

Using Anthropology and Ecology to Aid Conservation Efforts

By: McCall Ransom
 Texas A&M University
 Email: mransom.d@gmail.com

At some point early on in our lives we are asked the inevitable question: “What do you want to be when you grow up?” Responses typically follow “teacher,” “fireman,” or “astronaut” but there seems to always be one child in the kindergarten classroom that throws in an outlier. Since that young age, my response could be described as an “environmentalist.” As we grow, those initial dreams usually transform into a different career path. I could have never imagined that 16 years after declaring my dream occupation I would have the opportunity to give it a test run.

I was an extremely fortunate kid. My parents recognized early on my passion for wildlife and conservation and searched opportunities for me to explore my interests. When I was 14, I began volunteering at a wolf sanctuary and later became a lead volunteer. At 15, I began volunteering at the Houston Zoo for the public education department and the following year was selected to work with the elephants. It was here that my interest in wildlife ecology was sparked. A few years later I began my studies as a Wildlife Ecology major at Texas A&M University. Midway through my sophomore year I realized that studying wildlife and fisheries was not challenging or intriguing to me anymore and much to the shock of myself, family, and friends I changed my major to Cultural Anthropology. It took a year to realize why I chose anthropology (and to convince my parents that I was not wasting my education). A friend of mine encouraged me to meet with one of her professors who was working in Botswana with elephants and, because of my history with pachyderms, thought



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it would be a great networking and learning opportunity.

“Why did you want to meet with me?” asked Dr. Amanda Stronza as I sat down in her office. I proceeded to tell her of my experiences with wolves, love of elephants, and that I had a few questions I wanted to ask her such as “Why did you choose this field of study?” and “How did you get to where you are today?” I wanted to glean any wisdom she offered about working in the environmental field, going through graduate school, her experiences in research, and more. She was able to use her anthropology and environmental backgrounds to work on her current project *Ecoexist*, a project aimed at reducing human-elephant conflict and fostering coexistence between the two species in the Okavango Delta region of northern Botswana.

Dr. Stronza encouraged me that I too could combine my passions for anthropology and ecology into a profession that could make a difference in the world. After that meeting, Dr. Stronza encouraged me to sign up for a new course offered to undergraduates through the Applied Biodiversity Sciences (ABS) program: Introduction to Biodiversity Conservation Research. Dr. Leslie Ruyle taught our class of five students and guided us through the process of finding out what our research interests were and how to go about the process of doing scientific research. It was there that I found my interest in Human Ecology, the interdisciplinary study of the relationship between humans and their environment. At the end of course, Dr. Ruyle put me in contact with Ph.D. candidate Katherine Dennis who was looking for an undergraduate to mentor in research.

At this time, my senior year began and I learned to balance undergraduate research on top of a full time school load, part-time job, and if that was not enough, training for my first half marathon. Katherine guided me through the process of sorting through vast arrays of literature, developing a research topic and proposal, and preparing for fieldwork. I will admit, initially I was not fond of the idea of seven months of prep-work before entering the field. I had a romanticized notion of what anthropological field



research was; going into the field with a note pad by my side, ready to record crucial observations and information while hiking through an unknown wilderness. I quickly realized that this notion was not just unrealistic, but it could easily be detrimental to the research I was trying to work on. This experience was supposed to be more than some twisted white-savior complex, it was to add to the scientific body of knowledge and help conservation projects become more sustainable. Soon after having this epiphany I was able to see the larger purpose of all the hours and work I was putting into pre-fieldwork research: it would determine my preparedness, productivity, and usefulness of my data collected once I was in the field.

March 7th: Today was the day of firsts: I would fly alone, travel to another country, and enter into an environment where my native tongue was foreign - all for the first time. Three connecting flights, a taxi, and three bus rides later (one bus broke down so Katherine and I grabbed the last available bus), we arrived in Santa Fe, Panama. Katherine had been in Central Panama for the past decade off and on initially serving in the Peace Corps and recently doing research for her dissertation. The first day, I met many people that I would be in frequent contact with throughout the remainder of my stay. Yet no amount of preparation could have reduced the headache I received from my brain continuously switching from thinking in English to Spanish. Nor could all the training for my half marathon I completed six days before landing in Panama prepare me for walking up and down the slopes of the mountains. My legs quickly learned that running and hiking were two very different activities. But after a few days, my Spanish came easier, my legs stronger, and my familiarity with Santa Fe grew.

Katherine's previous experiences in Santa Fe made my research possible. This specific area was chosen because it contained the headwaters of the Santa Maria watershed, which supplied water to three provinces including a provincial capital. The decisions made in this mountainous area concerning water affect everything and everyone downstream. We had six interviews scheduled, which I thought

was a low sample at first. But considering that each interview took an entire day to complete because we traveled on foot and our narrow time frame, it was the best we could have done. I interviewed three men and three women from the Santa Fe area.

