

Information Flows and Perceptions of Resources in the Okavango Delta

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In the semi-arid Okavango Delta region of Botswana, rural livelihoods are inextricably linked with highly variable environmental conditions. The people of the Okavango Delta rely on water resources for consumption, household use, food production, and to sustain wildlife populations essential to local tourism-based livelihoods. While local people have developed strategies to adapt with seasonal precipitation cycles and flood pulsing, global environmental change has the potential to challenge existing strategies and exacerbate livelihood vulnerabilities. This situation is complex and highly uncertain. Data indicates that variability in the overall amount of rainfall has increased, and climate models predict that water resources will decrease in the region over the next several decades. Though impacts are uncertain, these changes to water resources are likely to affect wildlife populations, increasing human-wildlife conflicts and affecting livelihoods connected with community-based natural resource management (CBNRM). Benefits from CBNRM are important to residents of much of the Okavango Delta region. With joint goals of poverty reduction and natural resource conservation, changes in water resources and in turn wildlife populations could greatly impact livelihoods in these communities.

My dissertation research is based on the premise that information is a critical currency for adaptation in rural communities facing this type of uncertainty and change. It is therefore important to understand how information about natural resources flows within rural villages, and how this information is integrated into people's thinking



about the resources. To investigate this, I conducted fieldwork beginning in 2008 in four villages: Khwai, Sankoyo, Gudigwa, and Seronga.

In combination with ethnographic and observational research, I worked closely with local research assistants to conduct social network interviews. Each personal network revealed the connections among members of a respondent's communicative network. To understand how these personal networks overlapped with one another, I combined this personal network data for each village to create whole networks, which revealed village-level communication patterns and allowed for comparison among villages.

Evidence from this study suggests that there are several factors affecting information flows in rural villages. Among the most important is the size of the community. While smaller villages tend to be dense and tightly connected, individuals in larger villages tend to separate themselves into communicative sub-groups. Gender and ethnicity are two important factors determining the composition of these sub-groups and are important variables when considering how to most effectively communicate important environmental messages to all village residents.

While understanding the flows of information is important,

so too is understanding how people in different positions within the communicative network integrate available information into their perceptions about natural resources. I conducted free listing exercises and in-depth interviews in two of the villages to better understand how people view water and wildlife resources. These interviews indicate that people's perceptions are related to their position within their village communicative network, with those in more central positions possessing more comprehensive views of the resources.

In combination, these findings suggest that in order for messages important to adaptation to reach all members of a village, it may be important to adjust communication strategies. Approaches should attempt to address the impacts that community size, gender, and ethnicity may have on how information flows within a village. Communicating directly to sub-groups in larger villages, for example, may be critical to reaching a broader audience for widespread adaptation over time. I am forever grateful for the opportunity to conduct this research, and especially thankful to the residents, research assistants, and local authorities of Khwai, Sankoyo, Gudigwa, and Seronga for their invaluable contributions to the project.

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