Biodiversity Case Study: Ecotourism[1]

Setting

Okavango Game Lodge lies on the outskirts of the world-famous Okavango Delta in Botswana, Africa. A UNESCO World Heritage site, this delta is unique because it floods during the dry season in what would be an otherwise arid landscape. Thus, the flooded delta draws a remarkable number of wildlife from all over southern Africa, including cheetahs, rhinoceros, lions, zebras, giraffes, and elephants.

When the lodge was built in 1980, environmental impact was a minor concern. In recent years, however, the lodge has shifted its focus to eco-tourism, or tourism that is directed toward enjoying the natural environment while supporting conservation efforts. The redirection came in part from the realization that the lodge depends on the delta's wildlife as a draw for tourists. In addition, lodge managers were intrigued by a national certification program that provides incentives and guidelines for the development of eco-tourism lodges (Botswana Tourism Organisation 2013).

Nuru

Nuru lives in a small village near the Okavango Game Lodge. Her people, the Hambukushu, are one of the many groups indigenous to the area, each with a distinct culture and language. The Hambukushu are known for their mixed economy of agriculture, fishing, hunting, and pastoralism (Bock 1998). Nuru is an accomplished blanket weaver, and she also works with her husband and their four children on their small sorghum farm. Despite these means of income, Nuru and her family are living below the poverty line in Botswana, like most of their neighbors. Nuru, her family, and the community are excited by the expansion of ecotourism in the area because of the potential for increased job opportunities and development.

As required by Botswana's government for any ecotourism venture, the village must elect a Community Trust, a board of trustees who mediate between the village and the lodge to ensure equitable distribution of benefits. Several large-share landowners step up to the plate; they are well-known in the community, all older men, long-time residents, and among the most affluent. Many of them own larger parcels of land closer to the center of town or near new roads and see the potential to develop shops, restaurants, and services that benefit from the influx of tourists.

Nuru's small farm lies several kilometers from the lodge, the town, and the newest roads, and thus does not benefit from such development. But the Community Trust notifies her that as part of the Okavango Game Lodge's ecotourism initiative, Nuru and other community members are invited to sell their handmade crafts in the Craft Market during the high visitation season, May through December. Nuru also notices that members of her own community who already have lucrative jobs as shop owners, small-hoteliers, or safari-managers (most often men) are securing jobs at the Okavango Game Lodge in the kitchens, as waiters, and as cleaners.

One day, Nuru sees a job posting for safari guides and wildlife educators at the lodge. Although she has no formal training, Nuru has been living and farming in the delta region her whole life, so she decides she has the know-how to perform the job duties. This could be her first chance at a steady income to support her family.

Rachel

The lodge's manager, Rachel Jacobs, is a South African biologist with a lifelong passion for wildlife. She completed her bachelor's degree in Conservation Biology and her master's degree in Wildlife Ecology and became a field biologist with a focus on African elephants with Conservation International (CI), a non-profit dedicated to worldwide conservation of ecosystems. After 5 years working throughout many southern African countries with CI, she learned that Okavango Game Lodge was seeking a new manager to direct an eco-tourism overhaul of their safari and educational programs, as well as their facilities.

She applied for and accepted the job, seeing it as the perfect opportunity to apply her passion for wildlife and conservation in the hotel and game-lodge industry that she believes is too often at the heart of many human-wildlife conflicts. In her work with CI, she often confronted lodges and hotels over issues with over-exposed wildlife, development, and pollution. Safari and trophy hunting programs would sometimes allow guests to come too close, too often to wildlife. And lodge facilities come with a host of infrastructure projects that increase the flow of visitors, and thus also increase amounts of waste and pollution, further development, and wildlife exposure.

Upon arriving to the lodge, Rachel immediately went to work on initiatives to help the lodge reach their new environmental and sustainability goals. However, she was presented with two concerns.

