Collaborating to Learn about Wicked Problems: Water, Food, and Energy in Rural India

Speaker: Ashwini Chhatre, Professor of Geography at University of Illinois at Urbana-Champaign and Senior Research Fellow/Visiting Professor at the Bharti Institute of Public Policy, Indian School of Business, Hyderabad, India

Commentator: Ben Crow, Professor of Sociology, UC Santa Cruz

Hosted by Andrew Mathews, SJRC Acting Director

Professor Chhatre provided an introduction to the “wicked problems” of sustainable development in rural India where attempts to alleviate poverty and malnutrition and develop new approaches to agricultural development can create unintended consequences. He provided us with stories, lessons and insights from his work on interdisciplinary approaches which seek to link disparate perspectives from academia, journalism and NGO work in order to change attitudes, restructure public investment in agriculture and produce desirable outcomes.

Professor Chhatre began by explaining that wicked problems are ones in which there is no clear solution to a problem and that all efforts to address this problem create or reveal more problems. He suggested that this situation creates a boundary problem whereby issues cascade across disciplines and make the original problem seem impossible to address. In attempting to seek solutions to the huge issue of rural poverty and malnutrition in India, Prof. Chhatre described a three-pronged approach in which small-scale “proof of concept” projects are created in seven different locations in India. He stressed the importance of the scale of each project, which had to involve several thousand people, in order for the scale to be large enough. These pilot projects involved the integration of multiple layers of interventions: approaching the issue of rural poverty and malnutrition by intervening in different aspects of agriculture and food distribution. These multiple layers include soil, seeds and water access, converged with public investments. The multidisciplinary approach of his work included economic analyses of agricultural subsidies (who receives what subsidies and where) as well as of food storage systems and places in which food waste occurs.

Professor Chhatre described a system-wide approach to analysis which includes environmental cost considerations and can generate alternative ideas, such as implementing incentives which advocate for better food production (what plants can be most environmentally efficiently grown where) and the distribution systems (how can transportation and storage needs be modified by growing more food locally). He stressed the importance of collaborating with government agencies in order to generate knowledge and change behaviors, as well as the importance in generating knowledge which captures the complexity of rural livelihoods. This approach thinks about agriculture in relation to other systems and is founded on place-based knowledge about local cultures which can bring an awareness of unintended negative consequences and can make improvements that learn from problems. This approach, a learning while doing approach, leads to a research framework which can thus make claims about what works and what doesn’t work.

After discussing this approach as a general interdisciplinary framework for research, Chhatre described three concepts that “get in the way,” and serve as ideological blindspots which naturalize the status quo in ways that are difficult to see. These concepts are 1) the Discount Rate as a predictor of the future; 2) price as indicator of scarcity; and 3) productivity per hectare as a measure of performance. In each case, the economic assumptions which underlie the capitalist system at work in agriculture are seen as obstacles which must be understood, debunked and overcome.

Following Prof. Chhatre’s presentation, Ben Crowe asked how is he able to work with economists in the face of his underlying critique of standard economic ideologies. Chhatre responded that he cannot collaborate with economists,
but rather he finds it more productive to work with philosophers. Because he questions underlying assumptions about Economic Growth and “fetishized” assumptions about India’s rate of growth (generally understood to be 5.5% annually), Chhatre suggested there would be no need to confront tropes of economic growth if people are better fed and that the question for India should be focused on equity and distribution of wealth rather than growth. He also suggested that one road to amelioration of India’s poverty issues is in open outcomes, where farmers have the option of going to market on their own terms. A number of questions in the audience focused on labor issues and the notion of the aspirations of young people growing up in rural areas.

Donna Haraway (Distinguished Professor Emerita of History of Consciousness, UCSC) asked about the issue of scale and Chhatre’s early suggestion around thinking about abundance, rather than being trapped with scarcity thinking. Chhatre responded by explaining that in order for NGO’s to act as a substitute to government and to become an agent for government change takes a long time. The instinct for NGO’s is to help people directly, but this does not produce long-term, systemic change. Therefore, Chhatre suggests there must be new approaches tried.

One of these approaches is using middle school children for data collection and reporting. For example, they have the school children collect rain fall data and when certain flowers start blooming. In this way, they reduce the need for expensive monitoring equipment, and include students in the process; allowing them to visualize ideas for themselves and seeing themselves as the drivers of change.

Andrew Mathews asked how to avoid creating wicked problems. Chhatre clarified that his approach reframes situations not as choices between but rather as a choice to put together elements differently in such as way that a system of public investments can be put in place and combined in ways which work locally so that it is possible for these new approaches to happen. For example, in creating an incentive for farmers to use organic manure in order to replace chemical fertilizers they have to work through the cascades of effects that this change will create. So, being able to see that this change in fertilizer means that the use of cow dung will be diverted from its previous use as fuel which will also mean that women will have to spend more time transporting the dung to the fields and collecting firewood or shift to inferior fuels. In other words, this shift to organic fertilizer will end up increasing a burden on women and could also result in increasing girls’ absenteeism from schools. People intervening in soil don’t think to ask about the state of the local forest or whether girls go to school. Chhatre’s approach shifts from a focus on singular intervention to combining multiple interventions, which can account for the energy deficit and therefore combine the shift to organic fertilizer with kerosene subsidies, so the cascade effect can be nipped in the bud and women’s labor valued. This approach necessitates asking what else is missing and how to monitor that? Mathews points out that this focus on multiplicities avoids “empty world thinking.”

The conversation continued with other questions about water systems and questions which address new ways of understanding the legacy of the Green Revolution. Haraway added that this approach emphasizes actual knowledges and practices of actual workings over modeling and abstractions or theory. She suggested that we have outmoded notions of knowledge and that this complex systems theories in which multi-factor processes allow us to let go of a certain need for precision. She stressed the importance of interdisciplinary communication and expressed optimism for this approach.