in Yuma (drought, extreme heat) are quite different from those faced in Boston, MA, (e.g., sea level change), as are the demographics, politics, and economics. What limits or determines climate change responses in one city may not be limiting or determining in another, due to the different ethical perspectives, scientific evidence, and risk perceptions, as well as the differing relative value of each in deliberation (Adger et al. 2008). This is why even places facing similar climate change challenges, like Phoenix and Yuma, will still arrive at different responses (or perhaps, at the same response, but through a different process) unique to each city's infrastructure, cultures, history, etc.

In addition to the context-specific nature of climate change challenges, there is also a lack of locally based scientific information, including climate change models. But beyond calls for more climate science grounded in local contexts (e.g., Rosenzweig 2010), Callie has clued into the need for reflection on how best to address the *ethical dimensions* of climate change challenges. Regardless of the scientific findings, decisions regarding adaptation, mitigation, or other responses depend on the interests of who is involved in the goal-setting and decision-making processes (Adger et al. 2008).

In this case, Callie decides that a citizen forum will provide an opportunity to deliberate on the goals of a climate change response for Yuma, as well as to delineate and understand the various perspectives at play, a dynamic she has experienced first-hand throughout her upbringing in the agricultural community and adult-life in the city. But first, she must decide how and with whom to organize the forum. To achieve an equitable representation at the forum, Callie should balance perspectives from the city, the agricultural community, Native American

communities, and perhaps different important industries in Yuma, such as tourism and healthcare. Even within those communities there will be diverse and divergent perspectives. For example, the residents of Yuma city represent myriad economic, demographic, and political characteristics. Further, the agricultural community consists of large-scale industrial farms as well as small-scale, family-owned farms. To address the diversity among and within interest groups, Callie might consider organizing the forum with members of the local governing bodies in the area, including the Yuma City Council and Chamber of Commerce, as well as representatives from adjacent Native American communities.

Though the myriad perspectives may seem to present an obstacle for building consensus, varied values held by diverse stakeholders promote thoughtful deliberation to ensure equitable action (Adger et al. 2008). Deliberation may also serve to reveal hidden or under-represented interests and to generate new ideas. I've had the opportunity to act as a facilitator in such a forum, and despite comments on the arduous process of reaching consensus, participants believed that the process demonstrated the robustness of their resulting goals and decisions. Although some parties disagreed with the outcome, all parties were heard. There was also a noticeable effort by participants to frame their opinions in terms of the moral values of participants who disagreed with them, or at the very least to notice that differences of opinion were -- beyond being "right" or "wrong" -- rooted in different values. Given that context plays a central role in goal setting for climate change response, localities that are aware of and open to a diversity of perspectives may end up being more adaptable (Adger et al. 2008).

Finally, it is worth noting there are several programs and institutions that recognize the unique needs and challenges for climate adaptation in local contexts and thus provide resources for local deliberation, goal-setting, and response. For example, calling attention to the role of cities in responding to climate change impacts, there are a few organizations that unite mayors across the world, including C40 Cities Climate Leadership Group, the World Mayors Council on Climate Change, and the Global Covenant of Mayors for Climate and Energy. (Rosenzweig 2011; Rosenzweig et al. 2010). Understanding that these citizen forums are experimental and evolving, Callie could use any one of these resources to guide her planning process. This would ensure that her Yuma forum is ethical, context specific, and properly representative of the community, as well as to manage her expectations about forum outcomes and relevance to decision making.