First, to initiate and sustain improvements, Rachel would like to secure investments from American developers. With such investments, the lodge could employ electric vehicles and solar-powered boats, build the infrastructure to recycle grey-water, and manage their own waste recycling plant. Through these efforts, they could cut their waste footprint by as much as 85%. But to recruit top investors, Rachel would need to agree to share a margin of the lodge's profits with the investors, cutting from the revenue that could otherwise enter the local economy.

In addition, Rachel faces a hiring conundrum. To improve the lodge's wildlife conservation and educational programming, Rachel would like to hire more safari guides and wildlife educators. As she pages through applications, she recognizes some old friends. A handful of her colleagues from university and CI have applied to be safari guides and wildlife educators, and Rachel believes their world-class expertise could inspire and impress guests of the lodge. But she also notes a dozen applications from members of the nearby Hambukushu village. One application, Nuru's, catches Rachel's eye as the only woman from the village who has applied to a be a safari guide. Nuru could be the first woman villager employed in such a position. This excites Rachel, but still, can Nuru's application compete with an expert hire from Conservation International? In general, she wonders, would village members know enough to lead safaris? The lodge already hosts a twice weekly fair for village members to sell crafts to tourists, and several village members work in the kitchens and in housekeeping. Perhaps that is enough.

Mahendra
Mahendra, an animal behavior specialist who studies elephants, hails from Massachusetts, United States. In addition to being a well-known expert in elephant behavior and social structures, he is an avid traveler and photographer. Mahendra is planning a trip to one of his regular field sites, the Okavango Delta. In fact, the largest population of elephants in the world (~130,000) migrate to the flooded plains each year (UNESCO 2017). This July, he will be bringing his wife and teenage daughter for the first time so he will be staying in a hotel or lodge rather than his usual "roughin' it" conditions. As Mahendra begins to plan his trip, he reviews his accommodation options.

First, there is an affordable option. Sanctuary Inn is in the town of Maun, the closest city to the delta. The Inn is staffed and owned by long-time residents of Maun. They provide breakfast and modest amenities at a rate less than half what the large game lodges charge. Mahendra would need to take a daily car or jumper-plane to field sites, but he could probably afford more days in the field staying at a cheaper inn.

Dreaming, Mahendra also looks up rates at the Royal Safari Camp. This one is located right in the heart of the delta. As with any lodge in such a location, you can see wildlife up-close-and-personal, sometimes daily! Work would be right on his doorstep. The price is steep, but the amenities are similar to a four- or five-star hotel in Boston. That would be the best of both worlds, and his family prefers this option.

Finally, Mahendra views the Okavango Game Lodge. Mahendra notices that the lodge is Green and Green+ certified by the Botswanan government, indicating that conservation and sustainability are priorities for the lodge. They also host a "Craft Market." Local men and women line the road leading up to the lodge, selling baskets, bracelets, woven clothing, and other local goods and souvenirs. The lodge is located on the delta, so the prices are high. But the lodge has more rustic accommodations, so rates are not so steep as at the Royal Safari Camp. In any case, Mahendra would have easy access to field sites as well as the opportunity to cross paths with fellow elephant expert turned eco-lodge manager, Rachel Jacobs.

Discussion Questions:
   Nuru
   1. How are benefits to the community distributed among different households, including Nuru's? Is that distribution equitable?
   2. How can the village achieve more equitable distribution of benefits of ecotourism? Can the lodge help? How?
   Rachel
   1. Summarize the competing interests Rachel must consider in her management of the lodge. Which should she prioritize? How does her background potentially influence her priorities? Might Rachel be problematically biased against "experiential knowledge" (*vs.* knowledge that accompanies advanced degrees)?
   2. Should Rachel accept the money from foreign investors to achieve her sustainability and conservation goals? Why or why not?
   3. Should Rachel hire Nuru as a safari guide and wildlife educator? Why or why not?
   Mahendra
   1. Where should Mahendra stay for his trip to the Okavango Delta, and why?
   2. What ethical, logistical, and other concerns are relevant to his decision?
   General
   1. In an ecotourism project, how should environmental and social-developmental goals be combined? Are there trade-offs between affording new sustainability measures vs. development goals? Justify your position drawing on the experiences of each character above.
   2. When involving the community, should the lodge accept existing local gender and wealth hierarchies or should they address the inequities they perceive? Explain your response by citing examples from the case.

