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Impacts of human-dimensions of wildlife training on participants

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ABSTRACT

People who live in areas with high diversity often do not have access to training opportunities because of the gaps in critical training areas, although a wealth of opportunities are available to conservation practitioners. There is a need to offer cost-effective, strategic, evidence-based, sustainable, equitable, and adaptive capacity-building training to African conservation practitioners. Concerted training platforms could fill these gaps by providing learning opportunities while leveraging limited time and money. Forty-two African trainees participated in 13 training sessions in Windhoek, Namibia, in 2018. Surveys were administered before and after training. Sixty-six percent of participants strongly agreed that the training was applicable to their work before and after training. Our results provide insight on the importance of conservation training opportunities for mid-career wildlife managers, conservationists, and practitioners, including the need to ensure training opportunities are accessible and relevant to various people and their needs. Keywords: Human-dimensions, human-wildlife conflict, training, survey

KEYWORDS

Human-dimensions; training; survey; human-wildlife interaction; education

Although a wealth of opportunities are available to conservation practitioners, people who live in areas with high biodiversity often do not have access to conservation training because of the gaps in critical training areas (Bonine et al., 2003). Burgin et al. (2018) stated that there are 6,495 mammalian species on Earth, of which 96 are recently extinct. Therefore, conservation training is crucial, especially for African practitioners given that this continent is home to approximately one quarter of the world's mammalian species (Kinzig & McShane, 2015). Africa also presents a unique conservation challenge because the majority of humans here still live in rural areas and depend on natural resources for fulfilling their livelihood needs, leading to greater demand for food, fuels, and fibers, often at the expense of biodiversity (O'Connell et al., 2019; Perrings & Halkos, 2015). There is a need to offer cost-effective, strategic, evidence-based, sustainable, equitable, and adaptive capacity building training to African conservation practitioners (O'Connell et al., 2019). Dedicated training efforts, such as those offered through some conference events, could help to: (a) address these needs, (b) provide learning and networking opportunities among conservation professionals who can help address common challenges, and (c) leverage limited time

and money (Oester et al., 2017). Although short training workshops offered through conference events are not a panacea for addressing the knowledge and skill gaps in conservation, they are one part of the toolbox that can help improve capacity among the African conservation community.

At an African conservation conference (Pathways Africa) that took place in Windhoek, Namibia in 2018, the human-wildlife conflict (HWC) challenges faced by mid-career conservationists were evaluated, and the effectiveness of the training that was offered was assessed. The three-day training took place three days prior to the conference with the aims of helping to build capacity for on-the-ground wildlife conservation in Africa, and sharing lessons learned from around the continent and beyond. Forty-two participants from nine African countries participated in 13 training sessions (Table 1). These sessions were presented by 19 trainers from conservation institutions across the world, and included both theoretical and practical sessions. Paper-based questionnaires were administered immediately before the start of the first session and after the last session ended. Short questions were developed to evaluate training effectiveness, including: (a) enhanced knowledge and skills, (b) application to current or future conservation challenges and, (c) if participants intended to share information from the training once back in their country of residence.

Table 1. Overview of the 13 training sessions.

Training Session	Overview
Livestock Farm Visit	Introduction to integrated livestock, wildlife and rangeland management, and the use of livestock guarding dogs.
Project Leadership	Identify strengths and weaknesses, deal with workplace conflict, and provide thoughtful strategic leadership.
Project Management	Introduction to business concepts and best practices, strategies for raising and managing project funding, guidance on growing and maintaining conservation project.
Communicating with People	Elements of successful communication, including understanding an audience, carefully selecting the method or tool used to convey messaging, and learning how to craft a message that resonates with the target audience.
Environmental Education	Review role of environmental education and outreach in wildlife conservation, and build competencies in program design, implementation techniques, and evaluation considerations.
Wildlife Crime and Trafficking	Wildlife trade with an overview on the cheetah, actions to combat illegal wildlife trade, and enforcement tools with safe handling of confiscated specimen.
Social and Wildlife Monitoring	Introduction to social monitoring concepts, tools, and best practices, how to design, execute, and understand the results of social surveys.
Working with People to Achieve Conservation	Understand the nature of human dimensions from an applied and research perspective, and understand conservation is only achieved through working with people.
Land Tenure and Management	Introduction to structure and maintenance of Namibia's communal conservancy system, explore similarities and differences with other land tenure systems, and dig into challenges and opportunities within each system.
Human-Wildlife Conflict	HWC and how it has evolved over time, outline complex social technical aspects through combination of lecture, theoretical framing, concrete case studies, group discussion, and interactive activities.
Conflict Transformation	Foundational concepts of conflict transformation and practice basic skills of conciliation that can be immediately applied in the field.
Conservation Economics	Use of environmental economics and ecosystem services to make the development case for conservation.
Pride: Community Based Education Volunteerism	Pride as a case study of volunteer education programs.

