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**Relating Systems Thinking and Design
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Anticipating Futures: Forecasting and climate preparedness for co-located hazards in India

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ANTICIPATE examines how different actors forecast and prepare for co-located hazards under conditions of climatic uncertainty and whether and how these practices can inform practices of anticipation and preparedness. Despite significant advances in climatic sciences that enable seasonal forecasting of extreme events, the co-occurrence of floods and droughts – which we conceptualise as co-located hazards, combined with the underlying systemic complexities of locally situated knowledge create a situation of radical uncertainty.

ANTICIPATE examines how diverse actors can work together to identify and examine changing patterns of how extreme climatic events are understood in locally grounded and appropriate ways. We focus on the Indian state of Gujarat, where extreme variability (floods and droughts) has pushed pastoralists and dryland farmers to the limits of coping. Integrating ethnographic, participatory and creative approaches with atmospheric modelling, ANTICIPATE is an interdisciplinary and transdisciplinary collaboration between academics, disaster specialists and design researchers across the UK and India.

KEYWORDS: radical uncertainty, design research, sustainable design, transcontextual

RSD TOPIC(S): Designing radical shifts in and for planetary health

Presentation summary

ANTICIPATE principally addresses the theme of designing radical shifts in and for planetary health as it investigates how actors forecast and prepare for co-located hazards under conditions of radical uncertainty. Its relevance lies in advancing and contributing to cultural understandings of forecasting by exploring cultures and practices of the scientific community alongside place-based traditions of forecasting. It seeks to encourage these diverse communities of practice (local people, design researchers, meteorologists, and social scientists) to re-imagine forecasting in the light of co-located hazards and explores how preparedness can be conceived and co-produced with marginal communities.

Design is increasingly concerned with systemic complexity. This follows, in part, from the interconnected nature of contemporary design questions, which are characterised by conflicting values, unpredictable interdependencies, and uncertain boundaries. At the same time, the contemporary entanglement of the social, political, and ecological mean that even design's traditional domains now exhibit and participate in the complexity of social systems.

Drawing on a range of creative, participatory, and qualitative methods, the project seeks to open up conversations between different communities of practice about what forecasting means from different situated perspectives. The study explores how these practices may be culturally mediated and co-produced with marginal communities in Gujarat (India).

The term 'radical uncertainty' can be characterised by extreme complexity, instability or disagreement about what is considered to be known or knowable. The transdisciplinarity of the ANTICIPATE project creates diverse conceptions of knowledge and understanding and seek to identify processes that embrace rather than eliminate the uncertainty. The project utilises counter-conventional practices of research and analysis as a purposeful shift away from problem-limited concepts of design. Instead, we aim to prioritise epistemologically sensitive approaches to gain insight into situations characterised by complexity, conflicting values and uncertain boundaries. These include

embodied, emotional, and tacit ways of knowing and representing the world (Mehta, Lyla, and Shilpi Srivastava, 2020) and ideas of responsibility, accountability and ethics.

While local communities in arid rural areas in India are used to adapting to the uncertainties around drought, the recent episodes of floods have stretched the planning and response capacities of both individuals and public agencies (Mongabay 2019). Despite significant advances in seasonal forecasting of extreme events and efforts to improve preparedness, studies highlight that preparing for new patterns of extreme events, such as floods in previously drought-prone areas, requires changes in institutional processes and mindsets (cf. Tschakert et al., 2010; Raikes et al., 2019).

To address this challenge, ANTICIPATE brings together social science, creative arts and atmospheric science expertise to address how diverse actors can work together to address extreme climatic events in locally appropriate ways. This presentation discusses the initial field results from a participatory photo elicitation method, aka Photovoice,¹ a series of co-created maps and counter-maps, and insights gathered through local stakeholder interviews.

References

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¹ <https://photovoice.org/>