Content Commentary:
Ecotourism
There is no one definition of "ecotourism," but the common thread through most definitions is that ecotourism should be nature-based tourism that has both environmental and socio-economic benefits. The International Ecotourism Society defines ecotourism as: "…responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education" (TIES 2015; TIES 2017). With a focus on conservation of the environment, empowerment of the local communities, and interpretation for a greater understanding of nature, TIES paints ecotourism as a win-win-win. Similarly, the World Conservation Union (IUCN) defines ecotourism as: "Environmentally responsible travel to natural areas, in order to enjoy and appreciate nature (and accompanying cultural features, both past and present) that promote conservation, have a low visitor impact, and provide for beneficially active socio-economic involvement of local peoples" (Ceballos-Lascuráin 1996, 20). The Nature Conservancy argues that ecotourism should be sensitive to biodiversity as well as appreciating the local cultures. They also highlight that there should be "local participation in decision-making." (The Nature Conservancy 2017).

Although ecotourism, in theory, is a win-win-win for the environment, the local community, and the tourism industry (hoteliers and tourists), there can be situations in which one or more parties are unduly burdened. For example, any kind of tourism to environmentally and culturally sensitive areas can be detrimental when visitors come in large numbers (Stem et al. 2003), leading to increased waste and habitat disturbance. Any benefits (e.g., revenue for protected areas and local communities, education for travelers and locals, etc.) must be weighed against potential negative impacts.

Ecotourism and Ethics
Environmental ethics asks us to reflect on humanity's responsibility toward the environment. What are those responsibilities? How ought we behave toward nature? (Holden 2003). It is appropriate to evaluate ecotourism practices in these terms to see if promises of environmental stewardship and motivations are true in practice. Just as there are competing definitions of ecotourism, there are also competing claims as to what constitutes the most ethical motivations and practices. For example, some environmental ethicists argue that true ecotourism is non-consumptive, and thus non-utilitarian, and eco-centric (nature-centered); they view all organisms as having intrinsic value (Reviewed in Aciksoz et al. 2016; TIES 2015). Others argue that all ecotourism is inherently utilitarian, viewing nature as a commodity to sell accommodations (Stark 2002; Holden 2003). Holden claims that transitions toward ecotourism (such as in the hypothetical Okavango Game Lodge case) are often anthropocentric (human-

centered); lodges transition only when they notice that other modes of tourism destroy the environment that draws *human visitors* in the first place (2003). In Holden's view, a lodge manager is concerned with environmental well-being only so far as it contributes to the health of their eco-tourism business. Finally, what are an eco-lodge's responsibilities to the local community? There are experts who believe that eco-tourism practices must be in harmony with not only the natural environment, but also the human environment (Aciksoz et al. 2016; Mbaiwa 2015; Stark 2002).

Some find it is helpful to frame ecotourism practices as "deep" or "shallow," with the acknowledgement that such classifications are fluid and gradated (Acott et al. 1998). Deep-ecotourism practitioners are guided by a deeply intrinsic value of the natural world. They are ecocentric, and encourage first-hand experiences with nature *and* culture. Shallow-ecotourism is more utilitarian; a healthy environment is valued as a driver of visitation. Such a framework acknowledges the array of motivations and practices you might find among eco-tourism projects, but the terms "deep" and "shallow" are normative, and thus it would be more neutral so simply use the labels "ecocentric" and "anthropocentric" ecotourism, again with the understanding that the classifications are fluid and gradated.

Ecotourism in the Delta
The Okavango Delta, one of the largest inland deltas in Africa, lies in northwest Botswana, a sparsely populated country in southern Africa with just over 2.2 million residents across a territory the size of France (CIA 2017). This UNESCO World Heritage Site floods during the dry season, transforming the brown, arid landscape into a lush, nutrient-rich oasis, providing water for countless animals and plants during the arid winters (UNESCO 2017). This wetland system is largely untouched by human development, with restrictions on permanent settlements.

