

CLIMATE CHANGE ADAPTATION IN POST-DISASTER RECOVERY - POLICY BRIEF 4

PERCEPTIONS OF CLIMATE CHANGE IMPACTS AND ADAPTATION STRATEGIES FOR AN UNCERTAIN ENVIRONMENTAL FUTURE: RESULTS FROM PARTICIPATORY APPROACHES IN PREK PRASOP DISTRICT, KRATIE PROVINCE, CAMBODIA

This policy brief presents insights into the perceptions of climate change impacts and adaptation/coping strategies of flood-affected communities in Prek Prasop District, Kratie province, Cambodia. It highlights what communities perceive to be the drivers of climate change related hazards, the impacts of these hazards on livelihoods and wellbeing, and approaches taken to adapt and cope with extreme events and seasonal environmental change. This brief presents combined results from thirteen workshops conducted in four villages in two communes, using q-method activities in group discussions with women, men and youth to identify what are perceived as the most pressing impacts of climate hazards and common coping mechanisms. Local knowledge provides for a grounded understanding of how climate change impacts are perceived and dealt with at the community level.

KEY MESSAGES

- ◆ Cambodia will experience increased extreme floods and drought, and decreased predictability in wet season rainfall and river flow under climate projections. Recently, rural areas have experienced severe drought (2015-2017) and floods (2013, 2018).
- ◆ Using the q-method, community-based focus group activities were used to understand local perceptions of the drivers of climate related hazards, the impacts these hazards have on communities and the approaches communities take to respond to both extreme events and long-term environmental change.
- ◆ In general, communities perceive the climate as becoming hotter and less predictable with drought becoming more of a challenge than seasonal flooding. Adaptation and coping mechanism for flooding are well developed however with increasing temperatures, adaptation strategies for drought remain underdeveloped.

CONTEXT

The livelihoods and food security of the lower Mekong basin are closely tied to climate and seasonal cycles such as monsoon and river flooding. Agriculture is inextricably linked to these cycles, with 85% of the total arable land cultivated with rice, most of which is rain-fed and benefits from annual deposition of nutrient rich alluvium. In recent years, attaining



food security has challenged many rural communities due to increased seasonal variability and drought. Cambodia was affected by severe drought from 2015 to 2017, and experienced damaging floods in 2011, 2013 and 2018. Current projections for future climate change highlight the vulnerability of rain-fed agriculture in the lower Mekong basin, with increased climate variability set to continue. Models predict reduced early wet season rainfall, increasing frequency and magnitude of major floods along the Mekong, increased average temperatures, and longer dry spells during the rainy season. In response to these threats, the

Cambodian government has introduced a Climate Change Strategic Plan for 2014-2023. The mission to establish “a national framework for engaging...stakeholders in a participatory process” and “capitalize on... local knowledge...” with regards to climate change responses. The research presented here highlights local perceptions and understanding of climate related hazards and long-term environmental change, and associated adaptation and coping strategies, with direct relevance for Cambodia’s Climate Change Strategic Plan.

