

People, Participation and Protected Areas: A Community-Based Approach to Natural Resource Management in the Pacoche Marine and Coastal Wildlife Refuge

Robin Rigby Trust Mid-Term Report

Tamara L. Britton, PhD Student

Department of Anthropology/ Environment and Sustainability, University of Western Ontario, Canada.

Progress Report

The Robin Rigby Trust funding was a crucial component of the completion of a preliminary research phase in the summer of May to August 2019. The phase included the collection of ethnographic data through participant observation, surveys and informal interviews with residents in four communities within the Pacoche Wildlife Refuge that are new to the study. Contacts were made in an additional two communities within the study area and surveys will be conducted with participants from each locale in the upcoming phase.

In alignment with the project proposal, 20 residents from each of the four coastal communities (Las Pinas, San Lorenzo, Liguíqui and Santa Rosa), were surveyed on questions regarding their dependence on and perceived threats to natural resources, perceptions of resource conditions, and support for management strategies, totalling 80 completed surveys thus far. In the town of El Aromo, surveys were conducted with only key gatekeepers leaving an additional 18 surveys to be completed here and all 20 proposed surveys in Pile left to be completed during phase two. It is estimated that these surveys will be completed within the first month to six weeks of phase two to equate to a total of 120 survey participants and provide a representative sample of residents in the protected area.

During this first research phase interviews were also conducted with three Ministry of the Environment (MAE) employees in order to understand their perspective on natural resource use and collaboration with the local communities. These interviews took place both in a formal setting at the Ministry headquarters as well as during patrols of the protected area during “walking interviews” to understand the parks borders and enforcement challenges first-hand. In addition to survey and interview data, participant observation with residents from several communities was also accomplished. This consisted of pre-arranged “follows” with farmers to their fields to observe how they interact with their coastal forest environment. During these “follows” informal walking interviews took place.

Finally, throughout this first phase contacts were also established with the local universities and a presentation was given to recruit student volunteers. New contacts were secured with an Anthropology instructor at the local university to assist with recruitment and knowledge dissemination in the upcoming research phase. While only one student from the community of Pacoche was trained and assisted with the survey exercise, it is hopeful that more student interest will be secured in phase two. New contacts were established with local partners to assist with workshop facilitation and promote knowledge exchange opportunities in 2020. Previous research findings from the 2018 field season were also shared with the community of Pacoche and the Ministry of Environment (MAE) through a public presentation and individually with study participants in their homes. Data from surveys and fieldnotes are currently being analyzed, to triangulate sources, and improve data collection in the remaining communities for phase two.

Due to time constraints and logistical challenges in the field, it was not possible to complete all the surveys proposed in phase one of the project. Thus, the total number of communities surveyed for this study has been reduced to six. Of the communities no longer included in this study, one has a very small population and gatekeepers indicated that they were not interested in participating in the investigation, and the second community is located 15 km outside the protected area border, and consists of a high population of expat residents, thus has been removed from the sample.

\$3043.16 of the project budget has been spent (receipts approved by ROLA) during Phase One on international airfare and living accommodations in the field. Due to logistical constraints, Phase Two of the project had to be shifted from January - May 2020 to commence in August 15th - December 30th, 2020. Thus, it is requested that the completion date for the research portion of the project be extended until the

People, Participation and Protected Areas: A Community-Based Approach to Natural Resource Management in the Pacoche Marine and Coastal Wildlife Refuge

end of 2020 (*see research timeline below*). The remaining funds \$5,856.84 are to be used to cover in field costs including international and domestic airfare, living accommodations and workshop logistics. \$4,521.84 in the Research Western (ROLA) account will be requested as a cash advance prior to commencing Phase Two, with the remaining 15% of the project budget \$1,335 to be requested upon project completion to reimburse on the ground field costs.

Preliminary Findings

The estimated population in the Pacoche Coastal and Marine Wildlife Reserve is 4,000 inhabitants. This is divided between nine communities or *caletas*, of which this study focuses on seven (six new and one from previous MA research in 2018). The following results are a brief summary of key themes based on data gathered from four *caletas* in 2019, Liguíqui (pop ~300), San Lorenzo (~1000), Santa Rosa (~ 900), and Las Piñas (~500). Participants are part of close-knit communities which practice a communal organizational structure where harvest surplus is shared, and the more well-off families distribute their wealth by providing food and drink for annual festivals where all are free to partake. The most widely celebrated event takes place in August called the festivals of Saint Peter and Saint Paul, where residents give thanks for the plentiful harvest of both fish and produce over a week-long celebration. This festival is a crucial part of the cultural identity in Manabí and demonstrates the union of Catholic and traditional belief systems that highlight human dependence and respect for the natural environment.