Each successive interview left me in more awe than the previous from the amount of knowledge and awareness they possessed about their environment and its ecology. The locals were more than just rural farmers, they are the proponents of sustainability and fair trade; on the front lines of fighting against climate change, deforestation, watershed depletion. From my interviews, I learned these sustainable practices were ingrained into their everyday lives. Fences were made from living trees, land was terraced and trees were interspersed between crops to conserve soil and water. Many were also leaders in local and international organizations such as farmer's associations and trained others to carry out similar environmentally friendly practices. While their impact may seem relatively small, these people are environmental heroes and yet no one may ever know their names outside the mountains of Central Panama.

While this research experience may seem like an interesting opportunity for an undergraduate to gain experience, why was this research done? The ABS program is founded upon three pillars: "integrated research in biological and social sciences; cross-disciplinary research and collaboration with conservation institutions and actors in the field; and application of conservation theory into practice." As stated in their vision, the goal of ABS is to "produce scientists prepared to understand ecological functions of local ecosystems, and also the activities and needs of surrounding communities in wider social, economic, and political contexts." The work of a researcher should go beyond the pages of a scientific journal, they should be applicable to solving real-world problems. And that is exactly what I wanted to accomplish with my undergraduate research experience.

In their history, conservationists have learned a lot about how to ensure that their efforts are successful as possible. Aside from proper funding for conservation projects, having enough people, specifi-



cally local people, to carry these visions over the long term is crucial for the sustainable success of conservation projects. For example, saving the pandas will never work if the local communities that live in the environment of pandas do not want to be involved. Funding can only last for so long, and when it runs out, projects sustained by capital alone fail. When communities are intimately engaged in conservation efforts, success is more sustainable. But communities are not composed of uniform members.

There are numerous cultures with internal and external dynamics that have to be taken into consideration. Members that can affect or be affected by the actions of conservation projects are known as stakeholders. Depending on the culture of the community you are working with, some stakeholders are more easily identifiable than others.

Women as stakeholders can be easily overlooked and may have more important roles than researchers and conservationists realize. Women

are typically primary caregivers and can have considerable influence over their children who will become the next generation of stakeholders. I reviewed a few case studies in agroforestry (agriculture incorporating the cultivation of trees with crops) where women played a crucial role in the sustainability of conservation projects, but none of these were in Latin America. My interest was sparked and I wanted to know if women's participation and perceptions of agroforestry and watershed conservation had any affect on the success/ sustainability of these projects in Central Panama. My hope is that by better understanding this issue that knowledge can then be applied to conservation projects and economic development projects by highlighting the need to assess and involve women as essential stakeholders for sustainable success.

I began this research by collecting preliminary data through interviews and participant observation while in Central Panama. I interviewed women individually with semi-structured interview questionnaire that focused on three topics: 1) *a participant's*

knowledge of agroforestry and watershed conservation, 2) their degree and reasoning for participation in agroforestry, and 3) their relationships with others involved in agroforestry. These observations and insights gave me valuable information of a woman's daily activities and those activities related to participation in agroforestry. Since interviews typically took a couple of hours to complete, Katherine and I compensated their time by helping the participants on their land for a few hours; I can now say I have a fair amount of experience on planting coffee seedlings.

After analyzing the data, I found that in most cases, household work was the primary factor that prevents women from participating in agroforestry related activities. When women do have the opportunity to participate, they can to the same extent as their male counterparts. I found that the more agroforestry related activities a woman participates in, the greater her knowledge and understanding of the subject. Agroforestry can do more than conserve water, it can empower women to be more than a housewife and can improve their quality of life. Their position as a mother to their children plays an important role in raising up the next generation. The women I interviewed noted that more youth are moving away from rural areas like Santa Fe to the cities for work. If any type of conservation and development project such as those aimed at long-term watershed conservation are to succeed there must be a group to carry on these practices into the future.

Most of the people I interviewed were in their 60s or older and they affirmed that a majority of those that are practicing agroforestry were older. When all stakeholders are taken into account, such as mothers that encourage their children to continue these practices, the chances of long-term success increase greatly. Agroforestry practices have been present in the Santa Fe region for over 30 years and will likely continue.

Though many of those I spoke with were concerned with the future of these practices and whether they would continue in the face of increased urban migration, there are still younger individuals who value what their parents are doing and want to conti-

-nue these practices. In essence, women are important stakeholders in conservation and development projects. Even when they do not participate in the same manner or to the same extent as their male counterparts, they are just as vital for the long-term success of conservation projects.

My experience has taught me so much. I learned that the research done before entering the field is crucial in determining the direction of the rest of your work; you can never over prepare and as with all research, there is always room for improvement. I was able to present my findings at the Texas A&M University 5th Annual Anthropology conference, a great and refining experience. I want to continue working and researching in the field of human ecology and strive to make tangible difference in the world. If it were not for ABS, my professors, or Katherine Dennis, I would have never had this opportunity of a lifetime to taste what it is like to be a researcher in the field of applied sciences. This experience has solidified my plans to join the Peace Corps and pursue graduate school thereafter. 🌿

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