PERCEIVED IMPACTS FROM CLIMATE HAZARDS AND DRIVERS OF CHANGE

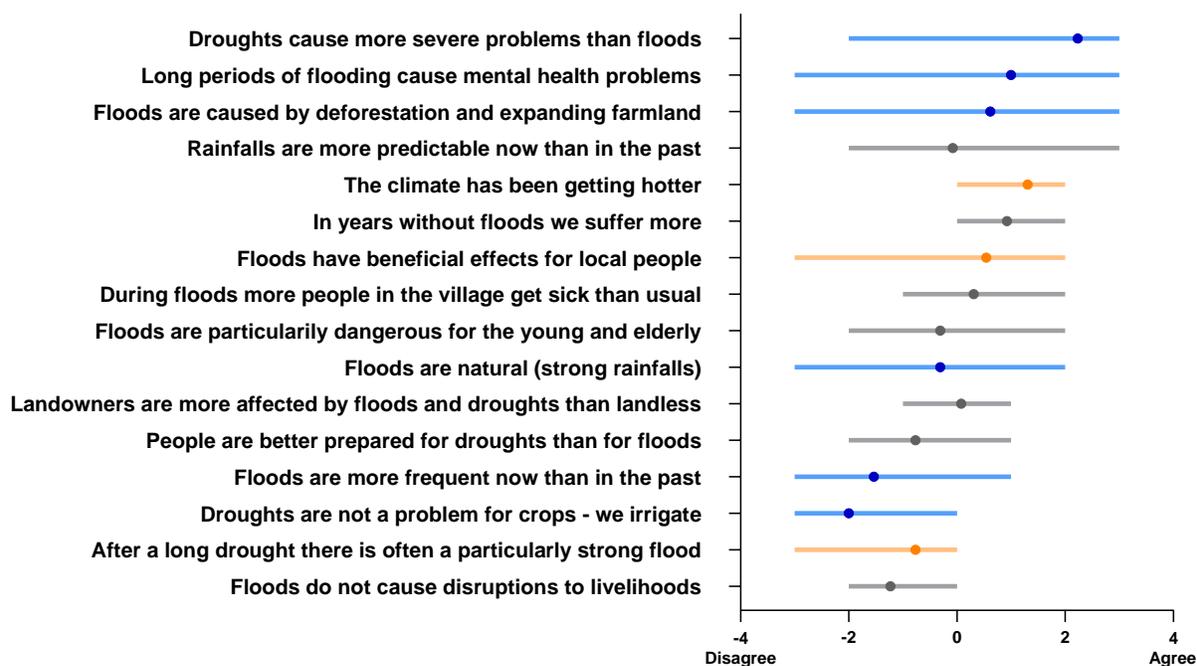


Figure 1: Perceived drivers for, and impacts from climate related hazards. Figure shows range of responses from participants (bars) for each statement with circles representing the average response. Results in orange signify responses common across all communities. Results in blue represent views unique to a subset of communities.

Although the lived experience differs among the four villages, common perceptions were found across the study area (Figure 1). Drought was perceived to be of increasing concern and a particular risk to livelihoods. These conditions reflect a view that temperatures were increasing in general, alongside increased variability in rainfall. Community members viewed drought as a direct result of deforestation as well as unusual severe wind events. Overall, communities perceived drought as more of a risk than floods however, prolonged seasonal and out of season flooding also has impacts on livelihoods. Villagers viewed flooding as an important means for replenishing soil nutrients but worried that hydroelectricity projects in the upper Mekong basin may change annual flood regimes into the future.