Eight questions were asked in the pre-training questionnaire, four of which were measured on a five-point scale (1 “strongly disagree,” 2 “disagree,” 3 “neutral,” 4 “agree,” 5 “strongly agree;” Joshi et al., 2015). These questions focused on HWC, natural resource management, and human – wildlife coexistence. Thirty-six questions were asked in the post-training questionnaire to evaluate training effectiveness, seven of which were measured on the same five-point scale as the one used in the pre-training questionnaire.

Of the 42 participants, 30 (71%) were male and 12 (29%) were female, and 21 (50%) were in the 30– 39 age group. Thirty-one percent ($n = 13$) of participants held a Bachelor’s or advanced degree. Participants working in a rural setting represented 69% ($n = 29$), whereas those working in an urban setting represented 19% ($n = 8$). Thirty-two different organizations were represented, of which 25% ($n = 8$) were governmental and 75% ($n = 24$) were non-governmental (NGOs). Participants were from 10 different countries that represented four African regions: East Africa (50%), Southern Africa (40%), Horn of Africa (7%), and North Africa (2%).

Results from the pre-training questionnaire indicated that more than half of the participants responded that the biggest challenge HWC presents in their country is “animal threats” (55% $n = 22$), followed by “compensation (e.g., financial compensation for livestock loss to predators)” (20%, $n = 8$), “overuse by humans (e.g., overharvesting of natural resources)” (18%, $n = 7$), and “conflicts with research (e.g., conflict between various stakeholders)” (3%, $n = 1$). Most participants wanted to learn “skills to manage HWC” (58%, $n = 23$), “HWC models that work” (18%, $n = 7$) and “partnership” (18%, $n = 7$). Ninety-three percent ($n = 39$) of the participants agreed with the statement “It is important to learn how to prevent and mitigate HWC;” 81% ($n = 34$) agreed that “Wildlife and natural resources should be the priority in community-based natural resource management (CBNRM);” and 86% ($n = 36$) agreed that “It is possible for individuals and communities to coexist with wildlife.”

Results from the post-training questionnaire showed that 98% ($n = 41$) agreed that “The training has improved my confidence and skills to address human-dimensions issues in my work.” Ninety-two percent ($n = 39$) of participants also agreed that “I will be able to apply most of the knowledge and skills I learned to my job.” McNemar’s chi square group difference between participants’ level of response to the statement “The knowledge and skills I learn from the training will be applicable to my work” before and after training indicated an insignificant association likely due to the small sample size, but a medium phi effect size ($X^2(1, N = 35) = 2.29, p = .130, \phi = .39$). More participants indicated “strongly agree” before and after training (66%, $n = 23$) compared to those who indicated “agree” or “neutral” (14%, $n = 5$; Table 2). Both females (67%, $n = 6$) and males (81%, $n = 21$) maintained similar agreement to the statement “The knowledge and skills I learn from

Table 2. Frequency and percentage response to work applicability question pre- and post-training.

		Post-training		Statistical value
		Agree or Neutral n (%)	Strongly Agree n (%)	
Pre-training	Strongly Agree n (%)	6 (17)	23 (66)	$(X^2(1, N = 35) = 2.29, p = .130, \phi = .39)$
	Agree or Neutral n (%)	5 (14)	1 (3)	

the training will be applicable to my work” before and after training. Additionally, irrespective of qualification, more participants (83%, $n = 29$) maintained their level of agreement with this statement before and after training. Participants also noted five common themes relative to new knowledge and skills developed, including: community engagement/involvement (25%), communication (25%), conflict resolution (20%), leadership (15%), and management (15%).

Our findings are consistent with those of Bonine et al. (2003) where the majority of participants in these training sessions were young, male, educated in the sciences, and worked for NGOs. Findings were also consistent with O’Connell et al. (2019) who highlighted key areas of African conservation capacity building, including effective leadership, community engagement, and management.

The Pathways Africa Training was effective in providing skills and capacity, as well as helping improve participants’ confidence to address human dimensions issues. These opportunities are not always readily available in developing countries, with barriers including costs and accessibility of training, and expertise required. The Pathways Africa Training organizers offered scholarships to help participants address these barriers, and provided take-home materials for participants as well as contact information of training session instructors.

Although conservation-based positions are commonly found in NGOs, representation of participants from both government and NGOs indicates the need in both sectors for new initiatives and collaboration through enhanced multidisciplinary learning (Lucas et al., 2017; Oester et al., 2017). NGOs help provide the expertise that aids government agencies in policies and decisions, especially in the African context (Lekorwe & Mpabanga, 2007).

Findings here provide insight on the importance of conservation training opportunities for mid-career wildlife managers, conservationists, and practitioners, including the need to ensure that training opportunities are accessible and relevant to a variety of people and their needs. Successful conservation actions are dependent on the capacity of people to successfully implement their projects or programs. The Pathways Conferences and associated trainings are one way to provide African (or other) participants with a variety of capacity-building, mentoring, and networking opportunities that help advance conservation solutions.

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