Most of the employed population within the study communities work seasonally in the fishing and agricultural industry and fluctuate between the two. Other common occupations include day labour and tourism. The Ministry of the Environment (MAE) controls on large-scale agriculture in the cloud forest sector have resulted in many more people turning to fishing as their primary occupation over the past 10 years. With 50% of all large tuna enterprises for processing and canning in Ecuador located in the nearby city of Manta, seasonal work on these large fishing vessels is now a common source of employment for locals.

Also related to the inception of the protected area and prohibition of the hunting of terrestrial wildlife, the primary source of protein for residents now comes from marine resources. Tuna, bonito and mackerel are vital to the local economy for consumption and sale as well as lobster, shrimp and octopus that locals dive for as a crucial part their diet. Participants substantially discussed the importance of the marine corals found in the area for protecting small fish habitats. There was also disagreement by locals about the Ministry of the Environment (MAE) focus on protecting sea turtles. Local participants do not share this urgency or understand why sea turtles are so valued by outsiders when there are other resources under threat that are more directly related to people's livelihoods.

Other concerns across all surveys include the need to protect natural resources from outsiders including tourists, who come to the area to fish/dive and extract corals, bamboo and other timber products from the forest in an unregulated manner. Many stated they believe the protected area was created to attract more outsiders which has resulted in "the stealing of resources" and elevated crime rates. Despite concerns about resource extraction by outsiders, participants overall responded positively to the growth of the tourism industry in the area. For instance, participants stated that tourist's who buy fish along the side of the road are an important part of their business.

There is a great interest by participants to revive the coffee and cocoa industries as most agriculturalists by trade have had to switch to the unstable fishing sector in order to make a living. Interviewees said that regulations have made it difficult for people who need papers to access land they own in the forest because the MAE has their papers and the process for accessing their land or resources is difficult.

People, Participation and Protected Areas: A Community-Based Approach to Natural Resource Management in the Pacoche Marine and Coastal Wildlife Refuge

Most subsistence farmers who own the deeds to their land travel by foot or donkey to the fertile cloud forest located in the Pacoche hills from nearby coastal communities to tend to their crops. The main cultivated produce in the area includes sugar cane, toquilla straw, coffee, chocolate, bananas, corn, and assorted citrus fruits.

According to participants and the Ministry of Environment locals extract firewood, palm leaves, nuts, bamboo and timber from the forest in the protected area. They use the firewood for cooking on large open outdoor stoves, but also for the processing of sugarcane into panela (cane-sugar), or cane-juice to be sold locally. This process, called “the molienda” is practiced by families who own sugarcane plots, and takes several days of boiling the juice down to make a thick sugary paste, which requires a large quantity of hardwood. The sale of these products alongside locally made handicrafts made from toquilla straw, tagua nuts, and bamboo help to provide a modest income for residents year-round. People in these communities have been extracting resources from the forest for centuries. Guadua bamboo, for instance, is of great cultural and economic importance in the region, used as a building material for homes, storage houses, animal pens and fences, and sold locally to acquire a modest return. Bamboo, while grown naturally in the protected area, is generally cut from the land owned by subsistence farmers, however, new regulations since the creation of the protected area in 2008, prohibit this practice without a permit. This was the most contested natural resource discussed by participants.

Participants were also uniformly across communities concerned about the youth and worry that knowledge about the land and the ocean is being lost as young people no longer have interest in learning ancestral practices or in occupations which connect them to the natural environment. People discussed the importance of improving environmental education for youth, and the need for younger generation to learn about seasons and the proper ways to harvest resources.

Upcoming Research Timeline

Month	Activities Completed	Notes
Phase 2 (August 14th– December 28th, 2020)		
August	<ul style="list-style-type: none"> Resume socio-ecological surveys in final two communities with newly established contacts Participate in local events/activities 	*Reduce survey communities to 6 in total
September	<ul style="list-style-type: none"> Surveys (continued and completed) 	
October	<ul style="list-style-type: none"> Completion of analysis of survey results (2 weeks) Natural Resource Management Specialist arrives at field-site mid October - mid December Planning workshops/training (2 weeks) 	*Goal is a total of 20 participants representing each of the communities involved in the surveys.
November	<ul style="list-style-type: none"> Conduct pilot-workshop program Offer rides for participants in need of transport Engage in weekly planning and organizing (food preparation, materials, skills instructors, and curriculum based on content from previous sessions). Complete workshops end of month 	*Workshop goal is 4 half-day sessions offered over a one-month period (i.e.: on Saturdays) Session planning will occur during the week.
December	<ul style="list-style-type: none"> Follow-ups with all participants Host a final celebration to share preliminary results. 	
January- March	<ul style="list-style-type: none"> Analyze all study results holistically including reflections/fieldnotes and follow up sessions with participants and create final report (due end of March 2021). Share Spanish version of report with study participants and Greenerth Ecuador. 	