ADAPTATION AND COPING MECHANISMS

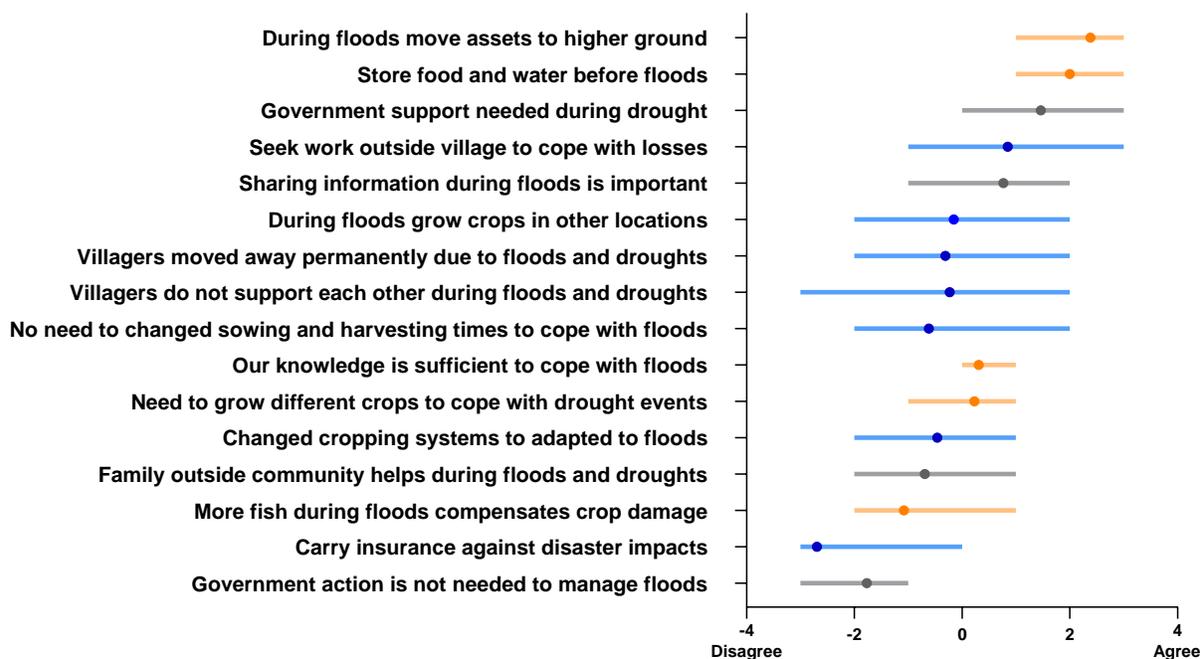


Figure 2: Adaptation and coping response for climate related hazards. Figure shows range of responses from participants (bars) for each statement with circles representing the average response. Results in orange signify responses common across all communities. Results in blue represent views unique to a subset of communities.

Coping mechanisms for dealing with floods varied slightly from community to community however, relocation of assets and storage of supplies such as food was a common coping mechanism across the study area (Figure 2). Villagers perceived their knowledge for dealing with floods sufficient although, a lack of knowledge for dealing with drought was a common sentiment in group discussions. Few communities have made significant changes to cropping systems aside from adoptions of dry and fast-growing rice varieties. Changes in crop selection from tobacco to sesame and maize have been driven primarily by health and market considerations. When possible, irrigation was used as a coping mechanism for drought however, not all farmers were able to adopt this strategy due to financial and/or geographic considerations.

In a number of communities, farmers were actively purchasing farm land in highland areas as an adaptation strategy and in several instances, villagers were forced to seek wage labour outside the community as a livelihood substitute. Views on relocation as a coping/adaptation mechanism varied from community to community with some villagers unwilling to move do to a deep sense of place. Others considered migration as a viable alternative however, this view was primarily considered a means to a better standard of living.

The extent to which individuals could rely on support from other community members before, during and after an event varied from village to village. Community support was mainly in the form of volunteered labour with some participants identifying support in the form of food stuffs from neighbors and remittances as a coping mechanism.

In most instances, villagers held high regard for weather information communicated through TV and radio outlets with a common perception that environmental signals once used as signs of season change were no longer applicable. Whilst community members felt comfortable in their approaches to dealing with seasonal flooding as they have done for generations, there was a common sentiment that if climate variability and prolonged drought like conditions persisted, further government intervention would be required.

POLICY IMPLICATIONS

- ◆ Local communities and scientific projections agree that patterns in rainfall, flooding and dry spells are becoming less predictable along the lower Mekong River in Cambodia. This has significant implications for communities drawing their main source of income from agricultural systems that have developed alongside the seasonal flood-pulse cycle of the Mekong.
- ◆ Variability in weather patterns and drought like conditions are the greatest concern to these communities with a limited understanding of how to adapt to increasing temperatures and inconstant rainfall patterns.
- ◆ Where the means exist to do so, communities are diversifying agricultural and livelihood practices to reduce their vulnerability to frequent shocks from severe droughts and floods. Not all practices have been successful. There are high costs associated with providing year-round water supply and market access.
- ◆ Communities are looking to the government to provide strategies for climate related hazards both in terms of knowledge and guidance, and hard infrastructure.
- ◆ Drawing on communities' experiences and knowledge through participatory processes adds value to scientific scholarship and can accurately inform policy making on external interventions concerning mitigation and adaptation measures.

SOURCE

This policy brief has been prepared by Dr Bryan Boruff, The University of Western Australia, and is based on the following material:

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