In the last two decades, the national government in Botswana has become dedicated to ensuring that the massive tourism industry has a small footprint on the delta it depends on (Botswana Tourism Organisation 2013). Note that such motivations for a national ecotourism program are indicative of anthropocentric ecotourism; the government has a utilitarian value of nature as being crucial to maintaining levels of tourism. (This makes sense, as travel and tourism contributed to 8.5% of the nation's GDP in 2014 with projected increases around 5% per year through 2025 (World Travel and Tourism Council 2015).) However, such values and motivations may not be replicated on the local scale.

In 2002, as part of the Botswana National Ecotourism Strategy, the national government launched an Ecotourism Certification System, "designed to encourage and support responsible environmental, social, and cultural behavior by tourism businesses and make sure they provide a quality, eco-friendly product to consumers." According to this certification system, ecotourism must be sensitive to natural and cultural heritage with opportunities for biodiversity conservation and economic development. Thus, development initiatives for local communities are required to be integrated at the outset of all certified ecotourism projects (Stevens and Jansen 2002). Through this program, lodges and hotels are expected to minimize negative impacts on their social, cultural, and environmental surroundings, ensure equitable distribution of benefits to their host communities, invest part of their revenue in conservation, provide educational programming for guests and locals, and provide a "quality" experience to guests.

Case Overview
In this case, each character experiences some of the benefits; we will explore later whether those benefits are distributed fairly. In short, we see that Nuru and the Hambukushu community are benefitting from an influx of revenue that contribute to new infrastructure, job opportunities, and tourist patrons of shops and restaurants. Nuru is employed by the craft market and has also applied for a position as a safari guide and wildlife educator. Rachel feels fulfilled in carrying out her personal conservation mission by changing practices and programming at the lodge. She also knows that certification with the national government will bring more guests and more revenue to support her initiatives. Mahendra has options; if he values cultural, social, and environmental sustainability he can choose an eco-lodge that fits that ethic. And he may also benefit through enhanced research opportunities with the lodge due to proximity to his field sites. Finally, the delta environment is likely to benefit from more sustainable tourism practices that can protect the area from waste, pollution, and unsustainable uses of resources. While each character and the environment derive some benefit, there are also tradeoffs and tensions.

Nuru
According to the definitions of ecotourism above, one component of a successful ecotourism venture is that it is economically beneficial (such as providing income and employment opportunities) to the local community. And more broadly, biodiversity is often defended as a resource of food and income for the world's poorest people (Gilbert et al. 2010). However, a review of several studies presented at a meeting of the Zoological Society of

London in 2010, found that evidence linking conservation projects (including ecotourism ventures) with poverty alleviation is only anecdotal. Those locals who do benefit are most often the affluent members of the community (Gilbert et al. 2010).

For example, in a case study in Wolong Nature Reserve, China, He et al. (2008) found there was significant inequality among rural stakeholders; those who were closer to roads and further from the reservation reaped the benefits both of direct tourism and indirect infrastructure improvements. Also, He et al. found that the nonpermanent souvenir shops are run by the less affluent locals, while the year-round permanent shops were run by community elites. And when rural residents are employed, it is often in low-skill, low-wage jobs (cleaners, waiters, cooks) (He et al. 2008; Lenao and Basupi 2016).

J. E. Mbaiwa, an expert on and scholar of ecotourism in Botswana, found that across the last 30 years, ecotourism ventures in Botswana have often been successful, but only when certain socio-economic and political dynamics are at play (Mbaiwa 2015). Specifically, villages tend to benefit most when an active and fair Community Trust implements ecotourism projects in the community (Mbaiwa 2015). Community Trusts are government prerequisites for any ecotourism projects in Botswana; they are registered legal entities comprised of adults who have lived in the village for more than five years.

