

Human-Elephant Conflict & Coexistence in Botswana

Anna Songhurst^a, Graham McCulloch^a, & Amanda Stronza^{a,b}
The Ecoexist Project^a, Texas A&M University^b

In an area of Botswana known as the eastern Okavango Panhandle, roughly 15,000 elephants compete with 15,000 people for access to water, food, and land. The elephants are not confined to any park, reserve, or nation. They roam freely, often in places where people are planting fields, herding livestock, and walking their children home from school.

Each year during the dry season, the elephants begin to move in large numbers, heading southward to permanent waters of the Okavango Delta. Along the way,

they pass through villages and settlements, using distinct pathways they remember and have followed for generations. With time, more and more elephants are coming into contact with more and more people. Wild lands are being converted to agricultural fields and the elephants' range is expanding, bringing people and elephants increasingly in conflict. Elephants will raid and trample crops, and people will clear land, often on critical movement pathways, for new farms. Sometimes the encounters result in death, for elephants and for people.



Photo Credit: Amanda Stronza

The Ecoexist Project is a collaborative effort of farmers, scientists, village leaders, policy makers, and business people, working together to find solutions to human-elephant conflict.

Human-elephant conflict — or HEC — is a complex challenge for elephants and people in many parts of Africa. In 2011, we began collaborating to find ways to tackle the root causes of HEC. Much of the work in other parts of the world to date had focused on the after-effects of conflict and on finding ways to alleviate and ameliorate it. Our work was to turn the HEC paradigm on its head and begin thinking creatively about not only reducing conflict, but also fostering coexistence between elephants and people.

We built a five-year plan in consultation with local and international stakeholders, and with people offering insights and expertise from academic, policy, community, and business sectors. We had a solid foundation for our holistic approach, with our connected but disparate backgrounds. Songhurst had worked for years in the region studying elephants and human-elephant conflict, building a critical and foundational understanding of HEC and its multidisciplinary dimensions in the project area. McCulloch, an ecologist with over two decades of field experience in conservation research and practice throughout Botswana, brought a deep understanding of policy incentives and disincentives and how they shape ecological and social landscapes on the ground. Stronza brought anthropological understanding of community-based conservation and development from over twenty of years of research throughout the tropics and also experience in conservation research and education from co-founding the ABS Program.

As a multidisciplinary team, combining our expertise in conservation biology, ecology, and anthropology, and working closely with local communities, policy makers, and

organizations throughout southern Africa, to connect our science with practice, we see our work clearly reflecting the principles of the Applied Biodiversity Science (ABS) Program. Several of our students and colleagues are in ABS as well, including Prof. Lee Fitzgerald, Erin Buchholtz, Lauren Redmore, and Patricia Mokotedi.

As we have recruited graduate students in different disciplines to lead research with us on various aspects of HEC—including understanding elephant movements and ecology, human resource use and settlement patterns, household livelihoods, economic incentives and impacts, and agricultural dynamics, among others, we have assembled students to work collaboratively—each focused on a different piece of HEC, while together enabling us to get a big picture understanding of workable solutions.

In July 2015, we completed a short documentary film, *The Ecoexist Project: Pathways to Coexistence*, at the Mokolodi Game Reserve in Gaborone. The 18-minute feature includes voices and experiences of people who live every day with elephants and know first-hand the challenges of competing for space, food, and land with the world's largest population of free-roaming elephants.

The film's producer and director, Richard Hughes from Edge 2 Edge Films, a UK company, spent over a year working with us, gathering interviews and footage with farmers as they protected their homes and fields from elephants. Footage includes sequences of large elephant herds, passing through the villages. The film is intended for viewers in Botswana and around the world who are concerned about elephants, human-elephant conflict, and finding ways to support people who live with elephants. Though other films tend to shine a well-deserved spotlight on elephants, we have sought to illuminate the experiences of people who live close to elephants.

We hope our collective message in the film will contribute to improved management of HEC. Many people and organizations have been working together with our team to address the needs of local communities and elephant populations in the region. The film reflects the energy and goodwill of many people, working together to find solutions.

The film is available for streaming on the Vimeo link: <https://vimeo.com/124473058> It will be screened at the Jackson Hole Wildlife Film Festival and is an official selection of the American Conservation Film Festival.

The Ecoexist Project: Overview

Ecoexist is a five-year program aimed at reducing human-elephant conflicts (HEC) and fostering coexistence. In areas of heightened competition for access to water, food, and space, the Ecoexist Project aims to find and facilitate solutions that work for both species. Moving from conflict to coexistence requires a portfolio of management tools and strategies that provide short and long-term solutions. We focus on applied research, land use planning, crop-raiding mitigation, agricultural experiment and innovation, and tourism development.

Our goal is to create an enabling environment for policies and on-the-ground programs to reduce HEC and foster coexistence between elephants and people. In achieving our goal, we will also address food security and economic development for rural communities, sustainable resource management, and regional HEC resolution. We will connect science with policy, supporting informed decision-making through our research and field based evidence, and we will strengthen the existing work of government agencies, local communities, regional stakeholders, and the private sector by facilitating collaboration, communication, capacity building, and information exchange.

Top: The team: Ecoexist Community Officers in each village, interns, and graduate students. *Middle:* "Elephants are clever, like people. While we are thinking of new ways to protect our fields, they are busy thinking of new ways to raid our crops!", an elder in the Village of Gunotsoga. *Bottom:* Ecoexist PhD students study elephants to understand their movements and behaviors, all with the aim of finding strategies human-elephant conflict. *Photo Credit: Amanda Stronza*



The Ecoexist Project: Focus

—**Improve** short-term strategies for conflict management by working with and for the government and communities to develop a Community Based Conflict Mitigation approach that incorporates shared responsibility, human-human conflict resolution, and a set of holistic and innovative mitigation techniques.

—**Improve** farmer resilience to the effects of elephant crop raiding by improving agricultural techniques, including cropping system innovations and conservation agriculture practices.

—**Inform** land use planning to consider elephant movement corridors and facilitate land use planning that will allow people and elephants to share resources and space.

—**Facilitate** private sector support for community-based tourism and other opportunities for people to gain economic benefits from living in close proximity to elephants.

—**Conduct** satellite collaring telemetry studies and population surveys of elephants to record elephant numbers and movements in northern Botswana, and inform national and regional elephant management strategies.



Top: A breeding herd of elephants, photographed from the helicopter during the team's work in 2014 to collar 28 elephants and begin tracking their movements. *Middle:* Erin Buchholtz, ABS student and Ecoexist PhD Fellow, tracking elephants with Drs. Songhurst and McCulloch. *Bottom:* Dr. Songhurst and colleagues take measurements on a tranquilized elephant. *Photo Credit: Amanda Stronza*

Author Correspondence

Anna Songhurst, Graham McCulloch, and Amanda Stronza

The Ecoexist Project

Email: info@ecoexistproject.org

Website: <http://www.ecoexistproject.org>

Facebook: [Ecoexist](#)

Twitter: [@TheEcoexistProj](#)