



What do Guam communities, watersheds, and puppetry have in common? Romina King!

by Sarah Nash



Romina King is the Climate Coordinator for the Center for Island Sustainability at the University of Guam. She recently completed her PhD at the University College Cork in Ireland on vulnerability and adaptation to climate change in Guam. Her study integrated climate change impacts to Guam with rural community perceptions and knowledge of those impacts.

In much of the Pacific, water quality and availability are two major issues at the forefront of many policymakers' concerns regarding climate change impacts. King found that the community members she interviewed were not as concerned about having sufficient amounts of water. Instead, they were focused on the opposite problem: flooding. In the last decade, Guam was experiencing reduced rainfall during a La Niña cycle. Now, however, an El Niño cycle has begun, which initially brings heavier rains as well as more cyclones and tropical storms towards Guam. More importantly, El Niño usually brings drought to much of the Pacific in the spring months.

"So, if people perceived flooding during a La Niña (when Guam has a less than average rainfall) with impassable roads and inundated homes," King wonders, "how did the community fair during the beginning of this El Niño when Guam saw an increase in rain and storm activity? That community is very vulnerable with respect to flooding."

Natural resource managers could use some of this information, taking into account community concerns for flooding. "If the management objective is to restore upland vegetation, one component to be considered is how to communicate the importance of this as a natural flood defense for the community," says King. "Also, during the dry season, which is predicted to be extra dry due to El Niño, the wildfires are expected to increase," which is an obvious hazard that should be brought to the attention of community members as well.

Furthermore, King's investigation brought her to question communities about native



Romina (in dark blue) and researchers hiking the dry bamboo-dominated riverbed of the Manell River on the island of Guam.

Photo: M. Kottermair.

vegetation versus introduced plants. She found most people perceived a shifting baseline of what was supposed to be on the island. For instance, many respondents thought the savannah grassland, primarily populated by introduced swordgrass with occasional pockets of native species, was a native system. This view of ecosystems and the gaps in communities' basic understanding of watersheds are two paths she would like to pursue in future investigations.

King has other plans for how to communicate climate science and climate change impacts and adaptation to Guam's communities while working with the PICSC – through storytelling. "I would like to write about climate science and put it into a children's board book," she explains. "That way, parents will read it to their kids and therefore learn about climate science."

The story could be a play as well, as she has done in the past with her NOAA fellowship project called *Guardians of the Reef*. That project employed high school seniors to instruct third-grade students how to protect coral reefs and has been in use for ten years. And, yes, it involved homemade puppetry to get the major points across. She sees this as a great communications tool for climate change education, which could be expanded and utilized in other island communities.