In Nuru's village the Board of Trustees are affluent, male members of the society. Many of them own large parcels of land close to main roads and the village center. Thus, the distribution of revenue and other indirect benefits like infrastructure improvements may be skewed toward such members of society. In addition, jobs and entrepreneurial opportunities are most available to those members of Nuru's village who are already trained to take such positions or who have the land and facilities necessary to start a restaurant or shop. While a job at the Craft Market provides nice supplemental income, Nuru will find that her business is sensitive to seasonality (the delta is most popular May through December). A job at the lodge could provide better security and income, as well as opportunities for upward mobility into management positions.

To improve the distribution of benefits to rural, less affluent members of her village, perhaps Nuru should run to be elected to the trust. Her voice could represent those with similar struggles. In addition, the lodge could help by initiating a training program to build foreign language, hospitality, and entrepreneurial skills. A real-life example, the Chobe Game Lodge located in Botswana's Chobe National Park implemented the first female safari guide training program in an effort to provide more equitable job opportunities (Wilson 2014). It is worth noting that in Botswana, societies are traditionally patriarchal, and women tend to be excluded from some opportunities (Lenao and Basupi 2016; Jones 2005). However, the country has started to pass legislation aimed toward removing or counteracting prior discrimination (Lenau and Basupi 2016). Still, initiatives to improve opportunities for women should be done in a way that will not be construed as imposing western gender norms.

Rachel

Given Rachel's background as a biologist, CI employee, and her new focus on making Okavankgo Game Lodge a sustainable eco-lodge, it is highly possible that she holds an ecocentric ethic. She accepted the manager position to reduce the negative impacts of the lodge on the environment, not because the lodge depends on the environment for business (though it does), but because she has seen in her prior career the damage lodges' can cause to the environment and animals she has harbored a life-long passion for. This ethic stands in contrast to the utilitarian view of ecotourism held by the national government and certification program.

Rachel's passion for the environment drives her to seek foreign investments that will initiate and maintain several sustainability measures at the lodge, but such investors will request that revenue be shared. Her ethical viewpoint and passion may lead her to accept the compromise, meaning she may be blind to the potential damage such agreements could do to the local economy. Thus, in one sense, accepting foreign investments could suit her ecocentric ethic, but to others with a more anthropocentric leaning worldview, Rachel could be entering an unethical deal. For example, according to our definitions of ecotourism above, "ecotourism ventures should only be considered 'successful' if local communities have some measure of control over them and if they share equitably in the benefits emerging from ecotourism activities" (Scheyvens 1999). But it is also possible that Rachel could justify her foreign investments in terms of benefits to the local community. Increased investments could lead to better facilities that attract more guests and thus more revenue. Rachel could grant control over revenue, and related investments, to the local Community Trust.

In addition, Rachel's focus on western standards of scientific expertise may make her more likely to hire her CI colleagues as opposed to Nuru, because she knows she can trust her old friends to espouse and practice her same ecocentric worldview. And logistically, her CI colleagues would require less training; most speak many foreign languages, are experienced in education, and all have expertise in ecology and conservation. She might also

realize, however, that she could balance the hiring process by hiring one or two of her CI colleagues to then train several local hires, including Nuru.

Is it possible to be ecocentric and still be concerned about the local community? Ethical worldviews come in gradients. Rachel may realize that she can still achieve her goals without foreign investments, albeit more slowly. First, in a conversation with the Community Trust, she might find that many of her raw materials and food can be sourced locally, meaning lower costs, a boost to the local economy, and a more authentic culinary experience for guests. She could also take advantage of the tax incentives for sourcing and employing locally-- a budget saver.

And perhaps her ecocentric ethic means she hopes the she can inspire both guests and locals to have a better appreciation for nature. One way to get the local community excited about her projects, is to involve them. She could have them arrange a cultural education program to supplement environmental education (Stem et al. 2003). She might also initiate a training program to build entrepreneurial skills in the community, because although direct employment with ecotourism has been found unlikely to influence conservation perspectives, indirect benefits such as education opportunities and infrastructural improvements can have a positive influence on conservation perspectives (Stem et al 2003). Plus, Rachel would be building the capacity of the local community to participate in the educational and tourism market. In other words, she would be contributing to their economic empowerment (venues for regular income), psychological well-being (potential for building optimistic futures), social empowerment (keeping revenue local to contribute to community groups, health clinics, etc.) and political empowerment (allowing community voices to guide development) (Scheyvens 1999).

