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Developing climate-resilient water, sanitation and hygiene (WASH) In Pacific island countries

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Abstract:

Acute water issues, exacerbated by climate change, threaten the health and well-being of people living in Pacific Island Countries. To examine the social and biophysical contexts of sustainable water management during extreme weather events such as cyclones, droughts and floods, we conducted in-depth household interviews (n=405) and 26 community focus groups in the flood prone Solomon Islands (SI) and the drought prone Republic of the Marshall Islands (RMI).

Over 84% of households surveyed in RMI, a nation of low-lying coral atolls, reported dependence on rainfall for drinking water. During times of drought, this number remained largely unchanged, with respondents reporting long term storage of rainwater in private tanks and austere water usage behaviours. The dual pronged effect of drought and coastal inundation create the potential for acute water deficit for remote communities in RMI.

In SI, a country with frequent flooding and tropical storms, 46.6% of households reported using rainwater for drinking under baseline, non-flood conditions, but this increased to 70.4% during times of flooding. At this time there were equivalent reductions in the number of households drinking from wells, rivers and natural springs, which were perceived to become contaminated. Rainwater is commonly collected in cooking pots and plastic buckets; relatively few households had either household-level or community-level access to formal rainwater tanks. Consequently, most households relied on some form of surface or groundwater for drinking under some conditions or at some times of year, and risked exposure to environmental and human waste contaminants.

Significantly, rural communities in both countries have learned to cope with climate disasters and harsh environmental conditions by optimizing available water resources and modifying usage behaviours. This nuanced cycling of community water sources in response to seasonal and climate-related hazards needs to be understood before recommendations can be made to strengthen community resilience to climate change.