

COMMUNITY CONSERVATION AND IRRIGATION SCHEME GOVERNANCE IN MOZAMBIQUE

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My research interests are community conservation and governance in Southern Africa. In the summer of 2018, I evaluated irrigation schemes affiliated with Limpopo National Park (LNP) in Mozambique. The schemes were established in 2012 in eighteen communities bordering the park. The project has general goals of improving the relationship between the park and communities, improving food security, and improving livelihoods. However, previous monitoring efforts have only attempted to measure crop yield by comparing inputs and outputs. They have not assessed income generation, food security, or relationships with the park.

I worked with park staff to evaluate the monitoring system, institutional support for the schemes, governance, sustainability, and agricultural techniques. I interviewed extension agents plus their supervisors and held group interviews with members from each association.

In 2012, each community developed an association of all interested members and elected leaders. Associations were given a machine and pipes to pump water directly from the nearby river into furrows that irrigate their fields. The membership size of associations ranges from 7 to 43 individuals with a total of 488 individuals involved across all schemes. The majority of members are women and each member is allotted a small portion to farm for personal use. There is also a community plot that members work together on and the purpose of this plot is to raise money for pump maintenance and possibly fuel. The area of irrigation ranges from 2 to 8 hectares with a mode of 3 hectares. Every association's original pump was still operational, although some were in need of minor repairs. At the time of this evaluation 3 associations were not currently farming, 5 were farming but struggling to be productive for a variety of reasons, and the remaining 9 were very productive. All members of the 14 associations currently



in production claimed that their food security has improved since they joined the association and they are better off.

Pests are a major challenge for all schemes and this includes insects, monkeys, cattle, hippos, elephants, buffalo, and especially rodents. Another challenge is the lack of markets and transportation. Even when they produce high yields, crops such as tomatoes and lettuce often rot in the fields before they can be transported to market. In addition, improved seeds and pesticides are difficult or impossible to obtain in these rural communities.

None of the associations received training in governance, but many of the productive schemes have developed good governance techniques of their own accord. Other schemes that lack governance are struggling with organization, teamwork, and often agricultural productivity. The agricultural techniques employed were very basic and there is a lot of room for improvement with increased education (which can be provided by the extension

agents). For example, they can incorporate techniques such as intercropping, green manure, conservation agriculture, agroforestry, improved seed variety and/or chemical inputs.

Sustainability is of concern primarily because of changes in water availability and accessibility. The levels of the rivers change seasonally. While water continues to flow during the dry season, the channels and pools change and this can force associations to abandon their fields in search of new ones that are close enough to a river pool or channel. Long term changes in climate or water practices upstream may have significant negative impacts on the sustainability of these projects.

Leandra Merz is a PhD student in geography. Peace Parks Foundation provided funding and logistical support for this research project.