

Empowering citizen-led solutions to climate change threats

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Extreme weather caused by climate change—such as flooding—will be to easier to prepare for because scientists have now developed a new method that empowers citizens to identify solutions to the threats their

communities face.

The approach works by researchers bringing [community groups](#) together to discuss and understand the likely impacts of climate change in a local area. In the UK, these include indirect risks such as [food shortages](#) and energy disruption as well as physical threats like heat stress and flooding.

Most climate adaptation initiatives are developed by governments or by businesses, rather than to help citizens help themselves. The new approach, published in *Nature Climate Change*, was created by researchers from the Universities of Reading and Surrey and involves generating maps and networks that can help citizens identify solutions to the threats their communities face.

Professor Tom Oliver, from the University of Reading, led the study which also involved pilots in India and Ghana. He said, "Our hope is that such methods will ultimately be developed for widespread use. We need citizen-led adaptation planning processes in every village, town and city so that we are prepared as much as possible for the significant impacts of climate change."

Adaptation plans

The method was piloted in Reading, Oxford and Wallingford in the UK. Citizens in each group worked together to discuss the actions that individuals can take to help protect themselves, their households and their communities from the consequences of climate threats. Actions included storing more long-life food and better-insulating homes from heat to help households respond to floods and heat waves. Proactive actions included lobbying the government for action to prevent the greatest impacts of climate change.

Participants discussed their shared experiences in putting in place these

actions before developing their own "personal adaptation plans," identifying which specific interventions they intended to pursue, how they might achieve them and the expected timeframe. Overall, participants found that the process increased their awareness and their preparedness for climate change impacts.

Professor Nigel Gilbert from the University of Surrey said, "There are many ways that climate change impacts citizens, and this information is likely to be more meaningful when participants are co-creators in the discovery process. Adaptation plans may also be more realistic when they are identified and discussed within the community."

Global collaboration

The method was piloted internationally, namely in the lower Volta Basin in Ghana, and the Assam region in India with support from the CSIR-Water Research Institute in Ghana and the Indian Institute of Management Nagpur in India.

Local [citizens](#) in both regions first identified the diverse threats they face from climate change. In Ghana, risks included bushfires, drought, flooding, [coastal erosion](#), sea level rise, saltwater intrusion and invasive alien species. Citizens decided on actions that included afforestation and storing freshwater, [tree planting](#), dredging rivers and blocking flood channels with sandbags.

Villagers on Majuli Island in the Assam region of India discussed major challenges from flooding and erosion impacting housing and vulnerable agriculture. Their solutions included short-term actions such as storing feed for livestock before floods and longer-term measures such as exploring alternative sources of income (such as fishing and weaving).

Participants from all three regions involved in the study shared their

results and learned how their responses were applicable to where they lived. A participant from Ghana said, "I have more information on how other people are adapting to [climate change](#) in the UK and India and these are also applicable to me here in the village."

More information: Empowering citizen-led adaptation to systemic climate change risks, *Nature Climate Change* (2023). [DOI: 10.1038/s41558-023-01712-6](#)

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