Mahendra
Where Mahendra decides to stay will depend on his world view, as well as how he weighs that against logistical concerns. If Mahendra is a strong ecocentric, he will certainly want to support the Okavango Game Lodge as the only ecotourism option. However, if he does not have a strong ecocentric ethic he may be more concerned with either (a) saving money or (b) keeping his family comfortable, in which case we would stay at the Sanctuary Inn or the Royal Safari Camp respectively. The Okavango Game Lodge does get logistical bonus points for being conveniently close to his field site. Also, depending on Mahendra's awareness of and concern for local and indigenous communities, he might be either pleased that the lodge sponsors a Craft Market or disappointed by the Craft Market as the lodge's only (current) meager attempt at community engagement and support.

Considering that Mahendra knows of Rachel's background as a fellow elephant biologist, Mahendra might consider reaching out to her to initiate a community science program. Perhaps he could become a regular patron of the Okavango Game Lodge, implementing a training and employment program for locals and lodge guests who are interested in partaking in elephant research. This would be considered "research ecotourism," providing research opportunities for visitors and locals that focus on the delta region's biology (in this case, specific to elephant biology) (Clifton and Benson 2006). Additionally, employing community members to help with "mapping, measuring, and monitoring" could increase local capacity to self-employ or seek employment as safari guides, wildlife educators, or ecologists. This could also be seen as part of a broader call to increase biodiversity knowledge and knowledge acquisition skills in developing countries (Vanhove et al. 2017).

Conclusion
The Botswana government's "Ecotourism" certification level is defined as follows:

> ***Ecotourism:*** *This level upholds the principles of ecotourism, as stated in the Botswana National Ecotourism Strategy (2002) and defines those facilities that have met all the principles of ecotourism. The level reflects the facilities' commitment to and involvement with local communities in tourism development, nature conservation, environmental management and interpretation of the surrounding environment to the guests.* (Botswana Tourism Organisation 2013b)

In this case, there are trade-offs between affording new sustainability measures vs. achieving developmental goals, particularly if Rachel's ecocentric ethic drives her to compromise with foreign investors and leads her to hire only her CI colleagues. However, if Rachel wishes to achieve the final "Ecotourism" certification level, she will need to balance her goals with community engagement and development. So "success" in this case is a balancing act for the lodge and the community.

It is worth noting that "success" depends on your environmental ethic. Those who tend toward anthropocentric will want to see environmental goals balanced with developmental goals. Someone who is strongly ecocentric, like Rachel, might be willing to compromise developmental goals in order to move more quickly with sustainability and environmental initiatives. It's also worth noting that community involvement with ecotourism doesn't necessarily change the terms in which locals see the forest so much as it keeps them too busy with new jobs to conduct old, potentially 'harmful' activities, such as converting protected land to agriculture (e.g., Stem et al.

2003). Should ecotourism project managers like Rachel be satisfied to simply keep people preoccupied? Then, questions remain: If people had time, would they hunt? It tourism levels dropped, would the forest lose its value? So perhaps Rachel should push for "loftier goals," such as a greater respect for nature or a shared ecocentric ethic. But how could she go about achieving that? And what does it mean to respect nature? There are different interpretations, and utilitarian values don't necessarily equate with "disrespect."

  Rachel needs to develop a greater understanding of the community's own environmental ethic before she decides to impose her own. A good practice would be to offer involvement and training with the eco-lodge wherever she can, especially to underrepresented members of the local community. Most importantly, balancing community development needs, local traditions and values, and sustainable development, is not amenable to one-off solutions; rather it requires careful and continuous attention.

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Links:
The International Ecotourism Society:
http://www.ecotourism.org

The Nature Conservancy:
https://www.nature.org/greenliving/what-is-ecotourism.xml

Botswana Ecotourism Certification System:
http://www.botswanatourism.co.bw/eco-certification-system